Volume 2 No.1 October 1984

iale bulletin

International Association for Landscape Ecology

EDITORIAL

We are happy to present this second issue of the Bulletin on the eve of the first international meeting of IALE: the Roskilde Seminar on Methodology in Landscape Ecological Research and Planning.

Apart form information about recent developments within our international association, a book review and diary, this Bulletin contains an article from Prof. Naveh (Israel) on the contribution of landscape ecology to the science of ecology. This is the first of a series of rather provocative contributions on landscape ecology we hope to publish. In this way we wish to stimulate discussion within IALE on such crucial matters as, for example, what is meant by "landscape ecology" (a still unfamiliar term in many parts of the world) or, what is the difference between landscape ecology and environmental science? So don't hesitate to comment. With your reactions we can hopefully start a "letters to the editor" section in the next Bulletin.

W.B. Harms
S.M. ten Houte-de Lange

IALE INFORMATION

FIRST MEETING OF THE EXECUTIVE COMMITTEE

The first meeting of the Executive Committee of IALE took place on 21 October 1983 at Broekhuizen Castle (Leersum, The Netherlands), the home of the Research Institute for Nature Management. During this meeting, where all members of the Committee were present, plans were discussed to promote the establishment of IALE Regions. Harms and ten Houte de Lange reported on a short visit to Roskilde University Centre in Denmark, where the organization of the first IALE seminar was discussed with the local Organizing Committee. The first issue of the IALE Bulletin was presented and some suggestions were made for improvements. It was decided to try to publish the Bulletin twice yearly.
The Executive Committee also discussed the annual subscription for IALE membership. It was proposed that this should be $3,- for individuals and $30,- for institutions. The local equivalent should be determined in each Region. Further, the Executive Committee suggests that part of the annual subscriptions in a Region (say 10%) should be allocated to the International Secretariat to cover administrative expenses and to finance the Bulletin.
A possible IALE contribution to the INTECOL congress in 1986 was considered. The Executive Committee suggests sponsoring a session or workshop during this conference.

The suggestions of the Executive Committee and the situation concerning the establishment of Regions will be discussed during the first General Assembly of IALE at the seminar in Roskilde. The second meeting of the Executive Committee will also be held during the Roskilde seminar.

A NEW VICE PRESIDENT OF IALE

At the beginning of this year we received the good news that Dr. Milan Ruzicka from Bratislava, Czechoslovakia, was able to accept his nomination as Vice President of IALE. The wish for his nomination had already been expressed by the Founding Meeting of IALE in Piestany on October 29th, 1982. Dr. Ruzicka is the initiator of the International Symposia on Problems of Landscape Ecological Research. Six of these

have already been organized by Dr. Ruzicka and his team from the Centre of Biological and Ecological Sciences, SAS, in Bratislava. These symposia were the cradle for the first ideas for the establishment of an international association. We are therefore very happy to welcome Dr. Ruzicka as a member of our Executive Committee.

REPORT ON IALE REGIONS

Though progress in setting up IALE Regions is slow, we are happy to be able to report activities in several countries.

Canada

Since the establishment of the IALE our contact persons in Canada have been active, with the result that now a Canadian Society of Landscape Ecology and Management (CSLEM) is planned. The formation phase of this society, which is to be affiliated with IALE, was started with help of the Canada Committee on Ecological Land Classification.

Eastern Europe

Through secretarial assistence from the Centre of Biological and Ecological Sciences in Bratislava, Czechoslovakia, an Eastern European Region within IALE is in the process of being organized. Contacts are being established with Bulgaria, the German Democratic Republic, Hungary, Poland, Romania, Soviet Union and Yugoslavia. An interdisciplinary conference "Discussion on the notion of Landscape Ecology" was held in December 1983 in Poznan (Poland) and was attended by 95 participants. The possible establishment of a Polish IALE group was discussed at this conference and is now being investigated further by Prof. Bartkowski from Poznan.

Federal Republic of Germany, Austria and Switzerland

During a meeting of the German Biological Society (Deutsche Ökologische Gesellschaft) in September 1983 it was agreed that an existing interdisciplinary working group on landscape ecology, set up in 1980 in Erlangen, should from the nucleus of a German-speaking IALE Region (comprising FRG, Austria and Switzerland).

Other countries

To date, our contact persons in Australia, Denmark, India, Israel, Norway, South Africa and USA have sent news about activities towards the establishment of possible national groups.

We hope to be able to report progress from more countries or Regions in the next Bulletin. The International Secretariat is now trying to establish new contacts in several Mediterranean countries, Japan, Africa and South America.

PROGRAM OF THE 4TH CONGRESS OF ECOLOGY

The 4th Congress of Ecology, August 10-16, 1986, will be held on the campuses of the State University of New York (SUNY) College of Environmental Science and Forestry and Syracuse University at Syracuse, New York. Other hosts and sponsors include the Ecological Society of America, Cornell University, and the SUNY Centers at Albany, Binghamton, Buffalo, and Stony Brook.

The Congress theme has been chosen as Global Connectedness in Ecological Theory and Practice. Affiliated Societies and Working Groups of INTECOL have been invited to propose symposia, workshops, courses, and field trips. Individual members wil be invited to contribute papers and posters, as well as to organize symposia. Pre- and post-Congress field trips in New York, and to adjacent Canada, New England, and other appropriate areas also are being planned. The middle day of the Congress (Wednesday) will be devoted to local field trips, refresher courses, and special workshops and meetings arranged by participants.

Suggestions for meetings and workshops of any size appropriate to the needs of the members of INTECOL are welcomed. Please contact Dr. Frank B. Golley, Program Committee Chairman, Institute of Ecology, University of Georgia, Athens, GA 30602 USA. Other members of the Program Committee include A.J. Davy, England; John J. Gilbert, USA; Arturo Gomez-Pompa, Mexico; Rafael Herrera, Venezuela; Maxime LaMotte, France; William Leggatt, Canada; Helmut Lieth, West Germany; Shihchun Ma, Peoples Rep. China; Paul F. Maycock, Canada; Harold A. Mooney, USA; Zev Naveh, Israel; A.B.

Oguntala, Nigeria; Oscar Ravera, Italy; Thomas Rosswall, Sweden; J.S. Singh, India; V. Sokolov, USSR; P. Trojan, Poland; J. Tundisi, Brazil; and Mohan K. Wali, USA.

First circulars announcing the Congress are being mailed now from Syracuse. The second circular, giving information on housing, registration, and transportation, as well as specific instructions on the program, will be mailed in January 1985.

ALLERTON PARK WORKSHOP ON LANDSCAPE ECOLOGY

In the first IALE-Bulletin R.T.T. Forman briefly reported on this workshop, held April 25-27, 1983 in Illinois, USA. A summary of this meeting, with conclusions and recommendations as well as chapters on definition and concept of landscape ecology, representative questions addressed by landscape ecology and methodologies applicable to landscape ecology, has been published early this year: "Landscape ecology, directions and approaches", by P.G. Risser, J.R. Karr and R.T.T. Forman, Illinois Natural History Survey Special Publ. No. 2, 1984. Copies of this interesting publication may be obtained from the Illinois Natural History Survey, Natural Resources Building, 607 East Peabody Drive, Champaign, Illinois 61820, USA.

FIRST IALE-SEMINAR:
"Methodology in Landscape Ecological Research and Planning"
October 15-19, 1984
Roskilde Denmark

There has been a tremendous interest in this seminar, which also will be the frame of the first general assembly of IALE.

The seminar consists of the following themes:

I : "Landscape Ecological Concepts"
II : "Methodology and Techniques of Inventory and Survey" devided into IIa: Field Survey Methods and IIb: Remote Sensing-techniques.
III: "Methodology of Data Analysis", subdivided into IIIa: Statistical Methods and IIIb: Computer Graphics.
IV : "Methodology of Evaluation/Synthesis of Data in Landscape Ecology", partly subdivided into IVa: Methods of Evaluation/Synthesis and IVb: Application to Physical Planning.

In addition to plenary and parallel sessions some specific topics within the main themes as well as within themes of general interest for the further development of IALE will be discussed in workshops, of which the following are under preparation:

1. Landscape Ecological Concepts
2. The Use of Geographical Information Systems (data banks) in Landscape Planning
3. Landscape Potentials and their Role in Land Use
4. Tendencies in the Structural Development in Agricultural Landscapes
5. Ecological Research and Landscape Planning for Recreation
6. The Communications of Landscape Ecology to People in Planning and Higher Education
7. International Cooperation in Research and Environmental Planning
8. System Approach to Landscape Ecology
9. Monitoring by Remote Sensing
10. Relations between Landscape and Nature Protection
11. Dispersal Biology and Landscape Structures
12. The Relation between Landscape Ecology and Landscape Perception.

The seminar will also cover a comprehensive poster-exhibition.
The number of provisional applicants surpassed at a very early stage the maximum capacity which, because of lecture room size and attendance facilities is limited to 150. A considerable waiting list has been built up.
The participants come from all over the world, representing app. 25 countries. Most participants will come from the Netherlands (27), Denmark (30) and Norway (15).
Proceedings for the seminar are planned to be published before the seminar. Additional copies can be ordered through
Mrs. Inge Birkelund
Institute of Geography, Socio-economic Analysis and Computer Science,
Roskilde University Centre, House 19.2
P.Box 260
DK - 4000 Roskilde, Denmark
Telephone (02) 757711, local 2522

Unfortunately information about the price cannot yet be given.

Jesper Brandt
Roskilde, Denmark

FEATURES

IN MEMORIAM: PROF. DR. ERNST NEEF

On 7 July 1984, Ernst Neef, a Nestor of German geography, died in Dresden, about a year after the celebration of his 75th birthday in 16 April 1983. To mark that occasion H. Barthel had published a book of "selected writings" of Ernst Neef, in the form of a supplementary issue to Petermanns Geographische Mitteilungen. This book, which is provided with comments by Neef himself, shows the two main aspects of his work: the planning of the cultivated landscape, and landscape research and management. During his scientific career Ernst Neef focussed his attention - at least temporarily - on problems of physical geography and landscape ecology, and repeatedly stressed the importance of relating these fields to human activities in the landscape.

During the first years after the Second World War Ernst Neef was active in the town planning of Dresden. This period of practical work provided - as he also recognized - important and lasting stimuli to guide his later scientific work. From 1949 until 1973 Neef was university teacher in Leipzig and Dresden, a brilliant speaker and enthusiastic scientist, who always combined theory with practice and abstractions with holistic views. At the end of the 1950s the "school of Neef" came into being: this developed trend-setting concepts in landscape ecology during the following decades. The school disengaged itself from the current way geographers classified the land: from large to small, from the top of hierarchy to the base. Neef and his students took the path from the bottom to the top and started with large scale landscape ecology surveys. Larger, complex landscape units were then derived through classification and transformation of these basic data, which led from the topological to the chorological dimension.
Almost inevitably, this resulted in interdisciplinary contacts and cooperation being established with people engaged in the silvicultural and agricultural mapping of the German Democratic Republic. This also proves that Ernst Neef was not only interested in scientific understanding and the development of theory, but that he was also dedicated to applying concepts of landscape ecology in the planning process.

At the annual meeting of the "Gesellschaft für Ökologie" (German Society for Ecology) in 1978 in Münster, which as held under the theme "Ecological principles for physical planning", Neef contended that this way of ecological thinking was undoubtedly a basic form of scientific thinking.

As Vice President of the Saxon Academy of Sciences Ernst Neef was able to set up a working group "Naturhaushalt und Gebietscharacter" (which studied the workings of Nature and the characteristics of regions), whose chairman he was until his death. Although many of his ideas and concepts were put into practice by his former disciples, this working group enabled him to develop them further, notably in the chorological survey of landscape and its application. Based on a paper on the theory of the "economic potential of an area" (gebietswirtschaftsliches Potential) Neef and his collaborators developed methods for the survey and evaluation of the land use potential of chorological landscape units. The working group played an important role in determining the ecological suitability of areas for human activities.

The preceding paragraphs reflect only a small part of the work of Ernst Neef. Only the most important landscape-ecological aspects of his work, through which he was widely known internationally far beyond the German-speaking part of the world, have been mentioned. He was honoured for his work in many ways: From 1965-1971 he was Vice President of the Saxon Academy of Sciences in Leipzig; he was a member of the German Leopoldina Academy of Science; honorary member of the Geographical Society of the German Democratic Republic (whose first chairman he was from 1953-1957), of the Austrian Geographical Society and of the Hungarian Geographical Society. Further, he was invited to join the Geographical Society of Munich and Frankfurt-on-Main. Ernst Neef received the Medal of Merit of the German Democratic Republic, the Hermann-Haack Medal, and the Carl Ritter Gold Medal of the Society of Earth Science in West Berlin, which was awarded to hum at the University of Trier on his 70th birthday.
The IALE regrets the death of an important landscape ecologist and geographer. In the run-up to the founding IALE congress in Veldhoven (the Netherlands, 1981) he worked tiressly to supply ideas to outline the future development and task

of our Association.

Karl-Friedrich Schreiber

SOME THOUGHTS ON THE CONTRIBUTION OF LANDSCAPE ECOLOGY AND THE IALE TO THE SCIENCE OF ECOLOGY

The forthcoming fourth Congress of the International Association for Ecologists (INTECOL), scheduled in Syracuse in August 1986, will provide our society with the first opportunity to present landscape ecology to the ecological scientific community at large.

Relating to this event, we have to ask ourselves whether we have a special message to deliver and if so, what this message is.

I will attempt to answer in brief these questions, in the hope of stimulating thereby further discussion.

Judging from the proceedings of the First International Congress for Landscape Ecology (Tjallingii & de Veer, 1982), the from earlier publications in Central Europe, as reviewed by Naveh (1982), the unique features of landscape ecology are its *holistic philosophy and practice and its integrative and interdisciplinary nature*. In this first congress, these were forcefully expressed by two of the leading landscape ecologists, presenting both its main streams - ecology and geography - as well as its academic-theoretical and its professional-practical branches. Zonneveld (1982) stated"..... anybody --- who has the "attitude" to approach our environment, including all biotic and abiotic values --- as coherent systems, as a kind of whole that cannot really be understood from its separate components only, is a land (scape) ecologist". According to Neef (1982). "Landscape ecology could become one of the synthetic sciences of the future, able to integrate many analytic findings into synthetic scope of general interest".

These approaches have found their best expression in the use of "landscape" as a conceptual and methodological tool, after broadening its meaning from its former aesthetic and geographic connotations into a closely integrated natural and cultural entity of concrete (space-time defined) interaction systems. For this purpose, the *ecotope* has been adopted as the elementary "landscape cell" (Veen, 1982) for studying, mapping and managing real chunks of nature, and not the ecosystem, which is vaguely defined both as an abstracted and concrete system and useful only as a conceptual tool. The introduction of the landscape-ecotope as a practical operational tool for ecological research and management is probably the most important contribution of landscape ecology to ecology as a whole.

It is of interest to note that Patten (1982) (one of the foremost ecosystem ecologists) has recently attempted to rectify the epistemological weakness of the ecosystem as a basic unit for the study of nature and to overcome the dichotomy between organisms and environment, which is deeply ingrained in modern, Darwinistic biology and ecology.

In a holistic "pre-Darwinian" way, he adopted the "environ" as the elementary particles of co-evolution and direct and indirect interaction between holons*) of organisms and their within-system environment. As actual samples, he used natural aquatic ecosystems and provided a formal analytical framework by treating these as the sequences of state variables derived from changes in the food chain and energy flow.

Patten's "environ" and its holistic interpretation, has much in common with our ecotope; however, the latter can be applied not only to the microscale of natural ecosystems, but also to macroscales of natural, as well as semi-natural, agricultural, and urban-industrial landscapes, by viewing these as closely interlaced physical, biological and cultural wholes.

From the point of view of systems theory, ecotopes, as the elementary landscape units and the ecosphere as the largest, global one, can be regarded as a higher

*) "Holon" (a combination of holos = whole, and proton = part), coined by Koestler (1969) to emphasize the dichotomous nature of biosystems as intermediary structures in the ascending order of complexity, or "holarchy", acting both as autonomous and self-asserting wholes towards their subordinate subsystems and as dependent integrative parts of their supersystems.

level of integration of concrete bio- and techno-ecosystems into the Total Human Ecosystem. Thereby, landscape ecology becomes a transdisciplinary human ecosystem science (Naveh, 1982; Naveh & Lieberman, 1984).

In my opinion, one of the major challenges of landscape ecology is to develop and apply advanced quantitative methods for the treatment of ecotopes as complex dynamic Gestalt systems. For this, the classical deterministic or probabilistic descriptions and models are not realistic enough. More promising for this purpose may be the use of biocybernetic sensitivity models (Vester & Hesler, 1980) or of fuzzy set theory (Bosserman & Ragade, 1982).

An additional, significant contribution of landscape ecology to ecology in general lies in its interdisciplinary nature and its capacity to integrate the realms of natural science and of classical bio-ecology and geography with the realms of human sciences as related to modern land use planning and management. This may help to bridge the still wide-open gap between natural ecology and human ecology. To date, this has not been acieved in a satisfactory way. Recent attempts to reduce the complex human ecology into oversimplified energy flow models as well as the application of pseudo-Darwinian mechanistic, socio-biological rules, based on our so-called "selfish genes", have not been able to achieve this objective. Landscape ecology - with the active involvement of the IALE - could also promote better communication between problem-inquiry oriented ecological researchers, educators and scientists and the problem-solving oriented professionals, technologists and decision makers. That such a communication bridge is very much needed bacame apparent in the discussions of the 10th anniversary conference of the Man and Bioshere (MAB) Program in Paris, 1981, on "Ecology in Practice" (Di Castri et al. 1984). I have no doubt that by involving themselves in such multidisciplinary ecological projects, landscape ecologists would help mould these projects into coherent interdisciplinary ones. The input of landscape ecology would be of special importance in developing countries for ensuring a better balance between development and conservation. In recent years conservation has enlarged its scope from the protection of threatened plants and animals and the conservation of their habitat to the conservation of ecological and cultural diversity of whole landscapes and the processes sustaining them - including traditional land uses. The theory and practice of landscape ecology - as developed and applied in Europe to dynamic nature conservation - could also serve as a sound scientific basis for eco-development and conservation in general.

At the same time, being at the forefront of those deeply concerned with the accelerating biological depletion of the biosphere and its long-term disastrous effects on mankind, our Society should make a strong assertion - at the INTECOL Conference and elsewhere - not only of the vital importance but also of the scientific respectability of *biological and ecological field studies* devoted to this problem. We could thereby help to counterbalance the present unfortunate trends in ecological science to regard the mathematician-theoreticians and modellers as the only true high-powered scientists and at the top of the pecking order of ecology in prestige and funds. Ecologists should be the first to realize that without using all means to strengthen those collecting the data in the field and helping those to safeguard biological diversity, very soon there will not be much left of nature to verify their models and theories.

In summary, landscape ecology, can open new vistas for basic and applied ecology by providing transdisciplinary concepts and tools for ecological research, planning, management and conservation, and by acting as a catalyst for integration and fusion of the diverging "naturalistic", "humanistic", and "environmentalistic" divisions within ecology and between the theoreticians, the researchers and the practioners. In order to fulfil these functions successfully, it is essential for IALE to build strong communication bridges, helping to create a sound conceptual and methodological framework and ensuring maximum interaction and interchange of ideas and information both on the international and regional level. The most important tool for this is meetings, symposia and workshops, organized around a few central themes in which all participants can actively take part in *all* sessions. In these meetings, more importance should be given, in my opinion, on ensuring maximum cross-fertilization and interaction and not, as usually attempt-

ed, by organizing many parallel sessions to accomodate as many themes and speakers as possible. Poster sessions are a more useful way to do this.

Z. Naveh, Faculty of Agricultural Engineering and Faculty of Architecture and Town Planning. Technion, Haifa, Israel.

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DIARY

Oct. 1-4 1984	Int. conference: Water resources planning and management. - Hellenic Government and European and Mediterranean Commission for Water Planning - Athens.
Oct. 1-5 1984	Int. synposium: Remote sensing of environment. - Centre National d'Etudes Spatiales and the Environmental Res. Inst. of Michigan - Paris.
Oct. 8-11 1984	World conference: Remote sensing. Part I: Symposium on resource management and environmental planning. - Bayreuth, Germany. Part II: Workshop: Acid rain and hazardous materials - Mitwitz Castle, Germany.
Oct. 15-19 1984	First IALE-seminar "Methodology in landscape ecological research and planning", Roskilde, Denmark. Enq.: Ms. Inge Birkelund, Roskilde University Centre p.o. box 260, DK-4000 Roskilde, Denmark. tel. (02)757711.
Jun 9-14 1985	5th International Congress on the Environment and Resources. Brussels, Belgium. Enq.: CICB, M.B. Gillis, Parc des Expositions, B-1020 Brussels, Belgium
Oct. 21-26 1985	VIIth International symposium on the problems of landscape ecological research. Enq.: Dr. Milan Ružiška, Institute of experimental biology and ecology, Obrancov mieru no. 3, 81434 Bratislava CSSR.
Nov? 1985	International Symposium of Desertification (ISSS). Khartoum, Sudan. Enq.: W.G. Sombroek, International Soil Museum, 9 Duivendaal. POB 353, 6700 AJ Wageningen, The Netherlands.

Aug. 1986	10-16 4th Congress of the International Association for Ecologists. Syracuse, NY USA. Enq.: Prof. F.B. Golley, Institute of Ecology, Univ. of Georgia, Athens, GA 30602 USA.	Sept.? 1986	13th International Conference on Water Pollution Research and Control (IAWPRC). Brazil. Enq.: IAWPR Secretariat, Alliance House, 29-30 High Holborn, London WC1V 6 BA, UK.

The International Association for Landscape Ecology (IALE) exists to promote interdisciplinary scientific research and communication between scientists and planners

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The IALE BULLETIN is published twice yearly. News items, articles, comments and suggestions are welcomed.

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