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# TIME'S NEWS

An Aperiodic Newsletter

November 1988

International Society for the Study of Time

No. 16

"but let Time's news Be known when 'tis brought forth"

## FROM THE EDITOR

As thoughtful people turn greater attention to temporality and its vagaries the temptation is to become increasingly preoccupied with the future. More exactly, the temptation is to become immersed in predicting the future. There are reasons for this, not the least of which is the setting in which intellectual work increasingly takes place in the modern world. If we build a castle in the air in the here and now, it will be apparent that it doesn't exist, and colleagues will think we're a bit nuts. But if we build it in the future, we can call it a logical projection. If we construct it carefully and elegantly, learned colleagues will discuss it, and we can even gain a reputation (and a salary) possibly as a prescient observer, or by becoming, or becoming a consultant to, the would-be architects of the future.

But another, perhaps more telling, reason is the massive, incessant assault upon memory under modern conditions. The force of the remembered word in oral traditions is being dissipated by the hum of the computer, the transformation of rich chirographic cultures into information retrieval systems, and the mounting unwillingness to recognize, let alone master, the arts of anamnesis. As the burden of remembering is cast off we are free to pursue our airy work. This is a freedom with consequences, I think. While Milan Kundera has observed: "The absolute absence of a burden causes man to be lighter than air, to soar into the heights, take leave of the earth and his earthly body, and become only half real, his movements as free as they are insignificant," nevertheless, if we serve the would-be architects of the future, perhaps they are not so insignificant.

The modern world's assault upon memory is tellingly an assault upon disciplines. Specialization, carried to the extreme which the contemporary world has carried it, depends upon the claim that knowledge per se, undisciplined knowledge, is good. I dispute this claim, as have others. Specialization has brought a devaluation and a corruption of the disciplines necessary to achieving professed ends. As the world is turned into a giant laboratory the arts of agriculture are lost, workmanship degenerates into mere technique, and we become handmaidens, wittingly or not, of those who, in the poet and essayist Wendell Berry's phrase, would play "The Politics of Kingdom Come," where "we are offered peace without forbearance or tolerance or love, security without effort and without standards, freedom without risk or adventure, comfort

without responsibility, abundance without thrift." As thoughtful people turn their attention to the problems of time, they must assume great burdens. Underlying them all are the arts of memory.

## A MESSAGE FROM THE PRESIDENT

There can be only one subject for my column in this issue of Time's News: the forthcoming conference. It has been twenty years since the ISSST's first conference, in 1969, and we hope to mark our twenty years of growth and productivity by this our first meeting in North America. The decision appears at this date to be a wise one: We knew that we would be meeting amidst some of the most spectacular scenery this continent has to offer, and that we have located excellent facilities in Glacier Park Lodge. A recent site visit by Professor Block has confirmed our hopes and strengthened our conviction that this may be our best conference ever. Terrible fires that have destroyed so many acres in Yellowstone and other national parks this past summer have left Glacier National Park virtually untouched, and the continuing low level of the U.S. dollar against most European currencies insures a favorable rate of exchange for participants from abroad. And, I can assure members, we have been successful in negotiating for conference expenses that are not merely competitive with, but substantially lower than, the usual conference expenses elsewhere in the U.S. and Canada.

My message is in two parts: first, some comments on the conference program, which—despite all the obvious attractions of the American West, mountain scenery, glaciers, horseback riding, et al.—must remain our focus; and second, a leisurely commentary on Professor Block's meaty report elsewhere in this issue.

The Conference Committee of the Society met in Westport, CT, on 17-18 September to act on the many paper proposals submitted, and I am happy to report that the program is virtually complete. The Committee approved a total of 19 paper proposals, decided to send out invitations for 6 poster papers, and rejected some 14 proposals. All authors of proposals have been notified, and you will receive details later in the year. The conference theme—"Time and Process"—has obviously proved to be a stimulating one, and the program includes papers from many disciplines and speakers from five continents. As is our custom, the program included

the Founder's Lecture, by J.T. Fraser, and a presidential address. Members will also be pleased to learn that Professor Gert H. Muller, the fourth president of the Society, will be with us and has agreed to deliver a special address. Fields represented in the paper sessions include, but are not limited to, anthropology, cosmology, literature, mythology, music, philosophy, psychology, physics, and sociology—as well as topics which resist easy classification in terms of the traditional scholarly disciplines. It is hard to imagine a member who would not be informed and stimulated by this program. And participants at past ISST conferences are well aware that the lively exchanges between the formal sessions and over meals are often as informative as the sessions themselves! As in past conferences, we plan an extensive exhibit of time-related publications by members and others (see the large section of book reviews elsewhere in this issue).

I turn now to some comments on Professor Block's report, and I cannot begin without first expressing the gratitude of the ISST to him for his extraordinary efforts in bringing us to our present stage of preparation at such an early date. At considerable inconvenience and sacrifice of time, he has visited the conference hotel, held discussions with the management, negotiated, and helped us to secure the facilities we need at a cost we can afford.

I would first like to urge members to return the enclosed hotel reservation form immediately, and give you some sense of why it is necessary to do so: this is not a city hotel with numerous unbooked, smaller hotels down the street! You cannot expect to cruise in at the last minute without a reservation and expect to be accommodated. The nearest hotel is quite a few miles away, and all hotels in the park are usually fully booked well in advance; if you delay in reserving a room, the available nblock of rooms may be exhausted. We are expecting a large attendance. Glacier Park Lodge has agreed to hold our block of rooms until 1 March 1989; thereafter they will be released to the general public. Your reservation form and deposit **MUST** be received by that date, or we cannot guarantee you lodging. Note that the deposit is fully refundable if cancellation is received up to 48 hours prior to your scheduled arrival. The ISST will see to it that you do not lose your deposit if you meet these conditions; so if you are even thinking about attending, it would be a good idea to send in your reservation and deposit **NOW**.

The Conference Fee will be U.S. \$40 for advance registration (the same as the 1986 conference in England) or \$45 for on-site registration. Our treasurer, Mark Aultman, will bill you in January for your 1989 dues, and you may find it convenient to send your preregistration fee at that time to avoid additional bank charges. You will also receive a mailing later in the spring with further details about the program, optional excursions, pre- and post-conference options, and bus transportation from Great Falls. If you have any questions, now or later, I urge you to write to me or to Professor Block.

Re transportation: I wish to second Rick Block's recommendation that participants traveling from overseas plan to arrive on 8 July. Because the conference will open on the evening of the 9th, we do not plan to schedule a late bus that night, so the previous evening may be your only opportunity. Your travel agent will find that the best gateway cities are Chicago, Minneapolis, Seattle, Vancouver, and Winnipeg: you can easily reach them on same-day flights from such cities as London, Paris, and Frankfurt, but your

connecting flights will bring you into Great Falls in the evening, and the Lodge is two hours away. If your schedule permits an earlier arrival in the U.S., we strongly recommend travel by rail.

As I reflect on the four previous ISST conferences I have attended, what comes to mind is "atmosphere": the snow-topped mountains surrounding Alpbach, the medieval ambience of the Castello di Gargonza and the lovely Tuscan landscape, and—most recently—the gardens and baronial splendor of Dartington Hall. What we offer in the summer of 1989 is a spectacular combination of the scenic wonders of one of North America's great national parks, plus the down-home flavor of the American West: mountains, hiking trails, wildlife of all sorts, an informal conference atmosphere, and all sorts of optional excursions for accompanying family members—all in the comfort of a full-service hotel. Our goal has always been to schedule our triennial meetings in special places, in semi-isolation so that we may concentrate on that which has brought us together, but also with something "extra" for the in-between times and for accompanying family members. If you have not brought your family to previous conferences, plan to do so this time. I guarantee you will not be disappointed!

Lewis Rowell  
Indiana University

#### We remember . . .

It is with deep regret that I inform members of the recent death of Frederick T. Melges, M.D., whose superb paper on "Time Distortions in Psychiatric Disorders" was one of the highlights of the 1986 conference at Dartington Hall and is shortly to be published as part of The Study of Time 6.

Dr. Melges was Vice-Chairman and Director of Clinical Education for the Department of Psychiatry at Duke University Medical Center. A graduate of Princeton University, where he was an All-American linebacker, he went on to receive his M.D. degree from Columbia University. Fred subsequently completed his residency in psychiatry at the University of Rochester and joined the faculty of Stanford University in 1965 as a Special Fellow of the National Institute of Mental Health. He joined the faculty of Duke University in 1976, where he served also as Director of the psychiatry unit at Durham County General Hospital. Dr. Melges was widely recognized as an authority on the psychophysiological basis of emotions, on post-partum psychiatric disorders, on cognitive processes in emotional disorders, on drug-induced emotional disturbances, and on the psychophysiological bases for time distortions. His wide-ranging interests are documented in his 1982 book titled Time and the Inner Future.

We extend the condolences of the Society to his wife Connie and to his family; we are grateful for his contribution.

Lewis Rowell

## THE FOUNDER'S COLUMN

The literary and scientific marketplaces are buzzing with new books and articles about time. Some are valuable contributions to the study of time, others are good though inconsequential, some are bad or indifferent. Some seem to have "time" in their titles only because the word catches the reader's eye.

By what standard are we to select from the cacophony of words the lasting voices of time? There is no categorical answer to this question, there can be none; there is no absolute yardstick for measuring quality, none handed down from an eternal domain of timeless forms. Furthermore, the interdisciplinary study of time has certain methodological problems which specialized fields of knowledge do not. Namely, we must accommodate insights from fields with different jargons, different preferences for methods of inquiry and different standards for verifying truth.

But, in twenty years of organizing conferences and refereeing and editing papers from many disciplines, the Society became schooled in judging excellence while respecting, and appreciating, the many personalities of knowledge. In this respect, the collective experience of the Society is unique.

As articulate interest in the study of time increases, we plan to make that collective experience more broadly available. To that end, and to attract other men and women with established professional credentials who also possess a high degree of literacy beyond their fields of primary training, we are discussing the establishment of a permanent Center for the Study of Time, and the replacement of our books by a periodical under the aegis of that Center.

## THE SECRETARY'S REPORT

*Time and Mind* (*The Study of Time VI*), comprising selected papers from our 1986 conference will appear under the imprint of International Universities Press. Tentative publication date is June 1989.

Because of the visibility of our publications and because we are listed in the *Encyclopedia of Associations* and in the *Yearbook of International Organizations*, the Society's secretary receives numerous inquiries. Some of them reflect the lively ferment in the study of time. The following inquiry came from the Operations Manager of a high-tech corporation:

*I have just received a copy of "Shiftwork International Newsletter" and would very much like to obtain a copy of the proceedings from the two annual ASSET conferences. The theme of the conferences were "Time and Mind" and "The Future for Chronosociology."*

*Could you please send me a membership form and also inform me as to the cost of the proceedings for both members and non-members. I would also be interested in the newsletter "It's About Time": and the bibliographic file which you update annually.*

To serve as a clearing house for time-related research is one of the tasks of ISST. The Secretary's reply follows:

*"Shiftwork International Newsletter" is a publication of*

*the Department of Business Organisation of Heriot-Watt University. For inquiries and clarification please write to its editor, Dr. Alexander Weddeburn . . . Edinburgh, Scotland.*

*Concerning the activities of ASSET, please write directly to . . . London, England.*

*"Time and Mind" was the theme of ISST's sixth conference. Selected papers from that conference will be published . . .*

*Unfortunately, I have no information about the meeting on "The Future of Chronosociology." I recommend you write to ASSET.*

*As requested, I am enclosing a membership application form for ISST and a leaflet describing our work, membership requirements and dues. Volumes of *The Study of Time* series are available through your local bookstore or directly from their publishers.*

*For information on "It's About Time," please write to its editor, Dr. Andrew S. Harvey . . . Halifax, Nova Scotia, Canada.*

*We have an 800+ entry bibliography in *The Study of Time IV* as a part of "A Report on the Literature of Time, 1900-1980." There are no present plans for a yearly update nor am I certain that it is to that bibliography that your source refers.*

*If I may be of any further help, please do not hesitate to write again.*

## TIME'S BOOKS

BOOK REVIEW EDITOR: J.T. FRASER

With the last issue of *Time's News* we began this column of brief reviews. Please arrange for copies of your time-related books to be sent to the Book Review Editor, P.O. Box 815, Westport, CT 06881.

The reviews that follow are by Barbara Adam (BA), Jane F. Fraser (JFF), J.T. Fraser (JTF), Richard Martin (RM), David Park (DP), Rudolf Wendorff (RW) and Lee F. Werth (LFW). Numeral in parentheses refers to page numbers. \*indicates Member, ISST.

Murad D. Akhundov \*, *Conceptions of Space and Time: Sources, Evolution, Directions*, From the Russian by Charles Rougle, 202p. Cambridge: M.I.T. Press, 1986

The influence of earlier modes of thought upon current scientific notions of time and space is not merely historical. Myths and religions may bow out to give way to science but many of their teachings remain latent in our reasoning, scales of value, and language. Since concepts of time and space play fundamental roles in mythology, religion, philosophy, psychology and physics, we are well advised to explore and correlate them through an interdisciplinary effort. The author, a Soviet philosopher of science, describes such an approach as integrated.

His working perspective may be seen from one of the discussions on problems of the knower and the known. "We can offer only an adult interpretation of the child's world . . . and a

civilized (Eurocentric, scientific, etc.) interpretation of primitive thought and ancient mythology." (33).

The book reaches its conclusion in an epistemic principle Akhundov describes as "a hierarchical axiomatics defined with the help of a metatheoretical regulator" [selection principle]. (10 & 158ff).

At least within the "context of the present study, the circle is closing. Starting with psychology, I proceeded through mythology, religion, and philosophy to arrive at modern physics, whose conflicts proved to be intimately connected with psychology." (165).

The book is a concentrated, even truncated survey of ideas of time and space in the fields mentioned. It was difficult to find anything in it that is not already available in much more detail and discussed pro and con in the non-Russian literature. But I know of no other work of this particular scope in any language and most definitely, none of its kind from the Soviet Union.

About half of the references are to Russian works, permitting a glimpse to relevant Soviet literature. Parenthetical translations of Russian titles, as in the multi-language bibliography in The Study of Time IV, would have been useful.

A second, glasnost edition could help join the largely inner-directed debates in Soviet magazines with the extensive interdisciplinary work in the West. For a report on "The Study of Time in Poland, Czechoslovakia, and the Soviet Union" see The Study of Time III where Dr. Akhundov is properly listed with his 1974 "Problems of Intermittance and Continuity of Space and Time." (JTF)

Jacques Attali, Histoires du Temps, 332 p., Paris: Fayard, 1982

Attali identifies four stages in the history of time measurement: those of the clepsydra and sundial, weight and foliot, spring and the level escapement, and quartz crystals and electronic signals. These are the Times in the title's Histories of Time. Each change in the dominant mode of time measurement corresponded to changes in economic conditions, preferred paradigms for the laws of nature and in collective values. History demonstrates, Attali concludes, that a sufficiently dynamic civilization can always abandon known laws and social forms and shape a new sense of social life. It can fashion new technologies and use them to reach new goals. Because of its history, collective memory and its youth, Europe is well placed to learn from the earlier histories of Time and generate from within, a new Time of creation and freedom.

Jacques Attali is top economic advisor to M. Mitterrand, President of France. (JTF)

Harve Barreau \*, La Construction de la Notion de Temps, 3 volumes, Strasbourg: Fondemants des Sciences, 1982

Doctoral dissertation at the University of Paris. Volume 1: Genese anthropologique de la notion, Volume 2: Conditionnement bio-psychologique de la genese representative, and Volume 3: Constitution rationnelle du concept. 1495 p. If you are a member of ISST and qualified to handle this sophisticated intellectual product, you are welcome to these volumes in return for a brief

review for this column. (JTF)

F. J. Britten, Britten's Watch & Clockmaker's Handbook, Dictionary and Guide, 16th ed., 460 p., London: Methuen, 1982

First published in 1878, it has been called the watch and clockmaker's bible. Its 16th edition (1987) priced at 55.00 pounds was remainder art \$20.00. It is a hefty tome with 700 excellent line drawings and many tables. If you've ever wondered what kind of skills and knowledge go into the making of a timepiece, this is the book to consult. From Acorn Clock to Chimes, Chronograph, Pigeon Clocks, Tourbillon and Zero Cut Crystal it makes for informative reading. I learned of the intricacies of Striking Work and of more kinds escapements I imagined existed. If seeking justification for the notion of the clockwork universe, read Repeating Watches. The handbook closes with a horological vocabulary in English, French, German and Spanish. (JTF)

Tom Bruneau \*, "A Representative Bibliography on Social and Cultural Time," unpag. 1987

"An estimated 40,000+ items were scanned in various books and article endnotes [and] in bibliographies." To these were added the print-outs of a computer search of Sociological abstracts. The 1300+ citations are not particularly useful in their raw state, but they might serve as the basis of an annotated bibliography with entries to be organized according to principles yet to be identified. If interested, contact Tom Bruneau, Radford University, Radford, VA 24142. (RM)

Olivier Costa de Beauregard \*, Time, the Physical Magnitude, 335 p. Boston Studies in the Philosophy of Science, v. 99, Dordrecht: Reidel, 1987

This is a highly technical work by a distinguished French physicist and philosopher of science. To understand the nature of time through physics, maintains the author, we must learn to combine time's "lawlike" character of reversibility, witnessed by physical theory with time's "factlike" irreversibility, known from experience. Irreversibility is "factlike, not lawlike . . . it resides not in the equations but in the solutions selected as significant." (xi).

After an introductory section, a chapter on "Lawlike 'equivalence' between Time and Space" demonstrates the efficiency of four-dimensional representation in physics. The acceptance of this approach is seen as ushering in the replacement in physics of the methods of constructing models by the construction of formalisms for which no models are possible. The chapter on "Lawlike Time Symmetry and Fact-like Irreversibility" argues for a cosmological irreversibility and its universal time arrow.

The book reaches its conclusion in a long chapter on "Relativistic Quantum Mechanics and the Problem of Becoming." "The quantal transition occurs beyond spacetime, symmetrically feeling (as the formula says) the retarded influence of the 'preparation' and the advanced influence of 'measurement.'" (282). Quantal

transition is judged by Costa de Beauregard as "the very thing about which mind and matter interact, holding open the gate through which knowledge flows out and much illusory spacetime." This is possible because "spacetime is a very porous sort of container . . ." (283). It is the porous character of spacetime that makes paranormal phenomena possible. (152-62). For earlier views of the author see The Study of Time I and III.

The book is a vision of a world of timeless Platonic ideas in which the universe marches from its cradle to its grave, as a matter of fact, and to which it connects via relativistic quantum mechanics. (JTF)

P. Eisenhardt, D. Kurth and H. Stiehl, eds., Du steigst nie zweimal in denselben Fluss - Die Grenzen der Wissenschaftlichen Erkenntnis, Reinbek: Rowohlt, 1988

An account of the temporalisation of contemporary natural science. It discusses two assumptions of classical science: that of global, timeless truths and of reality as consisting of individual, independent units. The authors maintain that these are based on unwarranted abstractions and show contemporary science to be grappling with a temporal, evolving reality, ecological interconnectedness, uniqueness, irreversibility and "Eigenzeit." (BA)

Ivar Ekeland, Mathematics and the Unexpected, 145 p., Chicago: University of Chicago Press, 1988

This monograph attempts to identify in mathematical formalism the Eleatic dichotomy of being and becoming, the predictable and the unpredictable in the nature of time. Ch. 1. notes that in classical determinism, exemplified by the motion of the planets by Kepler's laws, "Past and future are seen as equivalent, since both can be read from the present." (17). Not so, says Ch. 2. Poincare already showed there is room for the unpredictable. In non-linear systems "order and Chaos, regularity and unpredictability, are woven together like land and sea on the beach when the tide is drawing out." (47)

To deal with the chaotic behavior of deterministic systems and thus provide a mathematical entry into the domain of the unpredictable, the author turns to catastrophe theory. This theory has been able to furnish quantitative descriptions of certain natural phenomena which, earlier, appeared chaotic. But technical difficulties convince the author, and the reader, that catastrophe theory cannot reach into complex, unpredictable systems to the degree its early proponent hoped it would. Instead we shall have to settle on the modest goal "to recognize and salvage some typical shapes from the flow of time.: (117).

This is an elegant, urbane piece of writing by a well-known mathematician who concludes that, "The true nature of time evades mathematicians." (111). In this statement time is identified with becoming exclusive of being, and becoming is identified with what is chaotic. (JTF).

J.T. Fraser, Time, the Familiar Stranger, paperback of the 1987

edition with a new introduction, "Contemplating Nano-seconds," Redmond, WA: Tempus Books, 1988 (RM)

\_\_\_\_\_, Die Zeit: Vertraut und Fremd, Aus dem Amerikanischen von Anita Ehlers, 475 p., Basel: Birkhauser Verlag, 1988, Trans. of Time, the Familiar Stranger (1987) (BA)

K.A. Geissler, Zeit leben - Vom Hasten und Rasten, Arbeiten und Lernen, Leben und Sterben, Weinheim: Beltz Verlag, 1985

"All times are not alike." This is the key idea presented in this book. Our lives are organised around calendars and clocks and we mistake clocks for time. Clock-time has become dominant almost to the point of making us lose sight of the "other times" of our lives: of growth and relations, of experience and gathering knowledge. Geissler explores the variant lived-times of work, learning, and waiting and contrasts them with the invariant clock-time which we manage, budget, regulate and control. (BA)

Stephen W. Hawking, A Brief History of Time: from the Big Bang to Black Holes, 198 p., New York: Bantam, 1988

An account of recent theories of the universe as a whole, written by one of the workers chiefly responsible for them. The book has the outline of a scientific memoir, arranging its material around an account of Hawking's ideas and how he happened to get them, but one reads it as a relentlessly nonmathematical attempt to communicate the meaning of spacetime, of the expanding universe and black holes, of the role of quantum theory in explaining the properties of these massive objects so different from the atoms and molecules the theory was originally designed for. There is a very interesting account of his own work on quantum geometry and the attempt to make a quantum theory that will describe the origin and predict the fate of the universe, and there is a chapter on the three arrows of time which radiates good sense onto questions that have not always been treated sensibly. The story is told with simplicity and humor and there are some clever analogies with common experience that help the understanding. (DP)

Jon Hendricks and M.M. Seltzer, eds. "Aging and Time," American Behavioral Scientist, v. 29, #6, 1986

"Although the clock and calendar shape our lives at one level, the socially shared and psychological meanings of time for us as individuals and as a society are shaped by us in turn." (From the editors' introduction). "Notwithstanding the fact that philosophical intentionality is a thematic characteristic of the definition of temporal consciousness, the sociological calendar promises to enhance sociology's ability to represent adequately how the ebb and flow of social time is actually experienced in its many guises." (Hendricks & C.B. Peters). "We place ourselves on Durkheim's 'endless chart' by creating pathways—before and behind us. For both, we need others. The most significant such others are found in the family." (G.O. Hagestad). "Symbolic interactionists empha-

size the importance to humans of the ability to define the present, anticipate the future, and not only remember but also reconstruct the past. This article is devoted to an analysis of the way this ability is used by a wife anticipating her husband's death . . ." (H.A. Lopata). "Timetables, now a linchpin concept in life-course studies, are assumed to be age norms." What evidence is there that in fact, they are? (C.N. Nydegger). This special issue of ABS closes with William Rakowski's "Future Time Perspective" and M.M. Seltzer & L.E. Troll's "Expected Life Histories." (JTF)

Paul Horwich, Assymetries in Time: Problems in the Philosophy of Science, Cambridge: MIT Press, 1987

" . . . so many pervasive, temporally asymmetric phenomena might tempt one to think that time itself must have some intrinsic directional character [which] would account for all the others in a unified way." (205) But the author "reject(s) the idea that some directionality inherent in time itself is the source of temporarily asymmetric phenomena." (199-200) And, it is argued that no presently known irreversible physical process entails a time-asymmetric law of nature. Anisotropic time has not been demonstrated. Hence, de facto temporal asymmetries (knowledge, causation, entropy, etc.) are explained by "fork asymmetry:" which is "the tendency for regularly associated events to have a characteristic antecedent but not characteristic effect . . ." (78) This fundamental physical asymmetry is explained cosmologically: the universe "initially contains [macroscopic order] but [microscopic disorder]." (72) Since initial cosmological conditions are postulated to explain fork asymmetry, which in turn explains one-way processes, one wonders whether the term "initial" isn't question begging. The book is clear and comprehensive. (LFW)

E. Imhof, Die Lebenszeit: vom aufgeschobenen Tod und von der Kunst des Lebens, Munchen: C.H. Beck, 1988

A scholarly study of the changes in life expectancy in western industrialized cultures. It charts the historical development from an uncertain to more certain life-times and argues the necessity to plan a long life, early on in life. It asks whether our present is going to be the future of other cultures and explores what there might be learnt from our experience. (BA)

Peter Janich, Protophysics of Time: Constructive Foundation and History of Time Measurement, 238 p. Boston Studies in the Philosophy of Science, v. 30. Dordrecht: Reidel, 1985

The German mathematician Felix Klein noted in 1872 that geometries may be classed by the different transformation rules under which they remain invariant. These rules may then be associated with the character of different spaces (Euclidian, hyperbolic, spherical, elliptic, etc.). Which of these spaces does in fact correspond to the space of the real world, is assumed to be determinable by physics. The working out of Klein's discovery is known as the Erlangen program.

Protophysics is a contemporary form of the Erlangen program; its central concern is to determine the principles that are invariant (permanent) in the art of time measurement. To that end it attempts to formulate a system of norms for the processes used or to be used as clocks.

This is a highly technical book, written in the jargon used in works on the foundations of mathematics, though it deals with the philosophy of physics. But if one distances oneself from the polemics, certain valid questions emerge.

All measurements of time as a physical magnitude involve an Aristotelian counting of the "number of motion in respect to 'before' and 'after'." What kind of standard movement should be used for that counting if we are to achieve invariability with respect to motion and gravitational potential? Contemporary physics suggests the motion of light. This answer, however, seems to be unacceptable in this work because it is "no less 'metaphysical' than Newton's 'absolute time' in ordinary understanding." (213) (JTF)

C. Kamper and C. Wulf, eds. Die sterbende Zeit, Darmstadt: Luchterhand, 1987

In twenty contributions time is explored with reference to history, nature, and contemporary existence. In Part I different forms of time are discussed: Aion, a time without beginning and end; chronos, the powerful time of linear progression; kairos, the living moment; history and its gradual differentiation from the personal life-time. The essays in Part II are concerned with the relation of time and nature and explore such differences in terms of time as the "structure of the possible" (Heidegger). The authors of Part III develop the case for a "plurality of times" as a new basis for understanding in the humanities. (BA)

David S. Landes, Revolution in Time: Clocks and the Making of the Modern World, 482 p., Cambridge: Harvard University Press, 1983

This work of careful scholarship, clarity, and cosmopolitan horizons explores the role of the mechanical clock in the rise of industrial civilization. Its author is an economic historian, which explains the ubiquitous presence in the book of three groups of people: early modern scientists (grandfathers of theory and mechanism), clockmakers (skillful makers of the machines that help organize modern society) and merchants (messenger DNA's of modern civilization).

Part One is a glimpse into the history of clocks, Part II a brief history of science and technology as far as they pertain to the development of clocks. The burden of reasoning is in Part III, which deals with the manufacture and distribution of clocks and watches. The book has eighty illustrations, an appendix on the history of the escapement and eighty pages of notes that are as enjoyable and informative even in themselves as is the text. (JTF)

Carlos A. Mallmann \* & Oscar Nudler \*, eds., Time, Culture and Development, 331 p. Bariloche (Argentina): Fundacion

Bariloche, 1986

Nine papers, five of which were presented at a meeting on "Time, Social Development and the Improvement in the Quality of Life." The purpose of that conference, as of this volume, is to offer a beginning for "a systematic exploration of the links among time views and attitudes, cultural frames, and social development styles." (4)

We live today in a world system but without a world order, write the editors. They note with alarm that "the dominant views about what to do to cope with [the great issues of our globe are] more often than not, part of the malaise." (5) As an example they single out the universal drive for growth maximization and challenge the capacity of that principle to fulfill what it seems to promise.

They see in the idea of time a suitable theme for the exploration of the development-culture links. For instance, "the generalization of the social role of chronological time based on physical . . . measurements, the fragmentation of human life into either/or compartments such as worktime and free time, and the conflict between socially dominant objective and subjective time, are interconnected developments which tell us . . . about the . . . nature of the relationships which modern society has established between the physical, the social, and the personal worlds." (8)

Part I: Toward an Understanding of Human and Social Time. Part II: Time in Different Cultures and Development Styles. Produced and distributed by Fundacion Bariloche, the volume deserves a critical examination by those interested in its broad and important them. (JTF)

John A. Michon \*, Vivian Pouthas, & Janet L. Jackson \*, Two Essays on the Origin of the Idea of Time According to Guyau, Haren: Inst. for Experimental Psychology, 1988

A nineteenth century moral and religious philosopher, Jean-Marie Guyau wrote a treatise on La genese de l'idee de temps (1880-5). A new edition of this work will be published by the Royal Netherland Academy of Sciences under the title, Guyau on the Idea of Time. It will contain the French text, its English translation byh Michon \*, Pouthas and Jackson \* and five essays: the two in the preprint identified above, others by Paul Ricoeur, Wm. J. Friedman \* and F. T. Melges \*.

Guyau's conclusion, on the fading p. 120 of myh copy says that "L'eternite, pour nous, c'est ou le neant ou le chaos; avec l'introduction de l'ordre dans les sensations et les pensees commence le temps." In the words of the editors, time in Guyau's understanding "is a strategy of coping with the world: our awareness of time is a byproduct of goal-directed activity." (12) It would then follow, in the view of this reader, that the passage of time has testable reality only for living organisms for only they have the need and capacity to cope.

A century after Guyau's death, "the content of La genese is so interesting from the prevailing cognitive point of view in psychology and the philosophy of mind that a (first) translation into English seemed an appropriate way of commemorating Guyau's contribution to the world of thought." (2) (JTF)

G. Mucciarelli, ed., "Psychology of Time," Teorie & Modelli, #2 Suppl.1, Bologna: Pitagora, 1985

A supplement on the psychology of time to a new Italian periodical dedicated to the history and methods of psychology. The fifteen contributions include papers by Block \*, Fraser \*, Giulio \*, H.B. Green, Michon \*, Reale \*, and Whitrow \*. Together with the other Italian books reviewed in this column, and yet others, this special supplement to Teorie & Modelli signals the entry of Italian psychology into the study of time. (JTF)

Hannelora Paflik \*, ed., Das Phaenomen der Zeit in Kunst und Wissenschaft, 157 p., Weinheim: Acta Humaniora, 1987

Following the exhibit "Zeit - die vierte Dimension in der Kunst," shown in seven European countries, the Kunsthalle Mannheim organized a series of seven lectures, reprinted in this work. Ernst Poppel writes about the mental construction of time, Rudolf Wendorff \* offers a survey of the time experience of twentieth century man and of current research on the nature of time. Gottfried Boehm's introductory essay on painting and time and Lorentz Dittmann's lecture on the rhythmic element and the creation of time in painting address time and art directly. The volume contains a bibliography of over 300 citations organized under the headings of Survey Works, History of Art, Philosophy, History, Sociology, Psychology and Psychoanalysis and Physics. (RW)

Frank Parise, ed., The Book of Calendars, 157 p., New York: Facts on File, 1982

Tabulates over sixty calendars from the Era of Nabonassar to our own days, some in detail some in representative samples. Each table is introduced by a description of the main features of that mode of time reckoning and each line of all the calendars is related to the appropriate Western count — as well as that can be done. Many of the calendars are very difficult to correlate with ours because neither the methods of calendar making nor their epochs are known with any accuracy.

Reading the summaries and tracing the eras, calendars, and chronologies is a form of time travel. Assuming that transformations are correct, 2001 A.D. will be the 176th year of the fifth cycle of the Parasumara calendar of Southeast Asia. Its Japanese name and number will be Kanno-to-mi, 2661. Marcus Antonius went to bury Caesar (not to praise him) in the Maya year that began on a day when four counts, cycling simultaneously like four coupled gears, displayed 7 baktuns, 15 tuns, 13 kins and 0 uinals. That day was also 13 Xul (in the 20 day month count) and 6 Ahau (on the day count). This, according to one of many ways the Mayan epoch could be tied to the Gregorian calendar. In the Celtic calendar, until 1750 A.D. New Year began on November 1st; in Tuscany on the 25th of March until 1750. One of my grandfathers was born in 2237 (Zoroastrian calendar) and today is the day of St. Paphnutius.

This is a unique and interesting volume. Its stated goal is to serve as a fast reference and that, it does well. It is "not

designed as a scholarly dissertation on how calendars are constructed." I do not believe, however, that this purpose excuses the total absence of credits, references and even a bibliography. (JTF)

Ernst Poppel, Mindworks: Time and Conscious Experience,  
From the German by Tom Artin, 211 p., New York:  
Harcourt Brace Jovanovich, 1988

"How does man arrive at time?" (9) He climbs through the winds of "subjective simultaneity." The term stands for a nested hierarchy of increasingly more refined modes of elementary temporal experiences (ETEs). The simplest ETE is a period just long enough to allow distinction between simultaneity and non-simultaneity. This is the flicker fusion threshold. Above it is the ETE of temporal order or succession; the ETE of the "now" or subjective present and finally the ETE of duration. The minimal lengths of ETE's stretch from the 2-3 msec of the fusion threshold to the integrated conscious experience of 2-3 seconds.

Expanding from the hierarchy of presents, says the author, memory helps extend our temporal horizons to future and past. Beneath the ability of integrating future, past and present we find the diurnal rhythms of consciousness. (See Poppel's "Oscillations as Possible Basis for Time Perception" in The Study of Time D.)

Because of the closed-off sensory organs during sleep, "especially the eyes, no boundaries of reality are set for dream-consciousness. The dream is therefore limitless." (120) It is also "without function, because it is merely the vestigial remains of a prenatal program" (121) preparing the embryo for its encounter with external reality. From that prenatal state on, "what we can experience of the world is only that which, on account of our categories adapted to nature, we impose on the world . . . What we experience as reality is the reality of the human." (158) This is a restatement of von Uexkull's umwelt principle, formulated in terms of neuroscience. On the taxonomy of the mental present see Poppel's article on "Time Perception" in Encyclopedia of Neuroscience. 2nd ed., George Adelman, ed., Boston: Birkhauser, 1987, pp. 1215-6. (JTF)

Andrea Sabbadini \*, ed., Il Tempo in Psicoanalisi, 268 p., Milano:  
Feltrinelli, 1979

Feltrinelli's "Readings" are sourcebook anthologies; this is v. 15. The psychoanalytic writings included stretch "in un arco storico che va dal 1936 dell'articolo di Schilder sulla psicopatologia del tempo al 1979 di quelli di Arlow e Fachinelli." (39) English originals were translated by the editor who also introduces the volume with an essay, freely moving among philosophical and psychoanalytic issues in the study of time. (JTF)

Robert G. Sachs, The Physics of Time Reversal, 309 p., Chicago:  
Chicago University Press, 1987

If we assume that the behavior of physical systems are correctly and completely represented by the equations of physics,

and if those equations are symmetrical with respect to the flow of time, then the physical world must be one in which time does not have a direction. This non-response of the laws of physics to the direction of time is called time reversal invariance. Indeed, none of the laws governing the fundamental interactions of physical particles can be used to establish the direction of time's experiential arrow. Only in the so-called weak interactions, at distances of the order of 10 meters may violations of time reversal invariance be observed. But it is exactly such rare exceptions to the rules that can lead to new understanding, hence it is the task of physicists to inquire into anomalies.

With meticulous care, this book leads up to the CPT theorem. That theorem is a constellation of assumptions, theories and experiments such that if the symmetry of its terms could be shown to be violated, then we would have to admit the existence of a physical process—a one and only one—whose law reads correctly only from past to future.

While those familiar with quantum field theory will appreciate the workmanship of this treatise, for a student of time the question is this: May the behavior of certain subatomic particles be used to indicate a preference for a past-to-future directedness? This question cannot be answered, however, until the origins of the  $T$  violation are sufficiently understood. But they are, thus far, unknown. Theoretical approaches are in flux and "we need much more experimental information concerning the . . .  $T$  violation in order to arrive at an understanding of their origin." (277)

Implicit in the reasoning of this book is the assumption that it is, or will be possible to trace a continuous path of development from the time-symmetry violations in the decay of the neutral  $K$ -mesons to our experiential sense of passing time. (JTF)

Mary Stolz, The Cuckoo Clock, 86 p., Ill. by Pamela Johnson,  
Boston: Godine, 1987

In the Black Forest of Germany, long before ISST held its first conference there in 1969—once upon a time . . . In this fairytale the author uses beautiful language to tell a somewhat contrived story of a foundling and a clockmaker. Unfortunately, the book does not measure up to the magic of the idea, that of making a clock with a cuckoo bird that sings all the thirty-six songs of Black Forest birds. For ages 8-11. (JFF)

G. J. Whitrow \*, Time in History: The evolution of our general awareness of time and temporal perspective, 256 p.,  
Oxford: Oxford University Press, 1988

The art, science, and technology of timekeeping includes the making, the theory, and the use of clocks and watches. It also embraces the theory and skills necessary for the reckoning of days, months, and years as well as the know-how of measuring and classifying into rational segments the history of man, the earth, and the universe.

Timekeeping is a way of ordering our thoughts and actions and a necessary constituent in the working out of attitudes toward the future and the past. The relationship is mutual. Just



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as our historical perspectives depend on the methods and principles of time reckoning and on the manner we perceive time, time as we perceive and conceptualize its nature is a function of history. With the authority and command to detail of an accomplished scholar, Whitrow traces the complex dialectic between time and history.

There are many ways one may look at this book. It has aspects of a cultural history of chronometry and chronology as well as of a history of science. It is also a comparative survey of philosophies and religions and an assessment of the extent to which their scales of value created—and guided—our awareness of time. Time in History is a companion volume to The Natural Philosophy of Time and necessary reading for all interested in the study of time. (JTF)

Donald J. Wilcox, The Measure of Times Past: Pre-Newtonian Chronologies and the Rhetoric of Relative Time, 292 p., Chicago: University of Chicago Press, 1987

Reading Herodotus or Thucydides one is hardly conscious of how cleverly the narratives are put together without using a uniform scale of time; instead, events within a given political unit are dated with respect to local rulers or to other events. Wilcox is concerned with the development of a uniform chronological scale from the first historians to Newton; he considers that there is a profound analogy between a historical scale independent of the events considered and the need for a physics based on the objective description of phenomena in terms of Newton's absolute time; for him it is no coincidence that the scale labeled B.C. and A.D. was put forward by Denis Petau in 1627, only 60 years away from the Principia, and that Newton was the first historian to make exclusive use of it. Wilcox is largely concerned with the time before Newton and with the evolution of historical consciousness as indicated by the handling of dates. An interesting book, which makes its point, though possibly not as deep a point as the author thinks it is. (DP)

Michael Young, The Metronomic Society: Natural Rhythms and Human Timetables, 301 p., Cambridge: Harvard University Press, 1988

A beautiful example of the art of qualitative sociology: a sociologist's view of the cyclic order of collective life, presented without physics envy.

The cyclic order of social life extends from the seconds of radio signals through the circadian organization of life and labor, the weekly cycles of business and the lunar months of finance, to the seasons, the years, and fin-de-siecles. This wide spectrum of cycles is held together by communication, creating from moment to moment a viable social present. Should the social present unravel as in a chaos of war, we can still have people but not a society. The continuity of society demands that its natural clocks remain coordinated from instant to instant. Paraphrasing Saint Augustine we may say that there are no social futures or pasts but only a social present of social things future, past, and present. But only people can assure the continuity of that social present. Inorganic social

cycles, represented by the metaphor of the metronome, are unsuitable guardians of the social present for they know nothing about future and past.

The subject of this book is the creation and maintenance of the social clockshop, and a critique of the maintenance crew. A work of strong-willed prose, it seldom deviates from its central theme: society is a polyphony of cycles. They are born, oscillate, then die.

The book reminded me of Solzhenitsyn's famous manifesto calling for human-sized industry and towns. The Metronomic Society is a manifesto in support of organic and natural cycles.

New possibilities are opening up, we read, not for returning to the past but "for receiving [the] past in a new form, offering new human concertos made up of rhythms . . . and lives to recall from the fiery passage of time the resonating memories that make it meaningful in ever new ways." (261)

From a distinguished social-democratic member of the House of Lords, the creator of many new institutions such as the Open University, this is a compassionate praise of historic continuity. (JTF)

Eviatar Zerubavel, The Seven Day Circle: The History and Meaning of the Week, 206 p., New York: The Free Press 1985

One would think that anything as important as the seven day organization of the calendar has been the exclusive subject of many books. But that is not the case. The last and only twentieth century book I know of is F.H. Colson's The Week (1926, repr. 1974). Colson remarked that his "little book" was "the first or almost the first attempt to present the subject with any fullness to the English reader" even though the week was "an institution of immemorial antiquity and general diffusion." (5) The Seven Day Circle is likely to remain the major and perhaps one-and-only book on the week, at least as long as did Colson's book, that is, well into the next millennium.

A possible but unproved origin of the seven day week may be the successive phases of the moon; one-quarter of the synodic months is about 7.4 days and that length of time may agree with some preferences of body and mind. Perhaps. In any case, once established as a working division of life, the days of the week come to be named after the seven planets of Antiquity: our nine planets with Earth, Neptune and Pluto removed, Sun and Moon added. Whatever its distant origins, the week ceased to be an astronomic bookkeeper—it became detached from lunations long ago—and has been serving as a religious, political, ideological and economic cycle and battleground. It helped keep people together by giving collective life a common rhythm or separate them by allowing for similar feasts to be celebrated on different days.

This is a popular treatment of an intricate subject, carefully annotated (thirty pages of it) and with a 400 entry bibliography. The author reviewed the extensive but scattered literature, enlarged it by the findings of his earlier works on the sociology of collective rhythms and produced an interesting and reliable book.

Still, I could not find out why USA weeks begin with a day of rest while the weeks of the rest of the world begin with six days of work? (JTF)

Rainer Zoll, ed., Zerstoerung und Wiederaneignung von Zeit, 683 p., Frankfurt am Main: Suhrkamp 1988

With its 684 pages, this book is the largest collection of essays in German dealing with time. Its editor is a professor of the sociology of trade unions at the University of Bremen. Most of the thirty-five authors are sociologists interested mainly in problems of time at the workplace and in business. As social critics, they lean toward the left. The contributors include nine university professors and several young scientists.

The title of the book stands for the idea that industrial societies have disturbed the individual's time experience but that the crisis so created is being remedied. (RW)

Bernie Zubrowski, Clocks: Building and Experimenting with Model Timepieces, Ill. by Roy Doty, 112 p., New York: Morrow Junior Books, 1988

Among the Christmas presents, wrote Dylan Thomas in his A Child's Christmas in Wales, there were always "easy Hobbies for Little Engineers, complete with instructions." Every American child is a born engineer, ready to create from whatever is at hand a new spacecraft or if properly instructed, a museum of timekeepers.

It would not be easy to make an astrolabe from scotch tape and thumbtack, but you can demonstrate its use as a "moon position-finder" by using a drinking straw, a sheet of paper and a string with a washer tied to it. You can make an inflow or outflow water clock using plastic margarine container or a Greek siphon clock from a cork, a plastic tube and rubber bands. A floating valve clock maybe next or a swinging escapement (tape, ruler, nail, pulley, string) or the waterwheel escapement of Needham's Heavenly clockwork. Each section of the book starts with a description of the "real" clock, a list of components model and instructions for little engineers. Each section closes with a summary, "What's Happening?"

This is a delightful instruction book for would-be timesmiths. (JTF)

Under consideration for future issues of Time's News:

Michael Baudson, ed., Zeit - die vierte Dimension der Kunst, 270 p., Weinheim: Acta Humaniora, 1985

H. v. Burger, ed., Zeit. Natur und Mensch: Beitrage von Wissenschaftlern zum Thema Zeit, Berlin: Berlin Verlag, 1986.

"El Tiempo," Revista de Occidente, Madrid, Sept. 1987

F. Furstenberg and I. Morth, eds., Zeit als Strukturelement von Lebenswelt und Gesellschaft, Linz: Trauner Verlag, 1986

Peter Heintel, et al., Zeit und Arbeit hundert Jahre nach Marx, Wien: Verb. wissenschaftl. Gesellschaften Osterreichs, Heintel 1985

Bertrand P. Helm, Time and Reality in American Philosophy, 250 p., Amherst: University of Massachusetts Press, 1985

Robert Jackson, The Dismantling of Time in Contemporary Poetry, 302 p., Tuscaloosa: University of Alabama Press, 1988, Jackson 1988

David Park \*, The How and the Why - An Essay on the Origins and Development of Physical Theory, 459 p., Princeton: Princeton University Press, 1988

Paola Reale \*, Tempo e identita, 218 p., Milano: Franco Angeli, 1988

T. Schuller and M. D. Young \*, eds., The Rhythms of Society, London: Routledge and Kegan Paul, 1988

## THE BOOKSTORE

Publishers and authors are periodically in touch with the editor of Time's News, providing information concerning forthcoming volumes and occasionally offering discounts on selected books for ISST members. A listing of these materials follows:

Cambridge University Press lists the following:

D. H. Mellor, Real Time, 1981, 203 pp., \$13.95

Joseph Needham, Lu Gwei-Djen, John H. Combridge and John S. Major, The Hall of Heavenly Records: Korean Astronomical instruments and clocks 1380-1780, 1986, 228 pp., \$44.50

Joseph Needham, Wang Ling, and Derek J. De Solla Price, Heavenly clockwork: The Great Astronomical Clocks of Medieval China, Revised edition with supplements, 1986, 320 pp., \$62.50

The publisher offers a 20% discount for these volumes to ISST members. In correspondence mention Time's News, No. 16. Address:

Cambridge University Press  
32 East 57th Street  
New York, NY 10022

The University of Georgia Press lists the following:

Samuel L. Macey, Patriarchs of Time: Dualism in Saturn-Croinus, Father Time, the Watchmaker God, and Father Christ-mas, 216 pp., \$25

Paul K. Alkon, Origins of Futuristic Fiction, 1988, 368 pp., \$30

The publisher offers a 20% discount for these volumes to ISST members. In correspondence mention Time's News, No. 16. Address:

The University of Georgia Press  
Athens, GA 30602

Also, Sam Macey has just learned that the third book in his trilogy on time, The Dynamics of Progress: Time, Method, and Measure has been accepted for publication by the University of Georgia Press. The first book dealt with the influence of clocks and time on the writings of philosophers, theologians and poets during 1660-1860; the second (listed above) dealt with the gods and patriarchs of time during the past 4,000 years; and the present book deals with the way in which time measurement has spearheaded the rationalization of most Western human activities during the past 300 years.

M.I.T. Press lists the following:

Yoav Shoham, Reasoning About Change: Time and Causation from the Standpoint of Artificial Intelligence, 216 pp., 1988, \$25

Contact your local bookstore, or write to:

MIT Press  
55 Hayward Street  
Cambridge, MA 02142

Pergamon Press, Inc. lists the following, with a detailed "Contents" page:

Frieda Forman, ed., Taking Our Time: Feminist Perspectives on Temporality, October, 1988

Contents:

- "Feminizing Time: An Introduction", Frieda Johles Forman
- "Periods," Mary O'Brien
- "Women and Time in Childbirth and During Lactation," Robbie Pfeuffer-Kahn
- "The Solitude of Women and Social Time," Elizabeth Deeds Ermarth
- "H. D. and Time," Cheryl Walker
- "Memory and Myth: Women's Time Reconceived," Patricia J. Mills
- "The Hard Work of Remembering: Two German Women Re-Examine National Socialism," Marie-Luise Gaettens
- "Helene Parmelin and the Question of Time," Mair Verthuy
- "Urania — Time and Space of the Stars: The Matriarchal Cosmos through the Lens of Modern Physics," Heide Gottner Abendroth (translated by Lise Weil)
- "Copenhagen: A Short Story," Margaret Davis
- "Unreliable Allies: Subjective and Objective Time in Childbirth," Meg Fox
- "Teaching 'Time': Women's Responses to Adult Development," Jeryllyn Fisher
- "From 'Corpus': Women in Middle Age," Mary Kelly

"Femalear Explorations: Temporality in Women's Writing," Irma Garcia (translated by Eva G. Reisman)

"Women's Time, Women and Time: Proceedings from the Agape Women's Conference, Prali, Italy," (translated by Caoran Sowton)

Contact your local bookstore, or write to:

Pergamon Press Inc.  
Maxwell House  
Fairview Park  
Elmsford, NY 10523

Temple University Press lists the following:

Frank A. Dubinkas, ed., Making Time: Ethnographies of High-Technology Organizations, 1988, 238 pp., \$24.95

Contact your local bookstore, or write to:

Temple University Press  
Broad and Oxford Streets  
Philadelphia, PA 19122

## MEETINGS AND EVENTS

Recent events which have been brought to the editor's attention including the following:

Colloquium: "El Tiempo Del Relato," 24-26 January 1988, Ciudad University, Madrid

Lecture: "The 1988 Yaseen Lectures on Time," Spring 1988, Neuberger Museum, State University of New York at Purchase

Conference: "Okonomie, Sprache und Zeit, 25-28 February 1988, Evangelische Akademie Arnoldshain, Schmitten, West Germany

Seminar: "Zeit als Problem der Theologie und der Sozialwissenschaften," Summer semester 1988, Dr. Jurgen P. Rinderspracher, University of Munster

Conference: "1988 Rochester Conference 'On Time'", week-long conference, 10-17 June 1988, University of Rochester

Meeting: International Research Group on Time Budgets and Social Activities, 14-16 June, Budapest

Meeting: European Society for Chronobiology, jointly with the British Society for Chronobiology, 9-10 July 1988

Whatever information the editor has received will gladly be shared upon request.

## MORE FROM THE EDITOR

The theme of process is a provocative idea. Process is elusive. It is even denied by some, though we have known for well over 200 years that we cannot conceive of any individual fact "at an instant;" that such abstraction is erroneous. Such willful ignorance is rare, however, and we can say that process is fundamental to actuality. And if process is fundamental, the actuality of the present derives its character from process, and bestows its character upon the future.

But note that the actuality of the present is describable only by admitting the stochastic and the aleatory, the unforeseen and the whimsical, the unanticipated, the emergent. Understanding process may ultimately displease us, for it is not rational. Yet perhaps this recognition will be beneficial, for it immediately asks us to see differently the massive global trend towards natural, social, and technological uniformity, threatening us with monotony, dullness, and sheer physical and ecological danger.

To understand process requires the study of the status of life in nature, life in time. But it requires more. For there to be life in time, one must also value life and nurture it, even in our construction of formal knowledge. This doesn't require the creation of a new theory of process, the discovery of some new genius. The philosopher of science Paul Feyerabend recognizes this in a criticism of the view which underlies the modern notion of individual creativity in which he demonstrates that even the most rational view of the world can function only when combined with the most irrational events we can find, namely miracles. Perhaps some new rational theory of process is possible and, in Feyerabend's view, possibly valuable, for, as he notes: "We do need arguments." But he further notes:

*... we also need an attitude, a religion, a philosophy or whatever you want to call such an agency, with corresponding sciences and political institutions, that views humans as inseparable parts of nature and society, not as their independent architects. We do not need new creative acts to find such a philosophy and the social structures it demands. The philosophy (religion) and the social structures already exist, at least in our history books, for they arose, long ago, when ideas and actions were still the results of a natural growth rather than of constructive efforts directed against the tendencies of such a growth. There are the Homeric epics, there is Taoism, there are the many 'primitive' cultures which put us to shame by their cheerful respect for the wonders of creation.*

Feyerabend realizes that scientists themselves have begun criticizing the separatist view of knowledge—arguing that there is no monolithic entity 'science' which stands apart from human life. And, if this is so, perhaps we can at least take some heart and begin to recognize where we need to go. Feyerabend reminds us of the paid craftsmen of the Renaissance, among others, who accepted the guidance of their lay employers and suggests we do the same. And ultimately he observes:

*All that is needed to restore the efficiency, the modesty and, above all, the humanity of the practitioners of a craft is the admission that scientists are citizens even inside the domain of their expertise and should therefore be prepared to accept the guidance and supervision of their fellow citizens. The conceited view that some human beings, having the divine gift of creativity, can rebuild Creation to fit their fantasies has not only led to tremendous social, ecological and personal problems, it also has very doubtful credentials, scientifically speaking. We should reexamine it, making full use of the less belligerent forms of life it displaced.*

As scientists and artists—as practitioners of the disciplines of workmanship—Feyerabend is asking us, as I read him, not to lie to people, nor corrupt their language, nor sell them shoddy merchandise, nor degrade their environment, nor cynically manipulate their lives, nor allow the specialists within our disciplines to pander to those who refuse such restraints. The theme "Time and Process" is very provocative, indeed, to this member of ISST and the issues are both grave and potentially inspiring.

All Newsletter Correspondence to:k

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## "Time and Process"

Seventh Conference of the International Society for the Study of Time

9-15 July 1989

Glacier Park Lodge, Glacier National Park, Montana, USA

### A REPORT FROM THE LOCAL ARRANGEMENTS CHAIRMAN

**Conference Hotel** Glacier Park Lodge is a full-serve hotel with a rustic, Western ambience. It is located in the small town of East Glacier, Montana, which is just outside the southeastern corner of Glacier National Park. It is in wooded foothills, and there are fairly impressive (2500-3000m) mountains, which begin about 5-10 miles from the hotel, visible to the northwest. The hotel rooms, each of which has two double beds and a bathroom (with sink, toilet, and shower), will cost approximately \$76 per day for two people, or about \$38 per day per person. For families with children, the additional cost will be approximately \$4 per day per child. For persons desiring a single room, the same room will cost about \$69 per day. We have chosen a selection of rooms in the quiet part of the hotel with an attractive view and a common balcony. Slightly less expensive or more expensive rooms are available upon special request; please describe your specific needs in a letter to me at the time you return the enclosed Conference Reservation Form.

These room prices do not include meals. Participants will take lunch as a group, but will order breakfast and dinner from the regular menu of the hotel dining room, so you may choose as spartan or as lavish fare as you prefer. We will probably take over more than half the hotel rooms and will take all meals (with the exception of the closing banquet) in the main dining room, so there will be many opportunities for convivial dining with old and new friends. On one evening we have scheduled a hayride and Western-style steak cookout. Judging from the hotel's menus, and—of course—depending upon your selection, we estimate that meals will cost between \$22—35 per person per day.

Attractions at the hotel include a heated swimming pool, a bar (with country-western band in the evenings), a nine-hole golf course, a snack bar, a gift shop, a game room, a beauty salon, horseback riding, babysitting, and, of course, hiking. Bicycles may be rented within walking distance. The Two Medicine Lakes area, which is about 10 miles (16km) from the hotel, has a campground, store, hiking, and even more spectacular scenery than at the hotel.

**Book Exhibit** As at our prior conferences, there will be an exhibit of time-related books written by members and non-members. If you care to display a copy of your book or books, please arrange them to be mailed to Prof. J. D. Kramer, Chairman, Book Exhibit-ISST, Glacier Park Lodge, East Glacier Park, MT 59434, USA. It should arrive not later than Thursday, July 6, 1989. Or bring them along and hand them to Prof. Kramer.

All precautions will be taken to prevent books from vanishing from the exhibit but neither Professor Kramer nor ISST assumes financial responsibility for lost volumes. If your publisher wishes its books returned, stamped, self-addressed mailing envelopes will have to be provided.

**Travel** Transportation to the Glacier Park Lodge, for most members, will consist of airline flights terminating in Great Falls, Montana, followed by a two-hour bus ride. The bus will cost approximately \$20 per person each way, and we will attempt to schedule ground transportation at the most convenient time to connect with arriving flights (see below). Those with a more leisurely itinerary may wish to consider traveling by train: Amtrak's "The Empire Builder." The East Glacier train station is directly across the road from the conference hotel. The train from the west (e.g., Seattle) arrives daily at approximately 8:00 in the morning, and the train from the east (e.g., Chicago, Minneapolis) arrives daily at approximately 20:00 in the evening. Travel agents will be able to make advance reservations with Amtrak, but bear in mind that distances are much greater, and travel time considerably longer, than in Europe!

Participants traveling from Europe, Asia, Africa, or South America may have to arrive at the Great Falls International Airport late in the evening (e.g., 20:00-22:00), and at the hotel even later. We will be sure to schedule a late bus for the convenience of those who must arrive at this hour, but—so that you may attend the opening of the conference on Sunday evening and be relatively fresh for the Monday morning session—those traveling from abroad are advised to arrive on Saturday, 8 July.

You may rent an automobile either at the Great Falls airport or (with advance notice) at the Conoco station in East Glacier, MT, about two blocks from the hotel.

The travel agent for this conference is Maitland Travel Service, Highway 93 South, Kalispell, Montana 59901, USA. Telephone from within the USA: 1-800-777-9965, from outside the USA: (406) 755-1032; FAX 406-752-0238; Telex 4955935. Ms. Dottie Maitland (or one of her assistants) can make various pre- and post-conference airline, hotel, and other reservations for you. Because Ms. Maitland is intimately familiar with the Glacier-Waterton Parks area, she will probably be more helpful than your local travel agent. Please note that all room reservations at Glacier Park Lodge are being coordinated by the hotel and the Society, so you should not have Ms. Maitland make duplicate hotel reservations.

**Problems? Questions? Special needs or requests?** Please write to Professor Richard Block, Department of Psychology, Montana State University, Bozeman, MT 59717, USA.

Richard Block  
Montana State University

