

International Society for the Study of Time

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Aperiodic Newsletter

February, 1982

No. 8

FROM THE EDITOR

It is a pleasure each Newsletter to be able to use this note to call attention to the honor and recognition achieved by fellow members of this Society. Since the last note John Michon has been elected to the prestigious Academy of the Netherlands. We are all proud of this recognition of his accomplishments.

We also note that it is of no little significance that ten out of thirteen papers presented at the workshop "Scientific Concepts of Time in Humanistic and Social Perspective" sponsored by the Rockefeller Foundation were delivered by ISST members. This is perhaps not all that surprising but rather only a natural result of the talents of our members and the aims and interests of this Society.

A MESSAGE FROM THE PRESIDENT

On October 11, 1981, our ISST Council met in Williamstown, Massachusetts to discuss themes and sites for the next (and fifth) conference. A distinctive feature of this meeting was the presence of a guest from China who had been invited to be present in order to advise and assist us. This visitor was Dr. Xiang Delin, an astronomer from Purple Mountain Observatory -- a delightful person as well as a wise one. Her presence at our meetings was most welcome and instructive.

Information about our next ISST meetings (in the summer of 1983) and the Chinese connection will be covered by reports from our Founder-Secretary. My own report to the Council at Williamstown focused instead on events in the recent past rather than upon time future. In the eleven months since our last Newsletter of April 15, 1981, one of the most interesting developments was the staging of conferences and workshops in Europe on some aspects of the topic of time. One of these was held in Germany, last July, and was attended by two of our ISST members. The other assembly included thirteen of our members (their names and some paper topics are listed below under Books...Symposia etc.) This workshop, sponsored by the Rockefeller Foundation, was held at Bellagio on Lake Como in Italy. The participants featured an assortment of scientists and humanists. Their objective was to discuss issues of Time from the contrasting perspectives of the sciences and the humanities. I should mention that these discussions -- unlike our presentations at ISST conferences -- are not to be published as a volume, although perhaps some of the individual participants may publish them later. These discussions seemed to me to be memorably exhilarating and endlessly mind-stretching. I have room for only one example of a confrontation concerning Time as Measurement as contrasted with Time as Experience.

This occurred when I myself was quoting a summary of an Einsteinian formula: "Combine time with space in such a way that nothing can travel faster than the speed of light, then mass is equal to energy." As one of my listeners (Jake Arlow) pointed out afterwards, when I had read the quotation I had made a slip of the tongue. Instead of saying "nothing can travel faster than the speed of light" I had said "nothing can travel faster than the speed of life." Whether my slip was Freudian or non-Freudian does not matter. What was interesting was how my slip became a kind of rallying point for those persons representing the humanities including the novelist, John Fowles, nowadays one of the best known of an interesting group of participants.

In short, our Society has the good fortune to be focused on a topic that can lend itself to the liveliest of debates. As one of my students recently informed me, a publication called The American Heritage Word-Frequency Book indicates that the word time is the most frequently used noun in the English language. I think we can see why.

George Ford

THE FOUNDER'S COLUMN

When our first conference was held in 1969 in Oberwolfach, the Society was still in its infancy. Our membership was perhaps forty-two, the number of invited papers around forty. Everyone knew everyone else, everyone spoke and everyone listened.

Hopefully, by the time the 1983 conference is over each participant will have met every other participant and we all will have listened and participated in the discussions. This time, however, it will not be possible to extend an invitation to all present to deliver papers. The vitality of the idea of a multidisciplinary study of time has made the Society grow too large to do so, in spite of the fact that it has never actively sought new members.

We could have remained a more or less closed group but, following the desires of the membership expressed in a change in our constitution, we are now open to all qualified professionals who, in the judgement of the Membership Committee, can profit from our work and contribute to it.

The Study of Time IV (see Secretary's Report) carries an introduction entitled, "A Backward and a Forward Glance: the Uses and Problems of the Study of Time." The following quotation from that introduction points to the reasons why, in my view, our work has been attracting so many fine people.

The suspicion has often been voiced that fascination with the study of time has its roots in the insight which it provides into man's destiny or, perhaps, absence of destiny. Therefore, even the most abstract scientific analysis of time harks back to fundamental issues relating to the existence of man.

Perhaps what a meaningful multidisciplinary study of time demands is an intellectual climate, rather than simply a new method of argument. Such a climate should permit creativity, common to all knowledge, to flourish, and aspects of

reality previously separately understood, to produce their synthesis, by interacting through the idea of time. The task is difficult, but human aspirations seem to call for it. For, as in the quiet countryside of Robert Frost's New Hampshire so also in the countryside of the intellect:

"Something there is that doesn't
love a wall,
That sends the frozen-ground-swell
under it,
And spills the upper boulders in
the sun."

J. T. Fraser

REPORT FROM THE SECRETARY

THE STUDY OF TIME IV was published on October 12, 1981. Prior volumes bore the subtitle, "Proceedings of...." The new subtitle reflects the growth of the Society: "Papers from the Fourth Conference of...." In addition to nineteen papers it contains a long Appendix, "A Report on the Literature of Time, 1900-1980." Part 1 of the Appendix is a bibliography of time-related books, containing a total of about 800 citations, arranged in 12 major subjects/areas. Part 2 of the Appendix is a substantial survey of time-related periodical literature, covering roughly the last fifteen years. Part 3 is a guide to the time-related subject headings of the Library of Congress card catalog system. Time IV also contains a cumulative index and tables of contents for The Study of Time I-IV.

The frontispiece of Time IV is a poster, announcing an exhibition held at the Museum of Technology in Warsaw, Poland, in 1979 entitled "The Anatomy of Time." It was organized, according to the caption "by a small community of scientists and scholars devoted to the study of time." The caption further reports that "a telegram of congratulations was received on opening day from the International Society of the Study of Time. It was received as a sign of world solidarity among those, anywhere, concerned with the role of time in the collective and individual affairs of man." ISST's three Polish Members were instrumental in organizing this exhibit, attended by an estimated 100,000 visitors.

CALL FOR PAPERS. In Newsletter No. 6 (December 15, 1980) I reported the directives of the Council meeting of April 6, 1980, "to introduce coherence into our discussions, while maintaining the multidisciplinary character of our work." For reasons given in that Newsletter the theme of the fifth conference was selected to be Time, Science and Society in China and the West. In Newsletter No. 7 (April 15, 1981) I reported that letters have been mailed to selected scholars and scientists in the People's Republic of China. Each letter included a description of our preliminary plans. Following the instructions of the Council, given at its meeting of 11 October 1981, the whole text of those preliminary plans is reproduced below. It ought to be added that the same material was also sent to selected Western scholars.

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SCIENCE, TIME, AND SOCIETY IN CHINA AND THE WEST

Fifth Conference of the Society
July, 1983

Preliminary Plans

1. History and Purpose of the Society

The International Society for the Study of Time is a professional society of over one-hundred scientists and scholars from twenty countries (*). Each of our members is accomplished in his specialty and has published articles or books, or both, on subjects that pertain to the role of time in his field.

We meet once every four years to learn about and debate issues that concern the experience and idea of time in the collective and individual lives of man.

Selected papers from our conferences have been published by Springer Verlag (New York, Heidelberg, Berlin) under the title The Study of Time. Three volumes have appeared thus far, comprising a total of 98 papers, in over 1800 printed pages. The fourth volume is now in preparation.

Copies of the Tables of Contents of the first three volumes are attached to these Preliminary Plans. An examination of these Tables will show that we have dealt with time-related issues in the social and behavioral sciences, in biology and medicine, in physics, astronomy and mathematics, in philosophy, history, anthropology, art, and literature.

2. The Theme of our Fifth Conference

The central theme of our fifth conference will be SCIENCE, TIME AND SOCIETY IN CHINA AND THE WEST.

There is evidence to suggest that certain attitudes toward time, together with related interpretations of man's position in the conflicts of nature, working themselves out in specific socioeconomic settings, were instrumental for the coming about of the scientific-industrial revolution in the West. We intend to begin by summing up the evidence for this claim.

Our concern, however, will be historical only to the extent that history might guide us to a better understanding of the present and hence assist in planning for the future. A number of possible subjects which we might consider are listed in Section 3, below. In the most general terms, we intend to ask, and hope to give partial answers to, the following questions:

What kind of attitudes toward time and history, and what kind of collective consciousness of time, seem to have assisted the readiness of the West to adopt the scientific way of thought as the most appropriate way of dealing with the problems of man and society?

What have been the collective attitudes toward time and history in China, what are those attitudes now, and how may they be expected to influence science and technology in the China of the future?

In searching for cultural traits that favor the emergence of scientific thought and industrial civilization, we shall attempt to put into practice the injunctions of those social thinkers - from Ludwig Feuerbach to Hin Yuelin - who have argued that plans for changing the world must be connected with designs for thinking about it.

By way of commenting on the theme of our conference it is appropriate to remark that the Society had its origins in a work published in 1966 under the title The Voices of Time: a Cooperative Survey of Man's Views of Time as Expressed by the Sciences and the Humanities. A copy of the Table of Contents of that book is also attached.

The Voices of Time included a contribution by Joseph Needham, FRS, under the title "Time and Knowledge in China and the West." This essay, in a revised form, will be incorporated in Part 49 ("Intellectual and Social Factors") of the Science and Civilization in China project (SCC). It is a contribution to a question which is central to the SCC volumes and one which coincides with the theme of our conference.

The question is: why did modern science, the mathematization of hypotheses about Nature, linked to a consistent use of experimentation with all its implications for contemporary technology, arise in European culture and not in Chinese, in spite of the fact that between the first and fifteenth centuries A.D. East Asian culture was much more efficient than the European West in gaining knowledge of Nature and applying it to various purposes?

(*) Argentina, Australia, Austria, Belgium, Canada, Denmark, Federal Republic of Germany, Finland, France, Greece, Israel, Italy, Japan, the Netherlands, Poland, Sweden, Switzerland, United Kingdom, United States of America, Republic of Zaire.

Beyond its other goals, we hope that our conference will offer an opportunity to Dr. Needham for a reexamination of the ideas underlying this portion of his enormous project. We also sincerely hope that his labors on the last eight volumes of the nineteen volumes of SCC will have progressed sufficiently to permit him to join us and open the conference, whose theme was inspired by his work.

We will also have the privilege of hearing from Dr. Nathan Sivin, Professor of Chinese Culture and of the History of Science at the University of Pennsylvania and editor of Chinese Science. His research has been directed toward an understanding of the traditional ways in which the Chinese went about exploring Nature and their relation to it, and how the Chinese views have changed through interaction with the West over the past four-hundred years.

Dr. Sivin has been in touch with historians of science and other scholars at the Research Institute for the History of Natural Sciences in the Chinese Academy of Social Sciences. He has contributed an essay under the title, "Why did the Scientific Revolution not take place in China -- or didn't it?" for a special issue of Zhonghua Wenshi Luncong in honor of Joseph Needham's eightieth birthday.

3. Possible Program of the Conference

We envisage the conference to be comprised of three sets of papers. They may be usefully classed under the headings, "The Past," "The Present," and "The Future."

I. The Past

This set of papers might focus on the conceptions of time that can be abstracted from the study of social and political institutions. This is the kind of analysis in which members of the International Society for the Study of Time have a unique and excellent record.

II. The Present

This set of papers might focus on the social and political strains that are known to be manifest in countries which have attempted to assimilate, critically or uncritically, the Western conceptions of time. Here, again, our subject should be able to evoke contributions from the right scholars in the West, in some non-Western countries such as Japan, and in some Third World countries.

III. The Future

The third set of papers -- the main portion of the conference -- would focus entirely on China.

Although there is a great wealth of thought about time in Chinese philosophy and natural philosophy, there appears to be no prior history in China of studies that deal with time on a multidisciplinary basis. We should add here that the interdisciplinary study of time is fairly recent even in the West, a reaction, we believe, to the continually increasing fragmentation of knowledge. The following general remarks will, therefore, be in order.

In our deliberations the working methods of each field of knowledge are respected and retained. The benefit of the multidisciplinary participation manifests itself through such details as the criticism coming from scholars and scientists outside the specialized discipline of the speaker. Experience shows that sophisticated outsiders can often pick up, and hence help elucidate, hidden assumptions which specialists take for granted or of which they might even be totally unaware.

Studying and comparing the teachings about time of various sciences and philosophies have benefited our members by enlarging vistas narrowed by the requirements of specialization. For scientists, the new horizons tend to encourage invention, since science is no longer seen merely as a process of collecting and analyzing data. For philosophers and literary scholars, the multidisciplinary approach to time has been an aid in helping to focus their attention on new perceptions of reality stemming from science.

We have come to recognize the great depth to which individual views of time are conditioned by the community. By 'individual views' is meant the attitude of an individual toward the use of time in his daily life, his attitude toward the position of his community in the flow of history, and his understanding of the balance between his use of time for personal and collective purposes. These realizations tend to direct our interest toward the collective significance of whatever issues are being considered, be they in philosophy, art, literature or the sciences.

Members of this Society have made significant contributions to a focussing of the attention of Western and non-Western intellectual communities upon the dynamic role which specific concepts of time play in the creation and continuation of the various social and cultural institutions. At least one member of our Society can address each of the subjects listed below by way of example. We hope to bring to this conference, as to our prior conferences, our dedication to comparative studies among the sciences and among civilizations. Furthermore, we believe that the study of time as a multidisciplinary enterprise touches upon the four major plans of modernizing China: upon science, technology, literature and cultural life.

Following are some topics which we might wish to explore. They are not intended to define the program -- that will be determined by the talents which the Chinese and non-Chinese participants will be able to bring to it. They are only samples from a very large pool of possible subjects.

-- The study of time, insofar as it deals with a multidisciplinary subject, encourages the elevation of epistemology to the first place among the branches of philosophy. We may ask: How may the sciences and the humanities benefit from the associated shift from the fragmented to the unified? How can this shift be encouraged?

-- From the point of view of the study of time, various modes of human knowledge appear as different projections or transformations of the human experience. How can this natural, almost obvious, result be made to assist in securing coherence among the many ways in which we learn about nature and man?

-- A forward-looking, progressive idea of historical time, stemming from an apocalyptic eschatology, was an important element in the philosophy of Francis Bacon and hence, ultimately, in the Scientific Revolution. But Bacon considered earlier science as feminine, and modern (presumably, post-Baconian) science as masculine. These views have stamped themselves on the way science is conducted and regarded in the West. What can one say about the change that these views must suffer as they get transplanted into the Chinese intellectual soil?

-- The study of time has proved to be a suitable vehicle in analyzing the relationship between philosophy and natural science. An understanding of this relationship, in terms which are appropriate and acceptable to contemporary Chinese scholarship, is probably a necessary prerequisite for the design of a Chinese science policy. We might wish to explore this issue.

-- Strongly coordinated schedules and ideas of linear progress, native to Judeo-Christian philosophies, can bring with them great wealth in terms of industrial productivity. But they threaten old ways and tempos of life wherever they are not traditional. How can the importance of time-consciousness, as expressed in ideas of progress and incorporated in schedules, be made part of the educational program in service of modernization?

-- From comparative studies in the West, we know about different attitudes toward time by the worker, farmer, writer, administrator, scientist. Can these results be integrated in the Chinese program of industrialization?

-- During the last few years there has been increasing interest in the West in appropriate technology. By "appropriate" is meant a technology that matches the need of a group, in terms of its own collective evaluation of its future. May the findings on appropriate technology, as a function of attitudes toward the future, be of use in modernizing Chinese industry and improving the general quality of life?

-- There has been a movement in the West toward alternatives to big science. By "big science" is meant the kind of science which is appropriate to the socioeconomic practices of the West. Again, an important aspect of this movement is the realization that people evaluate their own futures differently. Can these time-related findings be applied to the articulation of the aims of science in modern China?

-- Problems of aging, from the biological, psychological and social points of view have been one of the many concerns of the study of time. Comparing notes between Chinese and Western findings might turn out to be both fascinating and useful.

-- The concept, "colonization of time," refers to the extension of working hours into nights and holidays. Here, again, comparing findings might be useful and interesting.

-- There is evidence to suggest a relationship between clocks and cultures. Specifically, between (a) the kind of processes (devices) that are used for time measurement at an epoch and at a place and (b) the collective views regarding the position of man in society, prevailing at that place and epoch, and embedded in institutions and practices. In what ways can the rich history of Chinese clocks and calendars, so analyzed, assist in planning the Chinese temporal organization for today and tomorrow?

4. In what Ways do Western Participants hope to Profit from the Conference?

From our point of view, the conference on SCIENCE, TIME, AND SOCIETY IN CHINA AND THE WEST will raise the discussions about time to a new level: that of articulating concrete cultural implications of distinct concepts of time in our epoch. It will be, so we hope, a substantial contribution to our continued exploration of the social significance and role of science, as seen through a clarification of the human experience and idea of time.

5. Organizational Details

We are planning a conference of six working days, to take place some time during July, 1983. Simultaneously with the meeting, as in the past, we plan to hold an exhibit of books and articles written by members of this Society and by the other participants at the conference. Selected papers will be published under the title The Study of Time V: Science, Time, and Society in China and the West.

Holding the conference in the People's Republic of China proved to have been impractical. Instead, the conference will be held in Castello di Gargonza, Monte San Savino (Arezzo), Italy. The dates: Arrival on Sunday, July 3, 1983. Conference will begin Monday morning and adjourn Saturday noon, July 9th.

Four days have been assigned to the central theme of the conference, one and a half days to time-related matter not directly pertinent to the theme. The exact balance will have to be determined by the Conference Committee in due course.

If you are a Member or Corresponding Member of the International Society for the Study of Time and if you wish to prepare a paper to deliver at the 1983 meeting, please write a one page tentative summary and send it to the Secretary. The deadline is August 31, 1982. Your proposal will be submitted to the Conference Committee for consideration.

If you are a Member or Corresponding Member of the International Society for the Study of Time and if you wish to organize a seminar of one or one-and-a-half hours duration on a time-related subject of your choice, please submit a one page plan to the Secretary. The deadline is August 31, 1982. Your proposal will be submitted to the Conference Committee for consideration.

Whether or not you wish to read a paper, if you are a Member or Corresponding Member of the Society, you are hereby cordially invited to come and participate at our 1983 conference.

Further details will be forthcoming in Aperiodic Newsletter No. 9.

TREASURER'S REPORT

If you are a Member or Corresponding Member of ISST, you will find a copy of a membership document enclosed with this Newsletter -- together with your bill for membership dues.

FROM THE MEMBERSHIP CHAIRMAN

I am pleased to report that as of November 30, 1981, I have on record 85 Members and 53 Corresponding Members, or a total of 138 people. The Membership includes at least one person from each of the following twenty-two countries: Argentina, Australia, Austria, Belgium, Canada, Chile, Denmark, Finland, France, West Germany, Greece, Holland, Israel, Italy, Japan, Poland, South Africa, Sweden, Switzerland, and the United Kingdom, the United States of America, and the Republic of Zaire.

Sam Macey

A REPORT ON MEMBERS' AND CORRESPONDING MEMBERS' ACTIVITIES

The purpose of this column is to inform the membership about time-related activities of Members and Corresponding Members. The previous Newsletters carried over 300 citations. The list that follows continues and updates the prior lists.

Please note that we do not monitor members' activities for the purpose of including them in this list. Announcements will be made only as they reach the Secretary's office. Please send all material, carefully edited in a form suitable for this column to the Secretary. Deadline for the next issue of the Newsletter is August 31, 1982.

Since publication of the last Newsletter, as mentioned in the Message from the President, two important time-related meetings have been reported.

The first one was a series of 12 weekly lectures under the title Die Zeit, sponsored by the Carl Friedrich von Siemens Stiftung. It was held in Munich, June 11-20. Ernst Pöppel was one of the organizers of the series. One of the 12 papers was delivered by ISST Member David Epstein. He spoke on "Das Erlebnis der Zeit in der Musik. Truktur und Process."

The second one was a workshop on the theme, "Scientific Concepts of Time in Humanistic and Social Perspective." It was sponsored by the Rockefeller Foundation and held, July 6-11 at their Bellagio Conference Center. Ten of the thirteen papers on the program were prepared and delivered by Members of ISST. Here is the list:

George Ford, "Time, the humanistic balance;" J. T. Fraser, "The principle of temporal levels: a framework for the dialogue;" Nathaniel Lawrence, "The sources of time and the limits of science;" Michael Heller, "Cosmic time, human time, and value;" Brian Goodwin, "Invariant order and temporal constraint in biology;" K. G. Denbigh, "Science and the human sense of 'presentness';" F. C. Haber, "Time from Newton to Darwin: the cultural and historical background;" Lewis Rowell, "Music culture: the issue of time."

Invited member participants, not reading papers: Jacob Arlow, Adam Mendilow, John A. Michon, Jacques Merleau-Ponty, David Park, Nathan Sivin and Robert J. Thornton.

The meeting was essentially one of debate. No proceedings or selected papers will be published. The following two paragraphs to appear in the yearly report of the Bellagio Conference Center record the theme and nature of the workshop:

Concepts of time, characteristic of people at various places and at various epochs, reflect the prevailing visions of reality. Such visions have been traditionally incorporated in religious teachings and mythological imagery. With the shift toward identifying truth almost exclusively with scientific truth, reliable judgment about the value of human time has been increasingly sought through the scientific metaphor. The purpose of the conference was to explore the consequences of this shift by learning about the teachings of physics and biology about time, and by asking what significance they have, if any, for the existential issues of our epoch. A distant goal was the delineation of desirable guidelines for scientifically based policy decisions.

The issues at hand were of immense complexity. We only began exploring the territory.

Richard A. Block

"Memory and the Experience of Duration in Retrospect," Memory & Cognition, 2 (1974), 153-160.

"Time in Memory: The Chase Is On!," (Review of Temporal Codes for Memories: Issues and Problems by B. J. Underwood), Contemporary Psychology, 23 (1978), 11-12.

"Remembered Duration: Effects of Event and Sequence Complexity," Memory & Cognition, 6 (1978), 320-326.

"Remembered Duration: A Contextualist Approach" (with M. A. Reed), Rocky Mountain Psychological Association, Denver, 1978.

"Remembered Duration: Evidence for a Contextual-change Hypothesis" (with M. A. Reed), Journal of Experimental Psychology: Human Learning and Memory, 4 (1978), 656-665.

"A Watched Pot Sometimes Boils: A Study of Duration Experience" (with E. J. George & M. A. Reed), American Psychological Association, New York, 1979.

"Time and Consciousness", in Aspects of Consciousness, Vol. 1 (G. Underwood & R. Stevens, eds.), London: Academic Press, 1979.

"A Watched Pot Sometimes Boils: A Study of Duration Experience" (with E. J. George & M. A. Reed), Acta Psychologica 46 (1980), 81-94.

"Environmental Context and Temporal Memory Judgments," Psychonomic Society, St. Louis, 1980.

"Remembered Duration: Effects of Environmental - and process-context changes," Rocky Mountain Psychological Association, Denver, 1981.

Kenneth Denbigh

"Thermodynamics and The Subjective Sense of Time," Brit. J. Phil Science, IV, (1953), 183-191.

"In Defence of The Direction of Time," The Study of Time, I.

"The Objectivity, or Otherwise, of the Present," The Study of Time, III.

"Time and Chance," Diogenes, 89 (1975), 1-20.

"An Inventive Universe," Hutchinson 1975, Braziller, 1975.

"How Subjective is Entropy?," Chemistry in Britain, 17 (1981), 168-185.

"Three Concepts of Time," Springer-Verlag, 1981.

Johannes Fabian

"Rule and Process: Thoughts on Ethnography as Communication," Philosophy of the Social Sciences, 9 (1979), 1-26.

J. T. Fraser

The Voices of Time, 2nd ed. (Amherst: University of Massachusetts Press, 1981). With a new introduction, "Toward an Integrated Understanding of Time." The introduction has an Appendix, "A Mosaic of Metaphors of Time and Images of Transience in the Literature of the West." (This edition is 770 pp).

The Study of Time IV, with Nathaniel Lawrence and David Park (New York: Springer Verlag, 1981).

"The Times and Voices of People, Birds and Stones." Lecture, Indiana University, Folklore Department, January, 1981.

Robert H. Lauer

Temporal Man: the Meaning and Uses of Social Time (New York: Praeger, 1981), 181 p.