Meetings

The Nature of the Real

A series of conferences on the nature of the real was held at Marquette University, Milwaukee, Wisconsin, from 12 to 15 June 1961.

Of the six principal speakers, three were physicists and three were philosophers. The physicist speakers were Eugene P. Wigner (Princeton University), Alfred Landé (Ohio State University), and Robert Maurer (University of Illinois). The philosopher speakers were R. J. Henle (St. Louis University), Paul Weiss (Yale University), and Charles DeKoninck (Laval University). Three other philosophers formally commented on the papers of the three physicists and three other physicists commented on the papers of the philosophers. The philosopher commentators were G. Klubertanz (St. Louis University), Richard Blackwell (John Carroll University), and James Weisheipl (Dominican House of Studies). The physicist commentators were Max Dresden (State University of Iowa), Albert Rose (RCA Laboratories), and L. W. Friedrich (Marquette University).

It was pointed out by the physicists that the reason why the problems of epistemology and ontology are of increased interest to the contemporary physicist is that he has found it impossible to give a satisfactory description of atomic phenomena without explicit reference to consciousness. It was suggested by one physicist that there are two kinds of reality: that of my consciousness, which is absolute, and that of other objects, which is relative and ranges over a wide spectrum.

Causality was discussed by both the philosophers and the physicists. Attempts to hold out for cause-effect continuity in all of reality falter when one encounters quantum mechanical interpretations of atomic phenomena. Two of the physicists expressed the fear that their colleagues have become so enthralled by the success of the mental constructs, or concepts, used by physicists that they unwittingly fail to distinguish purely mental concepts from the real world. As an example of this, reference was made to Bohr, who was accused of transferring the uncertainty of prediction expressed by the Heisenberg uncertainty principle into an indeterminacy of being itself, thereby treating the analysis of concepts as though such analysis were equivalent to an examination of primary data.

One of the philosophers explained that we discover physical reality through a primary form of human experience which is at the same time the primary content of human consciousness. This experience is a concrete encounter with a complex object, or set of objects. It is a knowledge encounter as well as an encounter with objects. The physical reality which we discover through continuing encounters is not only a world of existing extended beings; it is a world of movement and change, of interaction and interrelation. Insightful reflection and inference bring us to see that the existence and activity of the physical world must be understood within a framework of causes and of causal explanation.

Another of the philosophers pointed out that scientific study gives us a more objective, precise, and systematic grasp of reality than is obtainable by the commonsense man. Nevertheless, it does not give us the ultimately real. Grasp of ultimate reality is possible "only through speculation, in a dialectically sustained systematic account of the content of common experience, distilled and generalized."

It was agreed by most of the participants that, although the vast array of reproducible experiments demonstrates that there are an extraordinarily large number of phenomena that are causally related, yet the causal principal is not valid for all known sequences of phenomena. Some observables remain erratic and unpredictable despite the refined techniques used to measure them. Physicists do not attribute this to the limitations of their techniques. That leaves little choice but to accept, as an ultimate fact of the real world, the absence of causal relation linking these phenomena.

Not much light was cast during these conferences on how the acausal, relatively random, behavior at the atomic level can be the basis for ordered causal behavior at the macroscopic level. It is difficult to determine where the transition (if it can be called that) occurs between random, acausal behavior and ordered behavior, or between a random distribution of elementary particles and an ordered structure of which those same particles become the ultimate components.

The purpose of the conferences was simple and fundamental. They were held to attempt the building of a bridge

of understanding between philosophers and physicists. Until the two groups agree on the meanings of words they use in common and until they accept the scope of each other's valid areas of interest as well as understand each other's limitations, meaningful dialogue between the two is well-nigh impossible.

Recurring efforts were made on the part of many of the participants to outline the "levels of reality" within the entire spectrum of reality, from the most really real down to the most tenuously real. These conferences pointed up the problems involved in such attempts. Much needs to be done before these problems will be solved.

Both the philosophers and the physicists agreed that they must learn much from each other before a good philosophy of physics can be written, if indeed that will ever be possible.

A total of 121 persons attended the conferences. Publication of the proceedings of these conferences is planned.

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Forthcoming Events

January

22–24. Institute of the Aerospace Sciences, 30th annual, New York, N.Y. (IAS, 2 E. 64 St., New York 21)

22–26. American Mathematical Soc., annual, Cincinnati, Ohio. (AMS, 190 Hope St., Providence 6, R.I.)

23. Conference on Cardiac and Vascular Surgery, New York Heart Assoc., New York, N.Y. (R. Ober, NYHA, 10 Columbus Circle, New York 19)

23–25. American Soc. of Safety Engineers, Philadelphia, Pa. (A. C. Blackman, 5 N. Wabash Ave., Chicago 2, Ill.)

23–25. Obstetrics and Gynaecology, 2nd Asiatic congr., Calcutta, India. (S. Mitra, 4 Chowringhee Terrace, Calcutta 20)

24–26. Mathematical Assoc. of America, 45th annual, Cincinnati, Ohio. (H. M. Gehman, Univ. of Buffalo, Buffalo, N.Y.)

24–26. Thermophysical Properties, symp., American Soc. of Mechanical Engineers, Princeton, N.J. (E. F. Lype, ASME, c/o Thompson Ramo Wooldridge, 23555 Euclid Ave., Cleveland, Ohio)

24–27. American Physical Soc., annual, New York, N.Y. (K. K. Darrow, 538 W. 120 St., New York 27)

24–27. Federation of American Scientists, Natl. Council, New York, N.Y. (D. M. Singer, FAS, 1700 K St., NW, Washington 6)

25–26. Western Spectroscopy Assoc., 9th annual, Pacific Grove, Calif. (D. G. Rea, WSA, Univ. of California Space Sciences Laboratory, Berkeley 4)

25–27. Western Soc. for Clinical Research, 15th annual, Carmel-by-the-Sea, Calif. (H. R. Warner, WSCR, Latter-Day Saints Hospital, Dept. of Physiology, Salt Lake City 3, Utah)

26–29. Man and Civilization: Control of the Mind—II, San Francisco, Calif. (S. M. Farber, Univ. of California San Francisco Medical Center, San Francisco 22)

28–3. American Inst. of Electrical Engineers, New York, N.Y. (R. S. Gardner, AIEE, 33 W. 39 St., New York 18)

28–3. Pan American Assoc. of Ophthalmology, interim congr., Lima, Peru. (J. M. McLean, 525 E. 68 St., New York 21)

29–30. Carbohydrates, Cellulose, and Cellulose Industries, symp., Council of Scientific and Industrial Research, Ahmedabad, India. (Director, Ahmedabad Textile Industry Research Assoc., Ahmedabad-9)

29–31. American Soc. of Heating, Refrigerating and Air-Conditioning Engineers, St. Louis, Mo. (R. C. Cross, United Engineering Center, 345 E. 47 St., New York, N.Y.)

29–31. Institute of the Aeronautical Sciences, annual, New York, N.Y. (R. R. Dexter, IAS, 2 E. 64 St., New York 21)

29–1. Instrument Soc. of America, conf. and exhibit, Dallas, Texas. (W. H. Kushnick, ISA, 313 Sixth Ave., Pittsburgh 22, Pa.)

30–1. Military Electronics, 4th winter convention, Institute of Radio Engineers, Los Angeles, Calif. (IRE, 1435 LaCienega Blvd, Los Angeles)

30-2. Society of Plastics Engineers, annual technical conf., Pittsburgh, Pa. (T. A. Bissell, SPE, 65 Prospect St., Stamford, Conn.)

31–2. American Geophysical Union, Pacific Southwest regional, Tucson, Ariz. (A. N. Sayre, U.S. Geological Survey, Washington 25)

February

1–2. Industrial Management Engineering Conf., Illinois Inst. of Technology, Chicago. (F. A. Judd, Technology Center, IIT, Chicago 18)

1–3. Congress on Hospital Administration, 5th annual, Chicago, Ill. (American College of Hospital Administrators, 840 N. Lake Shore Dr., Chicago)

4–7. American Inst. of Chemical Engineers, natl., Los Angeles, Calif. (American Petroleum Inst., 1271 Avenue of the Americas, New York 20)

5. World Meteorological Organization, Working Group on Networks of the Commission for Synoptic Meteorology, Geneva, Switzerland. (Secretary, WMO, Geneva)

5–6. Gustav Stern Symp. on Perspectives in Virology—III, New York, N.Y. (M. Pollard, Lobund Inst., Univ. of Notre Dame, Notre Dame, Ind.)

5–7. American Acad. of Allergy, annual, Denver, Colo. (Scientific Liaison Office, Natl. Research Council, Sussex Dr., Ottawa, Ont., Canada)

5–9. Electroforming Applications, symp., American Soc. for Testing and Materials, Dallas, Tex. (ASTM, 1916 Race St., Philadelphia 3, Pa.)

6–7. Vertebrate Pest Control Conf., Sacramento, Calif. (M. W. Cummings, Univ. of California, Davis)

6–8. Society of the Plastics Industry, Re-