

## ABSTRACTS

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"On the Objective of Einstein's Work," by W. H. McCREA: Einstein's objective was to establish a field-theory for the whole of fundamental physics. The paper is an attempt to examine critically the way in which Einstein regarded his successive contributions as bringing him nearer to this objective. The paper concludes with a brief examination of the status of the kind of field-theory envisaged by Einstein and suggests that it might be regarded as a matter rather of convenience of mathematical description than of basic physical significance.

"The Scope and Language of Science," by W. V. QUINE: We cannot demarcate the domain of the cognitive, or scientific, but we can partially indicate its direction, by schematizing a splinter language adequate to scientific truths *par excellence*. It lacks indicator words and intensional idioms, and contains just truth functions, quantification, and a stock of predicates forever subject to supplementation. The universe of quantification embraces physical objects, classes of them, classes of such classes, etc. Mental states are trivially identifiable with physical objects.

The science of science shares, as part of science, science's vicissitudes. Thus this scheme may obsolesce as science changes. Whether to call the supervening affair science is a verbal question.

"Hobbes and Hull—Metaphysicians of Behavior," by R. S. PETERS AND H. TAJFEL: The paper has two main aims. The first is to point out the surprising similarity between the mechanistic systems of Thomas Hobbes in the 17th century and Clark Hull in the 20th. This is shown in the dream of an overall deductive system to explain human behaviour; in the recourse to minute motions to bridge the gap between physics, physiology, and psychology; in the suggestion that all behavior is initiated by external stimulation and regulated by a pleasure-pain mechanism of decrease in vital motion or drive-reduction; and in the attempt to explain all complex motives in terms of a simple one like anxiety.

The second aim is to show that both systems make illegitimate logical jumps the character of which tends to be covered up by the details of modern mechanistic systems. The logical jumps occur in the transition from descriptions of movements to descriptions of actions, these descriptions being at a different logical level; and in the attempt to give purely mechanical explanations of perception and of rational thought.

Man, it is claimed, is a rule-following animal, and although physiology can provide necessary conditions for human behaviour, it can never give a sufficient explanation of it. Hobbes and Hull have been misled by the obvious fact that physiological theories are extremely *relevant* to human behaviour into thinking that descriptions of human actions could be *deduced* from a physiological theory alone. This is the basic logical mistake which both Hobbes and Hull commit in a surprisingly similar manner.

"Process and Non-Process Theories in the Physical Sciences," by BRIAN ELLIS: The aim of this paper is to compare two commonly distinguished types of physical theory having regard to both their logical and empirical function in science. The two types are here called process and non-process theories. The Kinetic Theory of Gases is an example of the former kind and Thermodynamics the latter. These two examples, however, differ considerably in subject matter and consequently any direct comparison would be difficult. In order to avoid this difficulty, and also to bring out a close relationship which exists between the two types of theory, an actual historical process theory, (Avogadro's explanation of Gay-Lussac's Law of Combining Volumes), is set out side by side with a fictitious non-process theory designed to account for precisely the same phenomena. The main body of the paper is then devoted to a discussion of these last two theories.