ABSTRACTS FROM SYNTHESE
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CONTENTS

THE STRUCTURE OF LOGICAL PROBABILITIES

JENS ERIK FENSTAD

The paper discusses the range-of-applicability problem in relation to the notion of probability using techniques of formal logic. The main technical contribution is a representation theorem for conditional probabilities defined on first order languages. The representation theorem is shown to entail a version of de Finetti's theorem on exchangeable events.

ON THE CONFIRMATION OF HYPOTHESES ABOUT REGIONS OF EXISTENCE

HÅKAN TÖRNEBOHM

Hypotheses such as the gas laws assigning a region of existence to objects in a state space are examined.

Using the notion of degree of information covering, the author attempts to offer a justification of a common method of establishing such hypotheses.

He also tries to establish that successors of hypotheses about existential regions contain more information and have a higher degree of partial truth if they are established on the basis of measurements free from systematic errors in accordance with customary rules.

CAUSAL CONNECTION

WILLIAM RUDDICK

We demand far less evidence for alleged causes whose descriptions are "congruous" with, than for those whose descriptions are "incongruous" with descriptions of effects we want explained. (*Fictitious*, *Spurious* and *Vacuous* Causes are so congruous; *Paradoxical*, *Incommensurable*, *Chance* and *Heterogeneous* Causes are so incongruous.) "Congruity" is a meaning-relation between terms describing cause and effect. As such, congruity gives causal implications to certain conjunctions (e.g. 'The wire was overloaded and broke') and provides certain related "causal generalities" (e.g. 'Overloading causes breakdown') with both a linguistic defense and explanatory power. Congruity also guides our choice of *the* cause from among severally necessary causal factors. Congruities, not expectations or social relationships, are what we project into nature as causal connections.

A GENERALIZATION OF THE PRINCIPLE OF CAUSALITY, WHICH MAKES IT APPLICABLE TO EVOLUTIONARY SYSTEMS

CLAUDE HILLINGER

The principle of causality has traditionally been formulated in terms of the dynamic equations of classical physics. It has been believed that only stable (conservative) systems can be meaning-

fully studied in this way. The evolutionary systems studied by biologists and social scientists are non-conservative and so are excluded from the traditional formulation of causality. The author argues that causal laws for non-conservative systems can be meaningfully formulated. An example based on Malthus' population theory is given.

NO MORE DISCOVERY IN PHYSICS?

JOSEPH AGASSI

Richard Schlegel argues (*Completeness in Science*, ENY, 1967) that physics is practically complete. Is science possible?, can it be complete?, is it complete already?—answers to these are synthetic and hence, he says, scientific. The principle of complementarity in atomic physics says, whatever atomic phenomenon is unpredicted in principle remains unpredictable. Ergo, micro-physics is complete. Macro-physics will hopefully follow suit presently.

Poor argumentation aside, the author's chief error is in his question, whose opinion should we endorse, the scientist's or the philosopher's? The philosopher can (also) help raise standards of criticism, in scientific and in meta-scientific discourse.

ANNOUNCEMENT

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	Elected	Adolf Grünbaum
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	Elected	Gerald J. Massey
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The ballots were counted by Mrs. Marilyn Kagey, Editorial Assistant to the Philosphy of Science Association, on February 21, 1968.