supersonic flows for which the technique is especially suited, mainly quasi-cylindrical bodies and jets. The final chapter is a detailed exposition of slender body theory for subsonic and supersonic flow. The basic approach is to expand exact solutions, represented by singularities, near the axis and to study orders of magnitude carefully.

The desire for a concise account has meant that the working out of examples and comparison of results with more exact theory or experiment has been put aside. Thus an evaluation of the usefulness and an intuitive feeling for the nature of the results has to be found elsewhere. The level of the book is such that the reader with some training in mathematical physics can follow the details. Vector notation is used extensively. There is a good bibliography, except that no reference is made to Russian literature, and there are practically no figures.

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Science and the Human Imagination. Mary B. Hesse. Philosophical Library, New York, 1955. 171 pp. $3.75.

Mary Hesse, lecturer in mathematics at the University of Leeds, has written a slim book about a subject that is increasingly a matter of professional concern—the relationship of science and religion. Her position seems to be adequately summarized in the following passage (p. 155): "The conflicts between science and religion over their respective descriptions of various aspects of experience are usually genuine conflicts about experience, and not mere verbal misunderstandings or confusions of two apparently similar but actually distinct types of language. . . . All . . . attempts to divide the provinces of science and religion are dangerous illusions, they are false for science, because science has a valid claim to investigate *all* aspects of experience, 'spiritual' as well as 'material' . . . they are false also for Christianity, because they deny the concern of the Christian God for the material world which He has created."

Such seems to be the author's most serious message; but she takes up a great deal of space *not* saying it. More than two-thirds of the book is devoted to a pedestrian survey of the development of scientific methodology which bears no obvious relationship to the avowed purpose of the work. She (rightly) disdains a science made impotent to develop new fields by its strong bias in favor of that which can already be symbolized clearly and logically. To speak out boldly in behalf of the still unclear, the still ambiguous aspects of man's situation is admirable but is hardly enjoyable for the reader unless the writer possesses the scintillating literary endowment of a Whitehead or a Wisdom.

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The Chemistry of Petroleum Hydrocarbons. vols. II and III. Benjamin T. Brooks, Stewart S. Kurtz, Jr., Cecil E. Boord, and Louis Schmerling, Eds. Reinhold, New York, 1955. vol. II, vi + 442 pp. Illus. $13.50. vol. III, vii + 690 pp. Illus. $18.

Together with volume I, which appeared in 1954, these volumes constitute the most complete and authoritative summary of our knowledge of the chemistry of petroleum hydrocarbons that is presently available. Volume II contains 16 chapters (Chapters 22 to 37). Chapters 22 to 29 discuss various aspects of cracking (thermal and catalytic) and reforming operations. Specifically, the topics include: mechanisms for the thermal decomposition of hydrocarbons; conditions and results of thermal cracking for gasoline; composition of synthetic and cracked gasolines; acetylene by the pyrolysis of light hydrocarbons; pyrolytic reactions of aromatic hydrocarbons; theory of catalytic cracking; the effects of variables in catalytic cracking; aromatization, hydroforming, and platforming. The related topics of catalytic dehydrogenation and the mechanism of the reactions of nonbenzenoid hydrocarbons are considered in Chapters 30 and 31. The oxidation of hydrocarbons is described in Chapters 32 to 37 under the headings: general theory of hydrocarbon oxidation; low-temperature oxidation of paraffin hydrocarbons, oxidation of paraffin wax; olefin antoxydation; synthesis gas from methane, oxygen, and steam; the partial oxidation of the simple paraffinic hydrocarbons; special oxidation reactions of unsaturated hydrocarbons.

In volume III, which comprises Chapters 38 to 59, a wide variety of topics are discussed as follows: oxidation of orthoxylene to phthalic anhydride; isomerization of saturated hydrocarbons; chlorination of paraffins and cycloparaffins; fluorination and properties of fluoroderivatives of paraffins and cycloparaffins; nitration of paraffins and cycloparaffins; special chemical reactions of paraffins and cycloparaffins; isomerization of olefins; vinyl polymerization; polyethylene; Diels-Alder condensations and related reactions; polymer gasoline; the chemistry of natural and synthetic rubbers; condensation of saturated halides with olefins; catalytic hydrogenation of hydrocarbons; the oxo-reaction; alkylation of saturated hydrocarbons; special reactions of olefins; aromatic substitution—theory and mechanism; industrial applications of aromatic alkylation; sulfonation of aromatic hydrocarbons; nitration of aromatic hydrocarbons.

It is noticed with regret that, in these volumes which seem to have covered the field so completely in other respects, no chapter has been included on the thermodynamics of hydrocarbons.

The field of hydrocarbon chemistry is now so vast and so diversified that it is virtually impossible for an individual to keep informed concerning its many aspects, by reference to the original literature alone. Thus, a real need has existed for a treatise to summarize in one place this vast information. This need has now been filled in an authoritative and readable manner in the three volumes of the *Chemistry of Petroleum Hydrocarbons.*

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New Books

"Krebiozen," The Great Cancer Mystery. George D. Stoddard. Beacon Press, Boston, 1955. 282 pp. $3.50.

Encyclopedia of Chemical Technology. vol. 14, *Thermodynamics to Waterproofing.* Raymond E. Kirk and Donald F. Othmer, Eds. Interscience Encyclopedia, New York, 1955. 980 pp. Single copy, $30; subscription, $25.

Frontiers of Astronomy. Fred Hoyle. Harper, New York, 1955. 360 pp. $5.

The Diseases of Occupations. Donald Hunter. Little, Brown, Boston, 1955. 1046 pp. $20.

Building, Planning and Design Standards. For architects, engineers, designers, consultants, building committees, draftsmen and students. Harold R. Sleeper. Wiley, New York; Chapman & Hall, London, 1955. $12.

The Quantitative Analysis of Drugs. D. C. Garratt. Philosophical Library, New York, rev. ed., 2, 1955. 670 pp. $17.50.

A Short History of Medicine. Erwin H. Ackerknecht. Ronald Press, New York, 1955. 258 pp. $4.50.

One in Six. An outline of the cancer problem. I. Hieger. Wingate, London, 1955. 80 pp. 12s. 6d.

Classical Electricity and Magnetism. Wolfgang K. Panofsky and Melba Phillips. Addison-Wesley, Cambridge, Mass., 1955. 400 pp. $8.50.

The Unified System Concept of Nature. Stephen Th. Bornemisza. Vantage Press, New York, 1955. 137 pp. $3.

Analytic Geometry. Frederick H. Steen and Donald H. Ballou. Ginn, Boston, ed. 3, 1955. 244 pp. $3.50.

Plastics for Corrosion-Resistant Applications. Raymond B. Seymour and Robert H. Steiner. Reinhold, New York, 1955. 423 pp. $7.50.