of the point-infection type of model to the question of possible variation in virulence of the microorganism during the evolution of the epidemic wave. It is probable that such distinctions, if and when they may occur, are too subtle to be made in simple mathematical models.

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Man-Made Textile Encyclopedia. J. J. Press, Ed. Textile Book Publishers (Interscience), New York, 1959. xxx + 913 pp. Illus. $27.50.

Review of Textile Progress, 1958. vol. 10. M. Tordoff and C. J. W. Hooper, Eds. Textile Book Publishers (Interscience), New York; Butterworths, London, 1959. 494 pp. $8.

Physical Methods of Investigating Textiles. R. Meredith and J. W. S. Hearle. Textile Book Publishers (Interscience), New York, 1959. ix + 411 pp. Illus. $13.

Friction in Textiles. H. G. Howell, K. W. Mieszkis, and D. Tabor. Textile Book Publishers (Interscience), New York, 1959. 263 pp. $6.75.

Man-Made Textile Encyclopedia, with authoritative contributions by 148 textile scientists, presents concisely and interestingly an unbelievable amount of information on over 100 technical subjects. These subjects are grouped into chapters on the molecular properties of raw materials; fiber manufacturing, characteristics, and identification; processing into yarns, threads, cords, and fabrics; textile engineering principles; dyeing, printing, and finishing; standards for specific uses; apparel manufacturing and renovation; economics and statistics; world fiber trade marks; and glossary and indexes. Many excellent photographs, illustrations, and tables are found throughout the book.

In sharp contrast to this encyclopedia is the *Review of Textile Progress, 1958*, the tenth volume of this important series, in which the main contributions of more than 3000 papers published during 1958 are condensed. The subjects covered include fiber physics; the chemistry of cellulose, wool, silk, regenerated protein, synthetic, and bast fibers; the production of cotton, long vegetable, wool, animal, silk, cellulose, and synthetic polymer fibers; the conversion of fibers into yarns; warp sizing and sizing materials; weaving preparation and weaving; knitting; coloring matters, dyeing, printing, and finishing of fabrics; chemical and physical testing; laundering and dry-cleaning; building and engineering; and, finally, industrial applications of textiles. This monumental survey reviews the contributions made during one year to the textile industry throughout the world.

Physical Methods of Investigating Textiles describes modern experimental methods and techniques used for determining the structure and physical properties of textiles, including x-ray techniques; infrared spectroscopy; electron microscopy; optical microscopy; fiber dimensions; density, moisture, and swelling; yarn and fabric structures; mechanical properties of fibers, yarns, and fabrics; transmission of heat, moisture, and air; frictional behavior of textiles; optical properties; electrical properties; and the applications of nuclear physics. The text includes many excellent illustrations and photographs, and most of the reviews contain extensive and up-to-date references.

Friction in Textiles covers a most timely subject since the surface or frictional properties of fibers greatly affect their spinning and processing potentialities, the mechanical properties of spun yarns, and the performance of the final textile products. Part 1, entitled "Theory of friction and lubrication," consists of three basic chapters. The first gives an excellent discussion of the mechanism of friction, which is applicable to any material in general; the second extends this general discussion specifically to plastics and fibers, and the third discusses the mechanism of lubrication. Part 2, entitled "Friction in textile processing," includes chapters on friction of wool; friction in spinning, winding, and during conversion of yarns into fabrics; the effect of interfiber friction on the strength of tire cord; and friction in fabrics. Part 3, entitled "Test methods," includes chapters on the measurement of friction of yarns and of fibers, the control and measurement of tension in processing, and the measurement of abrasion. The book includes 10 pages of tables on some typical values of friction for yarns and fibers. Excellent diagrams are used throughout the book, and extensive references to literature are given at the end of each chapter.

I feel that these four books fill an important gap in textile literature and are an excellent indication of the scientific stature of the textile industry in all of its many and complex phases. The books are recommended not only to scientists and technical personnel working in the industry, but to those interested in authoritative information on modern textile science and technology. They provide important source material that can be used by the libraries of the schools, colleges, and universities training the future leaders of the textile industry. Finally, the thought-provoking discussions and the challenging problems presented in these books should offer inspiration and guidance to the talented and searching minds of students and teachers.

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Some Problems in Chemical Kinetics and Reactivity. vol. 2. N. N. Semenov. Translated by Michel Boudart. Princeton University Press, Princeton, N.J., 1959. x + 330 pp. Paper, $4.50.

Some Problems of Chemical Kinetics and Reactivity. vol. 2. N. N. Semenov. Translated by J. E. S. Bradley. Pergamon Press, New York, 1959. x + 168 pp. $5.

The first volumes of these translations were reviewed by Harold S. Johnston and Henry Eyring, respectively [*Science* **129**, 1419, (1959)]; in my estimation, these reviews cannot be improved upon as evaluations of Semenov's work, and no attempt will be made to do so. However, since two translations of this important work were made, a comparison is in order.

I believe it to be axiomatic that what we want to read is what Semenov has to say; therefore, the truer the translation and the less tempering by the translator the better. In the Pergamon edition, chapter 1 of part 4 is called "Thermal ignition," while in the Princeton edition it is referred to as "Thermal explosions." In the original it is called "Thermal inflammation" (in the ballistic not medical sense), but in the preface Semenov states that he included a chapter on "Thermal explosion"; this gives some justification to the Princeton version. On page 96 of the Princeton version there is a statement ". . . the agreement . . . is not bad at all. . . ." This is a literal rendition of the Russian (page 433), but whereas in Russian the *not bad* is a reserved, toned down

statement, in English it is a colloquialism. The Pergamon ". . . quite well . . ." (page 7) is preferable. Of the two versions, the Princeton translation is truer to the original, but at times its rendition into English is rather awkward. Pergamon's translation is smoother, but it takes liberties with the original, if not in substance, then in rendition. Given better editing the Princeton text is preferable.

The proofreading in both leaves much to be desired. The mathematical expression (Eq. 18) developed for Cl_2O (Princeton page 97, Pergamon page 8) is at variance with the original. The explanation of Pergamon's Eq. 17a (page 8) is erroneous. The footnote on Pergamon's page 9 should be $2\ H_2 + O_2$ and not $2\ H_2/O_2$; the substitution of the virgule for the plus sign is recurrent. On page 462 Semenov mentions the work of Joubert. This name becomes Hubert in the Pergamon edition (page 27) and Goubert in the Princeton version (page 122). On the same page Semenov mentions Val'ta; the Princeton edition renames him Val't.

Semenov's book is of great interest, and a translation of it is most welcome. One good one would be preferable.

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The Political Economy of National Security. A study of the economic aspects of the contemporary power struggle. James R. Schlesinger. Praeger, New York, 1960. vii + 292 pp. $5.

The political economy of national security is an important subject on which not many books are published. This one is written by a professional economist for laymen. Many topics are covered, including the effect on U.S. national power of the size and allocation of the gross national product, problems of economic mobilization, budgetary planning, the role of our international trade, Soviet economic growth, and appropriate political and economic policies toward the underdeveloped areas. Some of the chapters seem rather disjointed. And the treatment of the various subjects is definitely uneven in quality and originality.

Chapters 2 through 4 relate to the influence of national output, and its allocation among consumer goods, capital, armaments, and so forth, upon economic potential for war. There are some rather pedantic excursions into very simple economic concepts. But there can only be agreement with the main argument, which is that a broad economic base for wartime mobilization is no longer of much value: a nuclear war will be fought with deployed forces in being, and a small peripheral war will occasion needs for which the United States is practically mobilized already. Questions of plant dispersal and postattack recuperation are largely ignored.

Chapter 5 concerns the whole question of economic efficiency within the military establishment. But the discussion, which is largely confined to budgetary planning, covers too small a portion of the problem to be useful. The real wastes stem from the very organization of the Department of Defense and from the nature of the Joint Chiefs of Staff. Apart from "arbitrary" spending limits imposed by the President, the rival military services have no incentive to compare the relative military importance of different programs against their relative costs, and so they can avoid having to make hard decisions between weapon systems. In fact, Pentagon accounting practices do not even show what it costs to acquire and operate, say, a SAC B–52 wing: expenditures are categorized by object (for example, salaries and subsistence) rather than by function (for example, air defense).

Schlesinger makes a strong plea for trade rather than aid. Like others before, he shows how protection runs counter to our national objectives, and he asks some embarrassing questions about restrictions on oil imports applied to Canadian oil in the name of national defense. A more original point is that, because the United States market is potentially far more important than the Soviet's to many backward countries, we should stress this cold war advantage by implementing freer trade.

The chapters on underdeveloped areas are the best in the book and are altogether stimulating. The author has a mind of his own. He indicates that the consumption gap between advanced and backward countries will widen and not narrow, that an improvement in per capita incomes of about 1 percent annually is the most that can be expected in most of the poorer countries, and that we cannot avoid the dislike that comes from being the leader of the Western bloc. We should assist fewer countries so that our aid to them can be relatively more significant. We should select beneficiaries according to their treatment of United States interests. Largess will never make us the darling of the underdeveloped world. In fact, the most we can expect is respect. Also, it is more vital that we maintain a strong Western Europe and, so far as possible, preserve its influence in Africa. In short, much of our foreign policy since the war has been working the wrong side of the street, and this provocative viewpoint alone makes the book worth reading.

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New Books

Available Energy and the Second Law Analysis. Edward A. Bruges. Academic Press, New York; Butterworths, London, 1959. 132 pp. $5.50.

Bauprinzipien des Saugerskelettes. Benno Kummer. Thieme, Stuttgart, Germany, 1959 (order from Intercontinental Medical Book Corp., New York 16). 235 pp. DM. 45.

The Central Nervous System and Behavior. Mary A. Brazier, Ed. Josiah Macy, Jr. Foundation, New York, 1959. 358 pp. $4.75. Transactions of the 2nd conference; contains papers contributed by E. Grastyan (Institute of Physiology, University of Pecs, Hungary), V. S. Rusinov (director, Institute of Higher Nervous Activity, Academy of Sciences, U.S.S.R.), H. C. Rumke (University of Utrecht, Holland), and Jan Bures (Institute of Physiology, Czechoslovak Academy of Sciences).

Economic Growth. Simon Kuznets. Free Press, Glencoe, Ill., 1959. 122 pp. $3.50. Six lectures presented at the Centro de Estudios Monetarios Latinoamericanos in July 1958.

Experience and Reflection. C. West Churchman, Ed. Univ. of Pennsylvania Press, Philadelphia, 1959. 430 pp. $5.

Genetics and Cancer. Published for the University of Texas, M. D. Anderson Hospital and Tumor Institute. Univ. of Texas Press, Austin, 1960. 466 pp. $8.50. Papers presented at the 13th annual symposium on fundamental cancer research.

Handbook for Space Travelers. Walter B. Hendrickson, Jr. Bobbs-Merrill, New York, 1960. 256 pp. $3.95 (juvenile book).

Hemophilia and Other Hemorrhagic States. K. M. Brinkhous and P. De Nicola, Eds. Univ. of North Carolina Press, Chapel Hill, 1959. 287 pp. $7.50. Based on the symposium on hemophilia held in Rome in connection with the 7th Congress of the International Society of Hematology (1958); 55 individuals contributed to the volume.

Human Biochemical Genetics. H. Harris. Cambridge Univ. Press, New York, 1959. 318 pp. $7.