in relapse had serum acetylcholine concentrations varying from 15 to 18 γ/100 cc. of serum. On the seventh or eighth day of treatment, when reticulocyte responses were near their peaks, each of the three patients was found to have about 6.5 γ of acetylcholine/100 cc. of serum. Two normal human subjects also had about 6.5 γ per cent in their sera, while two patients with pernicious anemia in remission, upon returning for maintenance treatment with liver, were found to have 8 and 10 γ per cent of acetylcholine.

Each of the three cases of pernicious anemia in relapse was treated with a different therapeutic agent or preparation. One patient, severely ill, received 60 mg. of pteroyl glutamic acid intramuscularly per day; one received 40 grams of ventriculin daily; and one received 1 unit of liver extract, intramuscularly, per day. As a chemical result of these varied treatments, all three patients showed a reduction of approximately 60 per cent from their high serum acetylcholine levels.

A study of the serum cholinesterase will be reported later, but to date we have found that this activity *is* present in the serum of pernicious anemia patients during relapse, and is, in general, proportional to the erythrocyte count.

These experiments were performed in Detroit, Michigan. Grateful appreciation is expressed to the Anemia Laboratory of Parke, Davis and Company, and its director, Dr. E. A. Sharp, who made these cases available; to Drs. E. C. Vonder Heide, L. Berman, and Axelrod, who diagnosed and treated these cases; and to Dr. W. H. Seegers and the Department of Physiology, Wayne University, for the use of laboratory space and facilities.

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On Virus Nomenclature

The chaotic state of virus nomenclature needs little elaboration. It is apparent that, with no rules to follow, a whim may result in the designation of a new agent after a variety of entities—a host, a geographical location, a disease condition, a season of the year, or the discoverer thus forming a simple nomial or very involved polynomials. Unwieldy names like *Eastern-Russian-spring-summer encephalitis virus* now burden the worker, but even worse is the wealth of synonyms, often only the result of variation in word order, that are used for some virus agents.

This confusion is more likely to increase than decrease with time, since taxonomic classification may be a long way off, while newly discovered viruses continue to be reported in current publications.

A suggestion is offered here that might alleviate some of the confusion in the naming of new viruses by adapting systematically certain current practices, namely, the use of a trinomial such as *Equine encephalomyelitis (Eastern)* or *Mouse pneumonitis (Nigg)*—a system which has several points to recommend it. The first name indicates the apparent primary host; the second, the type of disease; and the third, the immunological strain, after the isolator or the region where it was recovered. If a number of virus agents were named in this manner, it would not be necessary to affix the word *virus* to the name, as that connotation would be carried by the form itself. At any rate, the agent would have a somewhat descriptive and rather precise name considerably easier to handle in writing and in speaking than one like *submaxillary gland virus of guinea pigs,* which may be written *guinea pig submaxillary gland disease* and another time *virus disease of the submaxillary gland of guinea pigs*—a variability that causes some difficulty when searching the literature and which might have been avoided by a trinomial like *Cavian submaxillitis (C. & K.)*.

However, this suggestion is offered not with the intention of altering well-established names but as a basis for reconsidering the current practices of coining names for virus agents.

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Book Reviews

Scientists against time. **James Phinney Baxter, 3rd. Boston: Little, Brown, 1946. Pp. xv + 473. (Illustrated.) $5.00.**

This is a book for which American scientists have been waiting. It tells the official story of the Office of Scientific Research and Development. Within the limits of one volume it presents a clear, detailed, and yet stylistically most attractive account of the victory made possible by the civilian scientific research effort of our Nation during World War II.

The author, James Phinney Baxter, 3rd, is president of Williams College and a former professor of history at Harvard. His special field of distinction in historical scholarship has included the consideration of the effect of the introduction of new weapons, such as the ironclad warship, in previous wars. His selection as official historian of OSRD was therefore most fortunate. The present book is not to be mentioned in the same breath with the drab and desiccated bureaucratic documents that are sometimes issued by Federal agencies as the story of the past.

Dr. Vannevar Bush, the director of OSRD, says in his foreword that the book is "the history of a rapid transition, from warfare as it has been waged for thousands of years by the direct clash of hordes of armed men, to a new type of warfare in which science becomes applied to

destruction on a wholesale basis. It marks, therefore, a turning point in the broad history of civilization.''

On 27 June 1940, the National Defense Research Committee, the parent organization of OSRD, was created by President Roosevelt, with Vannevar Bush, president of the Carnegie Institution of Washington, as its chairman. The other initial members of the Committee were Frank B. Jewett, president of the National Academy of Sciences, and Conway P. Coe, Commissioner of Patents, both *ex officio*; President James B. Conant, of Harvard; President Karl T. Compton, of the Massachusetts Institute of Technology; Dr. R. C. Tolman, of the California Institute of Technology; and an official representative each of the Army and the Navy.

From the first, Bush delegated responsibility to division heads, named from among the members of the Committee. He also early set the plan of operation of OSRD by directing that, instead of starting vast new Federal research organizations, the pattern rather was to be that of granting research contracts to universities, colleges, and industrial research laboratories for the study of specific problems.

Every American scientist now knows of the success of this policy. England, with a much simpler problem of the mobilization of scientific work, was also successful, but our enemies failed in their effort to bring civilian scientific brains effectively to the service of their nations at war. Prof. William Osenberg, who attempted the mobilization of German civilian scientists, said just before the surrender of his nation: ''Germany lost the war because of incomplete mobilization and utilization of scientific brains.'' A similar unfavorable statement can be made in regard to the use of civilian scientists in Japan.

The present volume is divided into six parts, as follows: 1, ''The Race for Superiority in New Weapons in the Second World War''; 2, ''New Weapons and Devices''; 3, ''Chemistry and the War''; 4, ''Military Medicine''; 5, ''Men and Machines''; and 6, ''The Atomic Bomb.''

The space allotted to this review does not allow a summary or critique of these sections. It may be pointed out, however, that the CMR (Committee on Medical Research) of OSRD, under the chairmanship of Dr. A. N. Richards, of the University of Pennsylvania, developed many procedures which were not only basic to war but are also of very great importance in peace. Similarly, many of the other scientific advances described in each section of the book have an important bearing upon the problems of our peacetime economy. This is especially true of some of the work done by psychologists under OSRD contracts in the development of new techniques of selection and training.

The final climactic section of the book summarizes in brief compass the great adventure of the utilization of atomic energy in warfare. In thinking of this achievement one must never forget that no one has yet successfully challenged the estimate that the atomic bomb, by forcing the surrender of Japan while its armies were still intact, may well have saved the lives of 1,000,000 American and 250,000 British fighting men.

This review can best close by quoting some of Baxter's wise observations upon the implication for the future of this development of atomic energy as an instrument of warfare:

''At the close of earlier wars, sensible men and women have demanded that international anarchy be supplanted by international organization and that swords be turned into plowshares. But the good resolutions of the morning after have not yet become the basis of durable peace. . . .

''Until the world creates an international organization strong enough to control the genie who escaped from his bottle at Alamogordo, we must keep our powder dry. . . .

''What we need is military strength without militarism and realistic advancement of the structure of world peace without the self-deception to which pacifists are liable.''

It will be difficult for anyone to read this book and not become an advocate of a strong, federally supported science organization to continue the research necessary for our future military preparedness and for the solution of basic peacetime problems as well.

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Encyclopedia of hydrocarbon compounds, C_1 to C_8. **Joseph E. Faraday. (Compiler.) Brooklyn, N. Y.: Chemical Publishing Co., 1946. $15.00.**

In the foreword of this book the author writes as follows:

''In the literature of Organic Chemistry there are two comprehensive works that detail every compound known, identified and analyzed up to a certain date. These are 'Richter's Lexicon der Kohlenstaff Verbindungen' and 'Beilstein's Handbuch der Organischen Chemie.' They suffer from the great disadvantage that they are decades out-of-date, from the minor drawback that they are in German, and in the case of Beilstein, from a very complicated system of arrangement.

''The Encyclopedia of Hydrocarbon Compounds overcomes these disadvantages. The arrangement as a loose leaf system allows it to be kept permanently up-to-date by the issue of regular supplements of sheets to be inserted in their appropriate places. The system of arrangement of the compounds is the formula index system of Richter, one of the simplest possible.

''The source of all information up to January 1, 1919, has been Beilstein's Handbuch der Organischen Chemie, the main work and the first supplement. . . . The sources of information from January 1, 1919, to the present day have been the three great abstract journals of Chemistry, namely British Chemical Abstracts, Chemical Abstracts and Chemisches Zentralblatt. . . .''

The following information is presented in the case of each compound, where available: molecular formula, expanded structural formula, names, occurrence, known methods of preparation (with references), melting and freezing point, boiling point, density, and solubility in organic solvents.