

frustration over the draft, unemployment, and lack of power or recognition. These assertions are true of course; who wouldn't despair over such conditions? But we are also driven and moved to action by the belief that we do not have to accept intolerable conditions with sublime indifference but can live to create meaningful change.

TOM TRITTON

Department of Chemistry,
Yale University,
New Haven, Connecticut 06520

Crib Death

The report on crib death by Nicholas Wade (News and Comment, 26 Apr., p. 447) will help bring the long-standing neglect of this "foremost baby killer" to the attention of the entire research community. That is important, because the disease challenges researchers in many scientific disciplines—not just the medical sciences. Unfortunately, some important things were left unsaid about the recently passed crib death bill (S. 1745).

After 2 years of deliberation, Congress passed S. 1745 on 10 April; it was signed by the President on 23 April. It authorizes \$9 million for information programs and for counseling of parents of crib death victims. It authorizes no funds specifically for crib death research.

Crib death is two problems. First, and foremost by far, it is a disease that kills about 10,000 babies each year in the United States alone. That presents strictly a research challenge. The second problem is the unique and bewildering agony of the dead babies' parents which follows in the wake of a sudden, totally unexpected and unexplained death. That is a direct result of public ignorance—ignorance that could be stamped out almost overnight. The crib death bill addresses the second and lesser of the two problems, but virtually ignores the first and major one. Thus S. 1745 is another example of reversed priorities.

It can even be argued that the \$9 million for education and counseling is not needed. The Department of Health, Education, and Welfare (HEW)—which will have control over the \$9 million—has, since 1914, published a book entitled *Infant Care*. *Infant Care* (1) is the Government Printing Office's perennial best seller; more than 57 million copies, in English and several

other languages, have been distributed. But nowhere does it mention crib death or even recognize the very existence of this leading cause of postnatal infant mortality.

For years, the International Guild for Infant Survival has petitioned HEW to include a brief discussion of crib death in *Infant Care*. In late 1973, a new edition of *Infant Care* was published. The new version has many changes, but it continues to ignore crib death. It appears that S. 1745 sets the fox to guard the geese.

The director of the National Institute of Child Health and Human Development claims that only recently have some exciting [crib death research] leads been developing. No Pasteur, Jenner, or Fleming has opened new doors to crib death research during the past decade. The simple fact is that the time was ripe for specific, direct crib death research 100 years ago. J. Bruce Beckwith's historical article "The sudden infant death syndrome" (2) makes that clear. True, the time is ripe in 1974—it is far overripe.

RICHARD H. RARING

Tidewater Guild for Infant Survival,
16 Beverly Hills Drive,
Newport News, Virginia 23606

References

1. *Infant Care* (Government Printing Office, Washington, D.C., ed. 12, 1973).
2. J. B. Beckwith, *Curr. Probl. Pediatr.* 3, 1 (June 1973).

The report on crib death by Nicholas Wade reflects the efforts of the propaganda machine dedicated to more publicity and funding for research related to crib death. If the only effect of this approach (exemplified by the title of the report, "Crib Death: Foremost baby killer long ignored by medical research") was to solve the problem, or cause more effort in that direction, there would be no quarrel, since the issue would be similar to motherhood. However, to accept the premise stated in the title as factual would be to assume that research results can be bought the same way that an engineering project can be achieved. The premise is a validation of the current trend in which more and more support of basic research is being removed and more and more monies are being converted into contract research support for problems with political appeal. Throughout the public denouncements of the medical world by the spokesmen quoted in the report is the implication that medical researchers are willfully,

or at least negligently, ignoring a very important problem whose solution would simply be a matter of spending a little time or money. The problem is that the disorder is unexpected, by definition, and is extraordinarily difficult to study, except by means of post-mortem examinations or animal studies.

Animal studies that are relevant are difficult to publish in clinical journals, and even after publication are curiously ignored by some of the critics quoted in the report. Researchers at my laboratory have published half a dozen articles on this subject, both clinical and animal studies, that were financed by grants from the Heart and Lung Institute (which has supported the laboratory for the past 14 years). Since that support was adequate, I did not choose to apply for more funds from the National Institute of Child Health and Human Development (NICHD), but I do not think that that makes either me or the NICHD guilty of neglect.

Politicizing an important medical problem may have some benefits, but, if it aids in the destruction of our current declining support of basic research, it will be a greater tragedy than the alleged neglect of crib death. I heartily support the establishment of counseling services for the unfortunate parents of victims of sudden infant death syndrome. I doubt that millions of dollars spent on more autopsies or on poorly designed studies of infants and animals will do anything more than disenchant the public and, in the long run, indicate that good scientific ideas cannot be bought.

WARREN G. GUNTHEROTH

Department of Pediatrics, School of
Medicine, University of
Washington, Seattle 98105

Change in Operations Research

In his letter "Operations research" (22 Mar., p. 1141) C. H. Waddington points out that World War II operations research (OR) was anything but a low-level activity: it was on the contrary highly effective, and its success was at once recognized and rewarded by the highest respect from military and civilian authorities.

The reasons for this are important to understand today, because much the same considerations apply to any scientific advising of a general character, both for the government and for industry. I would like therefore to

CHARLES C THOMAS•PUBLISHER

TOXICOLOGY AND PHARMACOLOGY OF VENOMS FROM POISONOUS SNAKES by John H. Brown, *Louisiana State Univ., New Orleans*. This book offers the only comprehensive review in simplified form of poisonous snakes, their names, specific localities, the toxicity and pharmacology of their venoms and the amount of venom they can inject in a bite. '73, 208 pp., 60 il. in full color, cloth-\$13.75, paper-\$9.95

METHODS OF MEDIA PREPARATION FOR THE BIOLOGICAL SCIENCES by Joyce A. Stewart, *Univ. of Tennessee, Knoxville*. This reference work brings together all the standard formulas eliminating searching through various laboratory manuals or books for formulas for buffers, stains, reagents and indicators. '74, 108 pp., 5 il., \$7.50

THE PRENATAL DIAGNOSIS OF HEREDITARY DISORDERS by Aubrey Milunsky, *Harvard Univ., Boston, Massachusetts*. Foreword by John W. Littlefield. This monograph is concerned with those hereditary disorders which can be detected *in utero*, and the problems and perspectives which have arisen as a direct result of these recent advances. '73, 276 pp., 18 il. (2 in full color), 26 tables, \$11.75

DISEASES OF FISHES (3rd Ed.) by C. van Duijn, Jr., *Zeist, The Netherlands*. This comprehensive review of the main causative agents of fish diseases and the drugs and chemicals available for their treatment forms an accurate and reliable reference source for all aquarists and pond keepers, while the information included on diseases of economic importance will prove invaluable to all professional fish breeders. '73, 380 pp., 388 il., \$12.95

THE PLACENTA: Biological and Clinical Aspects. Edited by Kamran S. Moghissi and E. S. E. Hafez, both of *Wayne State University, Detroit, Michigan*. (29 Contributors) Intended for biologists, clinicians and students of the placenta, this book includes modern biological and clinical aspects of the mammalian placenta along with recent advances of the ultrastructure, endocrinology and metabolism of the human placenta. '74, about 374 pp., 162 il., 30 tables

★ Orders with remittance sent, on approval, postpaid ★
301-327 EAST LAWRENCE AVENUE
SPRINGFIELD•ILLINOIS•62717

Circle No. 32 on Readers' Service Card

amplify and reinforce Waddington's account. While Waddington was head of the Operational Research Section, Coastal Command, Royal Air Force (RAF), I was a member of Britain's Army Operational Research Group (AORG). I was able to see a diversified range of OR activity, because all the British Army's OR sections were centered in a single establishment (unlike the RAF, where they were dispersed by Commands). I worked in the section devoted to antiaircraft fire control but had frequent contacts with several other sections.

The reduction in status of OR today has been paralleled by a drastic change in content, so that the phrase "operations (or operational in English usage) research" hardly means the same thing as it did. A World War II OR worker recognizes little in contemporary OR literature. The proliferation of models derived from game theory is one new element, but on the whole the change that has occurred is best described as a great reduction in scope.

Waddington emphasizes that World War II OR had a strongly empirical approach, the first step being the acquisition of valid facts and data. This step was sometimes difficult, but it often happened that valid observations, once obtained, immediately provided a direct and obvious solution. On occasion, sophisticated mathematical analysis of model-making were indeed used, but in a great many important cases such techniques were not called for. If mathematical models were constructed, they had a close relation to observations. The adjective "valid" is applied to data to convey the meaning that they are to the point and unbiased, rather than necessarily precise numerically. It is presumably for this reason that many biologists were successful in OR: they were familiar with small-sample statistics and precautions against bias in collecting data. They certainly had no superior skill in constructing mathematical models. I remember being interviewed by Brigadier General B. J. F. Schonland (later Sir Basil Schonland), the head of AORG, before I joined the establishment. He said, "As a scientist you have been trained to observe. This is what we want you for, and it is in this that you differ from an engineer." Acquisition of data and nonnumerical information remained a dominant activity until the war ended. Quite often

this involved design and construction of sophisticated instrumentation, and probably more ingenuity was used in this than in making abstract models.

A most important element in the success of World War II OR was the choice of problems. While they were obviously suggested by military needs, problems were not merely imposed from above, but were subjects of constant discussion between military and scientific personnel at all levels. In this way, problems that could reasonably be solved were selected, and hopeless undertakings were avoided. This resulted in a high proportion of success, but had the effect that the amount of research done was by no means proportional to military importance. Thus the sections dealing with radar and antiaircraft fire control remained the largest until the end of the war, while the section devoted to infantry was fairly small. Past success and personalities may have played a part, but the chief reason is that the areas of radar and antiaircraft fire control had many problems that scientists could successfully attack; it was much more difficult to find such problems in infantry.

J. A. Stockfish has called attention to the need for much more empirical operational testing of military equipment in the style of World War II OR (1).

A. C. FABERGÉ

Department of Zoology,
University of Texas, Austin 78712

References

1. J. A. Stockfish, in hearings before the U.S. Congress, Joint Economic Committee, Subcommittee on Economy in Government, *Changing National Priorities* (Government Printing Office, Washington, D.C., 1970), part 2, appendix, pp. 721-729.

Support for Williams & Wilkins

In his report "Journals: Photocopying is not the only problem" (News and Comment, 29 Mar., p. 1274), John Walsh notes that Williams & Wilkins is asking for financial help in appealing to the Supreme Court its suit against the U.S. government for copyright infringement. He then adds that it "remains to be seen how many publishers will ante up."

As chairman of the ad hoc Committee for Copyright Protection, which is being organized to help Williams & Wilkins, I can report that publishers, and professional societies as well, are responding immediately and liberally.