of Plants of the U. S. National Museum. A correspondent writes: "She retired with the expectation of working intensively on the grasses of Brazil, but has scarcely done anything on this major enterprise because the continuing demands of the herbarium and the constant calls for help and advice on agrostological problems, many related to the war, require all her time. Her life-time association with this rich collection, a part of the U. S. National Herbarium, has developed an affection which prevents her neglecting the opportunities it presents of serving the cause of science. No one has yet been appointed to carry on even the minimum of routine work in this the world's finest grass herbarium."

THE National Live Stock and Meat Board of Chicago have made a gift of $7,200 to the School of Medicine at Galveston of the University of Texas for the support of work in fat metabolism under the direction of Dr. Arild E. Hansen, professor of pediatrics and director of the child-health program of the William Buchanan Foundation of Texarkana.

# DISCUSSION

## THE NOMENCLATURE OF THE Rh BLOOD TYPES

IN a recent issue of SCIENCE[1] Wiener suggested a modification of the nomenclature for the Rh blood types. The original Rh is now to be designated as $Rh_0$, the original $Rh_1$ is to be called $Rh_0'$, and the original $Rh_2$ as $Rh_0''$. The corresponding anti-sera are to be called anti $Rh_0$, anti Rh′ and anti Rh″. This is a great improvement over the original ambiguous designations of the various Rh blood types and the alleles forming them, but it still leaves one thing to be desired from the genetic viewpoint.

It is customary in naming genes to use subscripts for genes having similar effects but belonging to different pairs, but to use superscripts for different alleles of the same set. Therefore the use of Rh′ and Rh″ is consistent with modern genetic terminology, but the use of $Rh_0$ is not. The inconsistency could be avoided by using $Rh^0$ instead of $Rh_0$. The various Rh alleles would then be $Rh^0$, Rh′, Rh″, $Rh^{0\prime}$, $Rh^{0\prime\prime}$ and rh. The types would be as given in Table 1:

TABLE 1

| Type | Reaction with antiserum | | |
|---|---|---|---|
| | anti-$Rh^0$ | anti-Rh′ | anti-Rh″ |
| Rh– | – | – | – |
| Rh′ | – | + | – |
| Rh″ | – | – | + |
| Rh′Rh″ | – | + | + |
| $Rh^0$ | + | – | – |
| $Rh^{0\prime}$ | + | + | – |
| $Rh^{0\prime\prime}$ | + | – | + |
| $Rh^{0\prime}Rh^{0\prime\prime}$ | + | + | + |

In a recent article[2] Race *et al.* have used the simple designations R and r in preference to Rh and rh. This seems to be a desirable simplification in line with the older antigens, A, B, M, N and P, and should be adopted. If it were adopted, the "h" would be dropped from all designations in the table above.

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[1] A. S. Wiener, SCIENCE, 99: 532–533, 1944.

## THE THREAT TO PURE SCIENCE

I CAN not but feel that Eugene V. D. Robin is wrong in his assertions published in your issue of December 8 regarding the motives which underlie the pursuit of pure science. The pure scientist, as I see it, is indeed seeking "intellectual . . . satisfaction," but by no means merely "*personal* satisfaction"—rather, the satisfaction of the irrepressible intellectual curiosity of *mankind*. It is because all truly rational beings are interested in knowledge for its own sake, as well as in its practical applications, that pure science survives and advances.

Furthermore, the analogy of the chess game is certainly beside the point. Chess *is* played for the merely "personal satisfaction" of the players, but science is pursued to increase man's knowledge of the universe. That is why any threat against freedom of investigation is so much a matter of concern to scientists, as well as to mere philosophers like the undersigned.

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## GAPS IN CURRENT FILES OF SCIENTIFIC PERIODICALS

FROM the standpoint of research the destruction of libraries, periodicals and books constitutes a serious handicap. That losses in these categories are appalling we already know. Also many volumes of important foreign journals usually complete in this country have missing issues due to losses in transit, while replacement may not be possible because foreign publishers have had to contend with such a serious paper shortage it is certain many issues are already out of print.

A Joint Committee on Importations, set up by various library associations, attempted to import a limited number of periodicals during 1942, but it was not found feasible to continue this plan. The Alien Prop-

[2] R. R. Race, G. L. Taylor, E. W. Ikin and A. M. Prior, *Annals of Eugenics*, 12: 206–210, 1944.

erty Custodian is reproducing certain much needed foreign periodicals, but nevertheless gaps have appeared in our files, nor have the problems which libraries face in the post-war period been solved.

In an effort to locate issues of foreign periodicals published during the war, a Check List of Certain Periodicals was organized in connection with the National Union Catalog in the Library of Congress; it will soon be available and will show not only the location of these journals in the United States but will also indicate those issues not available in this country and for which a search will have to be undertaken abroad. This list will form an excellent foundation on which to work, but the problem is complex and many important details will have to be worked out before the task of filling in gaps could be begun. American scholars and librarians will be looked to for leadership in helping to solve these dilemmas. This is a grave responsibility which has to a certain extent been thrust upon us because our library services and publishing processes have been less disrupted than in other countries.

Library development is progressing more rapidly than ever before in Latin America, the Near East, China, in other parts of the Orient and in rural sections of the United States. Students everywhere are eager for access to books and periodicals, but this increased need occurs at a time when publishers and libraries are handicapped as never before. What can be done to meet this situation?

A realistic viewpoint from the outset is desirable. Destruction is widespread, and the terrific financial strain of rehabilitating libraries and educational institutions will be great; therefore it is obvious that it will be impossible to reproduce all the material destroyed. The pooling of the resources left within each country would seem indicated so that a few research libraries could be built up rapidly from the resources remaining in order that scholars and scientists may know where to turn for research materials and back files of periodicals. The usage of scientific journals decreases numerically with each year which passes after publication, therefore, interlibrary loans and the use of microfilm for this type of non-current material remain the great hope for smaller libraries. The use of film has its limitations, however, and the situation is far from ideal.

Any constructive plan should assume, as a foregone conclusion, that the situation calls for reciprocal relationships between countries in the matter of scholarly material. Already there are in this, and other countries, numerous agencies which are concerned with the problem of helping stricken libraries, for example, the American Library Association's Committee on Aid to Libraries in War Areas, the Joint Committee on Books for Devastated Libraries formed on the recommendation of the Council of National Library Associations and the Inter-Allied Book Center, in London. Before plans for reproducing material in quantity are formulated a proposal should be made through the International Federation of Library Associations or through some other agency, that international copyrights be waived by mutual agreement in the case of current out-of-print material which can not be furnished by dealers or from publisher's stocks in amounts sufficient to replace lost or destroyed copies. This would constitute an appropriate recognition and appreciation of generosity of the various groups mentioned above and would result in a benefit to all by helping to keep the costs of reproduction low.

One of the most important problems will be the mobilization and coordination of effort during the early post-war period. This might be accomplished by the rapid organization of national library committees or councils to be set up as soon as military conditions permit. The Division of Cultural Cooperation of our State Department could, through its representatives in various countries, be of great assistance by encouraging the formation of such committees. Some of the capacities in which they could function would be:

(1) By organizing facilities for obtaining information regarding the status of scholarly periodicals published within the country.
(2) By making every effort to salvage material which has escaped destruction and prevent its falling into the hands of persons or groups who would attempt to profit unduly by the emergency situation.
(3) By outlining plans for the preparation of Union Lists of Serials or the revision of those already published.
(4) By planning the extension of national and international loan systems and filming centers.
(5) By furnishing information to national and private agencies established to aid devastated libraries as to how outside aid can be most effectively rendered, and what materials are most urgently needed.
(6) To aid in the establishment of a central committee with international representation which would study the best and cheapest methods of photographic reproduction and determine where this could be most effectively carried out.

If chaotic conditions in the collections of periodicals throughout the world are to be prevented it will require all the ingenuity and intelligence at our command and careful national and international planning will be absolutely necessary in order to mobilize efficiently the resources which remain available. It would be most unfortunate if situations were to arise again comparable to the high cost of German scientific periodicals following the last war. The publication of

scholarly periodical literature should be recognized as one of the most important phases of our post-war planning in order to assure the rapid resumption of the publication of important journals, the elimination of non-essential journals, the cooperation of publishers and editors in keeping prices as low as possible and the avoidance of a duplication of effort and expense, particularly in regard to abstracting and indexing services and in the question of the reproduction of lost material.

In view of the widespread loss of periodicals and books and an increased demand for them, it is essential for every one to save all scholarly periodicals and books for the duration of the war. *No material of this type should be discarded.* Turn it over to the local libraries with the request that it be offered to: the American Library Association's Committee on Aid to Libraries in War Areas, the Medical Library Association's Exchange for Periodicals or the Association of Research Libraries Duplicate Exchange Union. This material may eventually be badly needed in some other part of the world; it should be kept until it is possible to determine what and where this need will be.

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## EDUCATION IN ARGENTINA

IN the November 24 issue of SCIENCE under the title, "Education in Argentina," a "Panamerican" calls attention to two remarks of mine[1] which he considers wrongly stated.

Regarding the date of the Argentine military coup d'état which overthrew the régime of President Ramón S. Castillo, I technically stand corrected. June 4 is, of course, the date on which a provisional administration was officially decreed. My selection of June 3 as the date of the revolution came about as the result of knowing too much rather than too little concerning the Argentine situation. Actually, the President and several cabinet ministers fled the country and the troops started to march from Campo de Mayo to the Federal Capital before midnight, June 3.

Unfortunately, "Panamerican" had no means of estimating the time element when he accused me of making too sweeping a statement regarding the administrational changes in Argentine universities. My statements were written in March based on firsthand knowledge of the situation as of February, 1944. The editors of SCIENCE waited for the U. S. Department of State to approve my remarks before publication, hence, there was a delay of approximately four months. Very likely it required two months for the July 7 issue of SCIENCE to reach Buenos Aires. Had "Panamerican" had an opportunity to pass judgment on my statement last March, I am sure he would have had no objections. In any event, it is gratifying to learn that the Universidad Nacional de La Plata has a permanent administration.

Incidentally, it was very difficult following the revolution to obtain accurate information on what was happening in the Argentine universities. The controlled press and radio checked off nearly all news releases pertaining to the universities. Accurate information could only be obtained through personal contacts with professors and students. In fact, the lack of freedom of communications and its influence on education was one of the evils I was attempting to emphasize when my first letter was submitted to the editors of SCIENCE.

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# SCIENTIFIC BOOKS

## ADVANCED CALCULUS

*Methods of Advanced Calculus.* By PHILIP FRANKLIN. McGraw-Hill, 1944. xii + 486 pp. Illustrated. 1944. $4.50.

THIS book is directed mainly toward the engineering student and toward the mathematics student primarily interested in the physical application of his subject. The author has had long experience with both types of students at the Massachusetts Institute of Technology, and is consequently in an excellent position to know their needs, their likes and dislikes and their abilities. For such students he has made an ideal selection of material and has used an excellent method of presentation. He has not assumed that his readers have attained complete mastery of elementary calculus or of other preliminary material. Every teacher knows that such an assumption invites serious disillusionment, at least in so far as concerns the vast majority of his class. Professor Franklin has made his book to fit actual educational circumstances. For example, when determinants are first used in the text, a brief review of the rules of operating on them is given. Thus the book may serve the student for a review of earlier work as well as for an introduction into the methods of applied mathematics.

An outstanding feature of this work is its rapid approach to the deeper aspects of the subject. The

[1] SCIENCE, 100: 11, 1944.