reasoning on a basis of which my original statement was made is this: Physical differences which characterize primary human stocks and races are in a large measure a consequence of chance samplings of hereditary materials which took place at the time ancestral groups separated, plus accumulations of different new variations in hereditary materials which have occurred since the groups became isolated. Many physiological and response differences within the human species have been shown to have some genetic basis (see below), therefore one should also expect that chance samplings and accumulations of different new hereditary materials would have taken place with respect to them.

Professor Ashley Montagu may question the existence of physiological and response differences between human individuals which have some genetic basis, but the evidence for such differences is accumulating rapidly. As a matter of fact what are inherited physical differences between individuals and races but expressions of physiological differences? Surely in this day and age no one believes that black hair or blond hair are inherited as such from mother or father. What is inherited is a set of chemical materials (genes) representative of black or blond hair, which through physiological processes are responsible for the production of a particular type or amount of pigment. Inherited physiological differences in this sense, therefore, exist without question. Inherited physiological or response differences which can not or have not been expressed in terms of readily seen physical manifestations are not as readily cited, but even many of this type could be listed. For example, one could mention: (1) inherited differences in metabolic processes with respect to the formation of alcapton, porphyrin, albumin, etc.; (2) inherited differences in blood characteristics (A–B, M–N, hemophilia, sickle cell anemia, Rh, etc.); (3) inherited differences in taste (P.T.C.); (4) inherited differences in vision (color blindness, night-blindness, myopia, etc.); (5) inherited differences in response patterns (ataxias, choreas, oligophrenias, etc.). Many more could be listed. I have chosen only some of the better known ones.

Now it is only fair to state that only a few physiological or response characteristics, even of those listed above, have been studied from a racial point of view, but of those which have been investigated a fair number has been shown to be represented by racial differences. It is true that most of the differences observed are only differences in frequency of occurrence of the characteristic in question and therefore represent only a difference in gene frequencies, but even such differences are important to our understanding of the genetics of human populations.

What apparently plagues certain individuals is a fear that a study of racial differences will engender racist doctrines of superiority and inferiority. I appreciate this possibility and am in sympathy with that fear. However, I am equally fearful of opinions and tendencies which operate to close the door of investigation. I am convinced that as scientists we can best help check the growth of unwarranted dogmas by knowing what the facts are.

May I comment briefly on the argument presented by Professor Ashley Montagu relative to genetic linkage between traits. It apparently is a common notion among laymen and even scientists not familiar with genetic principles that characters which are linked should be found together in a population. That is true for a few generations only. In a population which has been breeding at random for a fairly large number of generations even linked characters should be distributed at random within that population.

I should not continue these discussions in SCIENCE on these matters of human inheritance were I not deeply concerned about the issues involved. Human genetics is developing rapidly at the present time, and I am of the opinion that much that it is discovering is for the good of humanity. For that reason alone it would be unfortunate if erroneous opinions prevailed and served as a check on present and future scientific studies within its realm. Anyway, physical anthropologists and human geneticists should agree on major issues and should work in harmony, because their fields of inquiry are closely allied. I believe that we can agree and work harmoniously if we are willing to air freely such differences in opinion as may exist.

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DATA ON CANCER THERAPY

AT the Gibson Island Cancer Symposium in August, 1944, a suggestion was made that some one compile and publish all the data available relative to cancer therapy. Such a survey might be expected to aid other workers in planning systematic studies in this field of cancer research. The National Cancer Institute has offered to undertake this work.

All types of therapy except surgery and irradiation will be covered. Negative and positive results of the treatment of spontaneous, transplanted and induced experimental tumors, and of clinical cases, will be included. It has been found that negative results which have been obtained have not always been published. The data will be classified and tabulated in a simple manner similar to that in Hartwell's "Survey of Compounds Which Have Been Tested for Carcinogenic Activity," National Cancer Institute, 1941, and will include the name of the agent, the number of ani-

mals or patients treated, the dosage, route of therapy, number of treatments, the authors' conclusions regarding a beneficial effect, the percentage of complete regressions if obtained and the reference.

It would be appreciated if all available reprints of published work in this field or any unpublished results which may be used are sent to the undersigned.

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NATIONAL CANCER INSTITUTE,
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THE NAPLES ZOOLOGICAL STATION

A RECENT letter which I have received from Dr. Reinhard Dohrn, director of the Stazione Zoologica at Naples, contains some items in addition to those given in Dr. Harrison's communication in SCIENCE of March 31. Dr. Dohrn reports that the station is in limited working order, and that the library, which had been taken to a place of security in the country, has now been returned, with the loss of a very few volumes. Since the libraries of the various university institutes have suffered great damage, the value of the station library is greater than ever before. It is being used considerably by scientific workers from the laboratories of biochemistry in the American military hospital. Unfortunately, some of the important instruments such as the spectrograph, the stufenphotometer and galvanometers have been seriously damaged. Dr. Dohrn indicates that the reestablishment of contacts with former workers at the station would be greatly appreciated and that expressions of interest by friends of the station would constitute valuable spiritual help at this particular time.

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SCIENTIFIC BOOKS

THE RESEARCH LIBRARY

The Scholar and the Future of the Research Library. By FREMONT RIDER. xiii + 236 pp. New York: Hadham Press. 1944. $4.00.

IT is now ten years since microfilm copying was begun in an American research library as a means for the convenient, economical and efficient distribution of the periodical literature of science to those engaged in research. This application is still largely ignored by librarians who see only in micro copying technics a means for augmenting their collections.

In the present book, the author, who is librarian of Wesleyan University, goes very much further in this direction by proposing the micro-card republication of as much of the accumulated and current cultural and scientific literature as may be possible. The need for this is postulated on the evidence that representative college and university libraries in this country have doubled in size every sixteen years. At this rate, the library of Yale University, which in 1938 had 2,748,000 volumes, one hundred years hence will have approximately 200,000,000 volumes which will occupy over six thousand miles of shelves and require a staff of over six thousand persons.

A solution of this growth problem has been sought by such expedients as weeding out, use of storage warehouses, operational economics and cooperation among groups of libraries. None of these means has been found to more than scratch the surface of the problem. The solution proposed by the author consists in reducing the size of books to that of a library catalogue card. These micro-cards would have printed on the face, in addition to the name of the author, title, format, publisher and cataloguing indications, a résumé of the subject-matter of the publication. On the reverse of the card, there would be a micro-print reproduction of the complete book. In the case of periodicals there would be a separate card for each article published in them.

By this method, reference libraries would gradually be converted from bound volumes on shelves to catalogue cards in filing cases. The many advantages which would result are described in the most convincing manner. Impressive estimates are given of the economies which would result. In general, this is one of the most thought-provoking books about libraries which has appeared in recent years.

Due to the vast numbers of micro-cards which would have to be made under this plan, it is proposed to subdivide the work among libraries. The republication of existing and future cultural and scientific literature would thus become a library enterprise conducted as a special sort of publishing business. This is quite a departure from the generally accepted notion that both public and research libraries are public institutions, no activity of which is ever conducted on a commercial basis.

The technic by which micro-cards are made requires that two copies of each book be first trimmed of the margins surrounding the text. The separate leaves thus prepared are pasted with rubber cement in regular aligned sequence on a large 3×5 foot piece of binder's board. This composite sheet is then photographically reduced in size to the standard $7\frac{1}{2} \times 12\frac{1}{2}$ centimeter catalogue card. It is assumed that in editions of probably never less than five hundred copies the selling price will be five cents each.