specific only with reference to two matters. First, that of the location of the institution. The idea of getting the present 177-acre site and of using it as it is being used originated with him and with him alone; and securing the land would have been impossible without him. But for his leadership in this we should now be in the little three-acre park in La Jolla. The enormous advantage of the present location as compared with the former one is becoming apparent to everybody connected with the institution. Second, the plan of having a business manager who alone should have charge of all monetary affairs of the institution. The wisdom and practicability of separating the business and scientific work of such an enterprise would seem so obvious that it is surprising that any other plan should be thought of except as a temporary makeshift. Yet the time and strength of many scientific men are consumed with business matters which their incompetence makes much more costly in time and money than the employment of a business manager would be.

The money, about $40,000 all told, "invested" in the enterprise by Mr. Scripps, though of very substantial aid in developing the "plant" and in maintenance, for which uses it has been given at different times and in varying sums, is of minor importance compared with the business experience and the ideas which he has contributed.

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PSYCHOLOGY AS CONTRABAND

To the Editor of Science: Some weeks ago the State Department reported the seizure by the British government of a package of books sent from Germany through Holland to the Psychological Review Company. The president of the company, who is also editor of the *Psychological Review,* wrote to the American Consul General at London, stating that these books were scientific in character and essentially neutral. He suggested that the British authorities mention the titles and authors to any British psychologist and expressed confidence that any such expert would substantiate our statement.

The Consul General in due time replied that the British Procurator General had finally ruled that "such publications were not entitled to free transit."

The *Psychological Review* will not contest this decision in the British courts, but we wish to submit our case to the scientific world at home and abroad. Is there any good reason for hampering scientific progress by a policy of this sort? Would not the British psychologists do well to petition for a commission to determine the mental status of their Procurator General?

Howard C. Warren

Psychological Review Company, Princeton, N. J.,
November 15, 1916

QUOTATIONS

FOOD CONTROL

The decision of the board of trade, announced by Mr. Runciman on November 15, to appoint a food controller, has naturally excited a great deal of public interest, and more has been read into the announcement than it actually contained. The orders so far made by the board of trade under the Defence of the Realm Regulations apply to milk, flour and potatoes. The price of milk must not be raised above that paid at November 15, 1916, and the price may not exceed by more than a specified amount—in the case of retail milk 2d. a quart—the price in the corresponding month before the war. The order as to potatoes requires a return of potato stocks. The order which will have most effect in its influence on our daily diet is that which deals with flour. It affords an instance of how an agitation, unsuccessful in peace time, may succeed in its object under the stress of war conditions. The severe restriction of the hours during which alcoholic liquors may be sold, and the introduction of "summer time," or daylight saving, as it has been called, are other examples. The regulation prohibits for the future the production of any flour except such as would have been

called a few years ago, when there was a considerable agitation for its adoption, "standard flour."

The relative advantages and disadvantages of the grinding of wheat so as to produce a flour containing a larger proportion of germ and bran than the ordinary white flour have been somewhat fully discussed in our columns. The prevalent method, in consequence of the preference of the public for a very white flour and very white bread, has been to grind the wheat and separate the product into a succession of fractions, the principal fraction, white flour, forming about 70 per cent. of the grain. By arranging the milling in such a way that 80 per cent. instead of 70 is collected in one fraction, the amount of protein in the flour is substantially increased, and it has been claimed that the product is increased in nutritive value not only by the enhanced amount of protein, but by the retention in it of a larger proportion of the vitamines of the embryo. Mr. Runciman appears to have been impressed by this view of the matter as well as by the advantage of getting an additional yield. He stated in the House of Commons that the government had decided that 70 per cent. flour can not now be permitted in this country. "Pure white flour," he said, "from which has been abstracted, as some people think, some of its most valuable qualities, will not be milled in future. We shall retain in the flour a good deal of what I believe in some quarters is called offal and in others precious food." He went on to state that the percentage of wheat which should be converted into flour varied with different kinds of wheat, and that a scale of percentages would be laid down which would, on an average, raise the yield of flour about 8½ per cent. The milling order which has since been published gives the percentage of flour that must be extracted from wheat as varying from 73 to 78 per cent. according to the variety, the highest figure being that for Australian wheat; the average figure is 75 per cent., which is still well below the 80 per cent. which was the percentage adopted for giving "standard flour." Even the additional 5 per cent., however, represents a large increase in the amount of flour obtained from every sack of wheat. The palatability of the resulting bread will continue to depend chiefly on a judicious blending of flours and on good baking.

While there may still be some difference of opinion as to the extent of the advantage secured, there will probably be no difference of opinion in the medical profession on the point that it will, in the existing circumstances of the food market, be considerable, even apart from the fact that a given amount of wheat will yield a much larger proportion of bread than before. In this case, as in the case of "summer time" and other innovations, it will be interesting to see whether the general experience obtained will lead to the retention after the end of the war of what has been adopted as a temporary measure.—*British Medical Journal.*

THE decision of the government, which appears likely to result in the general consumption of "standard bread," will no doubt be received with varied feelings by various sections of the community. In view of the certainty that such differences of opinion are likely to arise, the following brief sketch of the facts of the case so far as they are known may be of general interest.

Under normal conditions at the present time the average practise of roller milling results in the recovery from cleaned wheat of rather more than 70 per cent. of its weight of flour, the remaining 28 or 29 per cent. of the wheat, consisting of various grades of "offals," being sold for feeding stock.

The changes announced last week would make it compulsory to recover 80 per cent. of flour from wheat, which would increase the amount of flour by about 8½ per cent. and decrease the amount of offals for stock-feeding by a like proportion, the percentage in both cases being calculated on the amount of cleaned wheat available for milling.

On the basis of the amount of flour produced in the United Kingdom for home consumption in the years immediately before the war, the change announced would increase the amount of flour available for bread-making by very nearly 600,000 tons, which would provide an extra 2-lb. loaf for every inhabitant of the

United Kingdom every three weeks, or seventeen extra 2-lb. loaves per head of the population per year. This is by no means a negligible increase in the bread supply, and it is doubtless considerations of this kind that have induced the government to take action.

If, however, we examine the result rather more closely, we find that the increase in the nation's food supply may not be so great as the above figures indicate. In spite of repeated statements to the contrary, bread made from 80 per cent. flour is not so nutritious, weight for weight, as bread made from 70 per cent. flour—at any rate, for the supply of protein and energy for the general population. Although 80 per cent. bread contains on the average rather more protein than 70 per cent. bread, the digestibility of the protein in the former is rather lower, so that the actual weight of protein digested by the average individual from 1 lb. of 80 per cent. bread is rather less than the amount digested from 1 lb. of 70 per cent. bread. Again, the energy value of 80 per cent. bread is rather lower than that of 70 per cent. bread. Still one more correction must be made in order to arrive at the actual increase in the national food supply which will result from the general adoption of a milling standard of 80 per cent. It is pointed out above that the recovery of 80 per cent. of flour from cleaned wheat entails a decrease in the supply of the finer wheat offals for stock-feeding to the extent of about 600,000 tons. These finer offals are largely used for feeding pigs. Their transference to human consumption would therefore decrease the production of pork and bacon, and this must be allowed for in estimating the total effect of the proposed alterations in milling. After applying all these corrections it appears that the general adoption of an 80 per cent. standard would undoubtedly give a substantial increase in the amount of digestible food for the supply of protein and energy for the population of the United Kingdom.

The possibility that the food value of bread would be substantially increased by the adoption of the 80 per cent. standard, because the content of the mysterious constituents known as vitamines would be increased by the inclusion of a greater proportion of the germ and of the outer layers of the grain, is perhaps scarcely worth discussing in this connection. Such constituents are supplied by other items comprised in an ordinary mixed diet, so that the vitamine content of bread can have little practical significance except in the very few cases where bread forms the whole, or very nearly the whole, of the diet.

The price of wheat offals for feeding stock is now so high that the adoption of the 80 per cent. standard can not be expected to make any considerable reduction in the price of bread. Even the compulsory admixture of a considerable proportion of other cereals, such as maize, oats or barley, with wheat for bread-making would not greatly cheapen the loaf, because these cereals are not very much cheaper than wheat. The important point in raising the milling standard and in including other cereals among the breadstuffs is that it would widen the sources from which the national food supply is derived—a most desirable end under existing conditions. To summarize, the result of a compulsory 80 per cent. standard would be neither better bread nor cheaper bread, but more bread.—*Nature.*

SCIENTIFIC BOOKS

The History of Melanesian Society. By W. H. R. Rivers. Cambridge: The University Press, 1914. 2 vols. Pp. xii + 400 + 610.

Ethnologists have learned to rejoice at the sight of Dr. Rivers's name on the title page of an ethnological monograph. His work among the islanders of the Torres Straits stands as a model of painstaking research and critical method, originated in part by Dr. Rivers himself, while his elaborate study of the Todas of Southern India ranks with the best descriptive monographs of modern ethnology. In view of the author's methodological labors, moreover, one's anticipations are kindled as he glances through the pages of this newest attempt to reconstruct and interpret the history of an ethnographic district of which the cultural complexities have already taxed the ingenuity of Thilenius and