maintained, this introduces a much-needed long-range coarse adjustment.

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Reference

1. KOPAC, M. J. *Science*, **113**, 232 (1951).

Information Wanted

I AM preparing a biography of Richard Everingham Scammon, who was professor of anatomy at the University of Minnesota from 1914 to 1930, and distinguished service professor, Graduate Faculty, since 1935. Dr. Scammon is now retired and living at Branson, Mo.

I would appreciate your bringing this project to the attention of your readers, some of whom may have interesting and valuable stories, anecdotes, letters, or other reminiscences pertaining to him. All correspondence in the original will be carefully preserved and returned to the owner. I would request that all communications be sent directly to me.

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Language Problems in Science

DISCUSSIONS about language problems in English and American journals are always a source of mild amusement to those of us who belong to the smaller languages. Mice must have a similar feeling if they can hear the elephants discussing the disadvantages of being small!

Generally, a scientist from one of the smaller languages must possess a working knowledge of—besides his own—the three main languages, English, French, German. The designation "main languages" does not refer to the number of people using them as their mother tongue, nor to the actual number of pages of science being published in the various languages today. It simply reflects the fact that the relevant literature has been published in these three languages. This is a fact that cannot be debated, whether we like it or not.

The need to learn three foreign languages (and generally to learn at least one of them thoroughly) imposes a not-inconsiderable extra intellectual burden, even if these languages are rather closely related. Do the proponents of Esperanto (or any other "synthetic" language) realize that the introduction of this language as a means of scientific communication would mean that we shall have to learn a fourth language (admittedly somewhat easier than the rest)? Even if by universal agreement, starting tomorrow, Esperanto should be the only language to be used in scientific publications, there would still be the old literature (very important in many branches of science) which would necessitate forever the learning of other languages, and in many cases a spot of Latin besides.

There is another point glibly overlooked by the proponents of Esperanto—viz., that it is very far from being universal in structure. Esperanto is an Aryan language—west Aryan, to be more specific—and to non-Aryans it is just as difficult to learn as the much more useful living languages.

Under special circumstances many considerations may justify the publication of scientific material in a small language; but speaking as a member of a very small nation myself, I completely agree (in matter, though perhaps not in form) with the denunciations that have appeared in SCIENCE of all tendencies toward linguistic isolationism. Scientific studies are pursued all over the world by people speaking no end of languages, and I have no more right to demand that my colleagues shall learn Norwegian to study what I may produce, than anybody else has the right to demand that we shall all learn Burmese. We cannot demand that the scientific world shall take notice of a publication when we ourselves do nothing to make this possible. If we cannot write the other language ourselves and cannot afford a complete translation, simple consideration should prompt us to give at least a summary. (But the art of making summaries is no easy one!)

Linguistic isolationism is no monopoly of the small languages. In the great ones it takes the less obnoxious form of neglecting all literature of other languages and of not bothering to learn even two foreign ones sufficiently well to use them. This is generally a detriment to the individual only, whereas the loss of an important publication in a small language will generally be a detriment to science as a whole.

Lincicome maintains (SCIENCE, **113**, 607 [1951]) that, "if allowed to use their national tongue, many writers will publish much of scientific value that would remain unpublished (and therefore totally inaccessible) if it had to be translated." Is Lincicome prepared to learn Burmese to gain access to this literature? I am not, and I doubt if any Burmese colleague would be prepared to learn Norwegian. Abstracting journals do a great job, but have we any right to load the burden of translation upon the shoulders of our colleagues?

However much sympathy one might have for nationalism, linguistic isolationism is inconsiderate and constitutes, I think, one of the sins that cannot be forgiven in human society.

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HAVING spent two months in Japan I have had my attention greatly sharpened as to communication. I've just caught up with the exchange of letters between H. David Hammond, D. R. Lincicome, and Ancel Keys. I take it as obvious that language is being used for chauvinistic purposes in many places, and am convinced that both language and science are being used for such purposes wherever the USSR is in political control.

However, the real questions about scientific writing

are: (*a*) to whom am I talking? and (*b*) how can I reach his ears (eyes)? It is shortsighted for one to write in a language of narrow currency. A scientist who is convinced of the importance of his communication for science (which we take to be world-wide) will, if he is wise and free, put it in that language which will best carry his thoughts to the most people who will be interested in them. It is a question of what language gives the maximum value to the product of the following factors: author's facility in the chosen language × author's willingness × readers' facility × readers' willingness × number of prospective readers. The values of facility and willingness would be on a scale of zero to unity. One can expect author's willingness to be high and readers' willingness low. I daresay this would nearly always result in choosing English.

If however, the author is interested not in communicating with the scientific world, but in achieving fame among those who have security or profit to bestow, then he will limit correspondingly the universe of application of the three reader factors. This will usually result in his choosing his own national language.

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Book Reviews

Culture Worlds. Richard Joel Russell and Fred Bowerman Kniffen. New York: Macmillan, 1951. 620 pp. $6.00.

Culture Worlds is designed as a regional, world text for beginning students in geography. The cultural approach is used, according to the authors, as a logical method of providing a sound, unified geographic background for studies in the social sciences and other fields in contrast to the common practice of presenting a semester of physical geography followed by one in regional geography.

The authors divide the earth into 7 culture worlds, "occupied by peoples who are strikingly alien to inhabitants of other culture worlds," which are subdivided into culture realms, smaller culture regions, and zones of transition between culture worlds. The culture worlds are: "Polar World," with Eurasian and American realms; "European World," with Northwestern, Eastern, and Mediterranean realms and a western transition zone of France and Switzerland and French Barbary in Africa; "Dry World," with the Arab-Berber and Turko-Mongolian realms of Africa and Asia; "African World," treated on the basis of Herskovits' 5 culture areas to which is added a sixth, Madagascar; "Oriental World," with the Indian, Chinese (including Japan), and Malayan realms and the Indo-Chinese transition zone; "Pacific World," with Polynesian, Micronesian, Melanesian, and Australian (including New Zealand) realms; and "American World," including the Anglo-American and Latin-American realms. The expansion and impress of the European world on the other culture worlds are characterized as the "New World Revolution," whose effects on the other culture worlds are treated in detail in the individual sections.

The text is replete with information that will be of interest to people in many disciplines. Individual culture traits of each culture world are given intensive analysis from the standpoint of the social and economic patterns that have evolved. Much background material is included on racial and political antecedents of the present culture worlds and on recent political events, such as postwar territorial changes and creation of new states. Although the focus is primarily on cultural features, there is detailed discussion of the physical environments and explanation of physical processes and terms.

Mention should be made of the excellent illustrative material: 181 graphic maps and diagrams, 51 illustrations, 30 tables, and end-plate maps of the culture worlds.

Russell and Kniffen offer the reader much of interest in specific information, ideas of development of cultures and movement of peoples, and a method of treatment of the complex subject of cultural geography. Individual differences of opinion may arise regarding the authors' selection of specific culture worlds and the use of a regional, cultural approach as an introductory study of geography without a preliminary systematic discussion of cultural geography.

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Nutrition and Chemical Growth in Childhood: Calculated Data, Vol. III. Icie G. Macy. Springfield, Ill.: Thomas, 1951. Pp. 1463–2174. $8.00.

This new volume contains all the data that can be calculated from the great mass of chemical analyses of food, urine, and feces already published in Volumes I and II. The book consists entirely of tables presenting for each child studied in the first two volumes such "calculated data" as average daily absorption and retention, percentage of intake absorbed and retained, absorption and retention per kilo of body weight, per centimeter of body length, and per square meter of body surface. These calculations are given for energy, fat, nitrogen, phosphorus, chloride, sulfur, negative minerals, calcium, magnesium, sodium, potassium, positive minerals, and excess of either positive or