experience in assembling a bibliography of a particular field will appreciate this sort of thing. A title, especially of a supposedly scientific paper, should be concise. However, precision or conciseness in writing a title for a paper should not fall before undue brevity. The writer certainly would not advocate a return to medievalism in such matters; but titles can be clear and at the same time brief. With the title cited above as a horrible example compare *"Musca domestica,* a New Dipteran Insect from Utopia." A good title, then, should be as brief as possible and should convey a definite idea of the contents of the subjoined matter, and should always be used with general papers as well as with papers of a taxonomic nature.

Not very long ago a very excellent paper of considerable length and illustrated by well-drawn figures in a half-dozen or more plates came to me. This paper was a zoological thesis from one of the major universities of the country. As it happened to be along a line of especial interest to the writer, it was read with care. But the ease of reading and the degree of pleasure and profit enjoyed were seriously marred by the fact that the figures on the various plates were labeled with abbreviations and that one had to turn to a distant page to find the key to these abbreviations. It would have been bad enough had the key been on the page facing the plate, or at the bottom of the plate itself. Often, to make such a bad matter worse, the terms are not alphabetically arranged—they may even be omitted by error in some cases. Needless to say, a study of such plates involves a great deal of time, patience, labor and even temper. In many instances, unless such papers are of immediate interest, they go unread in so far as a careful examination of the plates is concerned.

In the plates above mentioned, it was noticed that there would have been plenty of room to spell the labels out in full directly on the face of the plates, thus doing away with the necessity for a key, and at the same time effecting a saving of labor and space in production and a saving of time and labor in the ultimate consumption. The artistic qualities of the drawings would not suffer in the least by such a procedure; on the other hand, accuracy and availability would be greatly enhanced.

The present system of indirect labeling of plates is archaic and absolutely unscientific. It should be changed to a system of direct labeling on the figures, together with any necessary explanatory matter (not a key) on the page *facing* the plate. Direct labeling can easily be carried out in all cases except possibly in those rare instances where the details are exceptionally small and numerous. In such cases the key should face the plate and it should be arranged in an alphabetical fashion.

It is to be hoped that those editors responsible for matter of form such as the above in scientific serials will effect changes looking toward improvement.

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QUOTATIONS

IN SCIENCE I note that attention is again called to the need of indicating in public addresses the beginning and the closing of a quotation. The terms "quote" and "unquote" are suggested by Mr. Arnold.

Some years ago I knew a very intelligent young woman who used to inform us that her "bright sayings"—some of them—were not original, by raising both hands above her head with the first and second fingers pointing upward. Her fingers were her "quotation marks" and were very easily understood. I have many times since thought that some such signs or signals would be useful for public speakers who wish to indicate when their quotation ends but do not care to say, "the quotation ends here." Probably both hands are not needed for the signal, but both for speaker and for audience some conventional sign would, it seems to me, be worth adopting.

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THE METRIC SYSTEM

I READ with interest the letter of H. J. Page, of the Rothamsted Experiment Station, England, in SCIENCE for June 3, frankly confessing the great advantages of the Metric System over our stupid and inaccurate Anglo-American system of weights and measures, but explaining his use of the Anglo-American term of "quarter," &c., because his paper was intended for the agriculturists and not for scientists.

I beg leave to commend to him the method adopted by the *Journal* of the American Medical Association by which one does not need the searching of dictionaries, etc.

In the text of this admirable *Journal* all weights, measures, etc., are given in the Metric System followed immediately in a parenthesis, by the Anglo-American equivalent. This is gradually educating the public to the Metric System.

I hope and believe that the day of its adoption is drawing near.

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QUOTATIONS

A BRITISH COLONIAL RESEARCH

THE report of the Committee on Scientific and Research Services, which is published this morning,

marks an important step forward in the scientific use of British Colonial resources. The recommendations have been adopted by the Colonial Conference, and ideas which have been in the air for some time have now become definite proposals. There is still, of course, a great deal to be done. The committee have worked under great pressure, and a further committee will have to be set up to work out details. The colonial governments have to give their consent and arrange their contributions to the central pool. But the main principles that there should be a chain of research stations, like Trinidad and Amami, throughout the Empire, with a central directing council in London, controlling a mobile reserve of men of science, and that there should be an Imperial Scientific Service transcending colonial boundaries, have been accepted by the spokesmen of five-and-twenty colonial governments.

The present plans are only for agricultural research. Medicine and forestry have been left to the recently constituted Medical Research Committee and to next year's Empire Forestry Conference. But this report has the added interest that its underlying principles apply to all branches of scientific work. It brings out three points that are very little appreciated—how small a sum the colonial governments spend at present on agricultural research as compared with other governments; how valuable the trade of the colonies is to Great Britain; and how closely the prosperity of that trade is dependent upon agricultural progress. It is perhaps not surprising to hear that the United States already spends on agricultural research over $21,000,000 a year, and that the figure is growing. It is more surprising to learn that, though entomology is one of the most important and most highly organized branches of science in the colonies, their combined expenditure on it is little more than half the £100,000 a year that the government of Egypt spends. Henceforth it is proposed that the Imperial government and the colonial governments between them shall find £175,000 a year for agricultural research. That is considerably more than is being spent in uncoordinated ways to-day. But the Empire Marketing Board has an appropriation for research, and the money found by the Imperial government is likely to prove an excellent investment for the taxpayers at home. The complementary character of the trade between Great Britain and the Crown colonies makes an increase in their purchasing power particularly advantageous to industry here. On the other hand the colonial governments stand to gain out of all proportion to their contributions, for, while these contributions will be based on their revenue, the services they will receive will be limited only by their needs and by the resources of the whole system. They will be able to command first-rate men of science without having to find their salaries, because, if the conditions of service envisaged by the committee are created, the varied and well-rewarded career which the Colonial Agricultural Research Service will offer will enable it to attract the finest talent. The advantage will be greatest to the poorest colonies, for there is no natural connection between a colony's financial strength and the urgency of its need for scientific help. Moreover work well done in one colony is more often than not of value to other colonies, and the arrangements for more efficient intelligence service will make this more than ever obvious. Thus both in the science of soils and in plant genetics—"where," says the committee, "no organization of any kind at present exists"—the gain of one colony is likely to prove the gain of all. For this reason, if for no others, the proposals are plainly of interest to those Dominion governments who have similar questions of their own; and there is every reason for believing that what is now being set on foot for the Crown colonies will come in time to cover the whole Empire.—*The London Times.*

SCIENTIFIC BOOKS

A Bibliography of American Natural History. The Pioneer Century, 1769–1865. By MAX MEISEL. Vol. II. Brooklyn, The Premier Publishing Company, xii + 741 pp.

THIS, the second volume of Mr. Max Meisel's interesting and valuable contributions to the bibliography of the natural sciences in the United States, is in reality a history of the rise and development of the biological sciences in the first half of the last century in this country. It includes also the earth sciences and the exploring expeditions which were often concerned with technical scientific matters as well as with geographical and military or naval affairs. The multiplication of organizations, such as scientific societies and academies, and of various enterprises, such as museums, botanical and zoological gardens, institutes, state surveys, and exploring expeditions, was remarkable in the various parts of the United States from 1800 to 1844. Whereas, from 1769 to 1800 only ten such enterprises were founded, in the period from 1800 to 1844 one hundred and twenty were started on their career. Of these, sixteen were U. S. Government Exploring Expeditions. State geological and natural history surveys followed with the rise of state consciousness. The first state geological survey was that established in North Carolina in 1823. Other states followed in rapid suc-