piens, would have priority over all the others and the various types of fossil men should be considered as subspecies of *H. sapiens.* In this case, the older scientific names, *e.g., Pithecanthropus erectus,* etc., would be inappropriate and should be abandoned. In their place could be substituted the names *Homo sapiens javanensis* (=*Pithecanthropus erectus*), *H. s. pekinensis* (=*Sinanthropus pekinensis*), *H. s. dawsoni* (=*Eoanthropus dawsoni,* if considered human), *H. s. rhodesiensis, H. s. heidelbergensis, H. s. neanderthalensis,* etc.

These names would be more in keeping with the usual rules of zoological nomenclature, would more clearly indicate the significance of the various types and would still readily distinguish the different fossil men, which is Weidenreich's sole reason for retaining the older names.

Another aid to other biologists would be a reduction in the synonymy. At present, to mention a few examples, *Homo neanderthalensis* = *Homo primigenius* or *Palaeoanthropus neanderthalensis; H. heidelbergensis* = *Palaeoanthropus heidelbergensis; H. soloensis* =*Palaeoanthropus soloensis, H. neanderthalensis soloensis* or *Javanthropus;* and *H. modjokertensis* = *Pithecanthropus erectus* (baby). In an earlier paper Weidenreich[6] calls *Pithecanthropus* by the name *Homo erectus javanensis* and *Sinanthropus* by the name *Homo erectus pekinensis,* but Dobzhansky[2] believes that the correct name for *Pithecanthropus* should be *Homo erectus erectus.*

Naturally, much of this confusion and synonymy can only be cleared up by further study and new material which would probably result in a change of status of some of the forms. However, whenever possible, the use of a single scientific name as the accepted and correct one is greatly to be desired.

The designation of the correct name, the status of the individual types and the reduction in the synonymy could probably be best and most efficiently brought about by an international board of experts. The fact that we are dealing with fossils, which are rarely complete specimens or abundant in number, greatly complicates the problem, as more than once in paleontology different generic and specific names have been given to various parts of the same individual or species. An additional factor contributing to the confusion is that human remains are among the rarest of fossils and it is undoubtedly extremely difficult for the discoverer or describer of a new specimen to be objective and unbiased in his evaluation of its true significance and importance.

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[6] F. Weidenreich, *Am. Anthropologist,* n.s. 42: 375, 1940.

THE REACTION OF VITAMIN A WITH LIEBERMAN-BURCHARD REAGENT

IN repeating the work of Lowman[1] on the reaction of vitamin A and carotene with adsorbed sulfuric acid it was found that unadsorbed sulfuric acid added to carotene in chloroform solution gave rise to a blue color. The difficulty that was encountered in attempted quantitative measurement of this color was the immiscibility of the sulfuric acid and the chloroform. However, when acetic anhydride was also added (Lieberman-Burchard reagent) the solution became completely homogeneous and gave rise to an intense blue-green color, which rapidly faded. Acetic anhydride by itself gave no color reaction when added to carotene.

This reaction was also obtained with vitamin A-carotene mixtures extracted from human blood plasma and suggests the possibility of utilizing this reaction for the quantitative measurement of vitamin A in plasma. One difficulty that might be encountered in such a determination would be the interference caused by cholesterol. This might be obviated by saponification of plasma cholesterol ester with mild alkali to free cholesterol and subsequent removal of cholesterol by precipitation with digitonin.

As time is not available for the complete study of the possibilities of this reaction this communication is being published as a suggestion to interested workers in the field.

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OPINION 152 OF THE INTERNATIONAL COMMISSION OF ZOOLOGICAL NOMENCLATURE[1]

ON May 24, 1944, the International Commission on Zoological Nomenclature issued Opinion 152 on the status of the generic names in the Order Diptera first published in 1800 by J. W. Meigen in his "Nouvelle Classification des Mouches à Deux Ailes."

This opinion has far greater importance than most workers realize, as it affects all branches of zoology. Few taxonomists know why the Meigen names have been the cause of so much discussion and therefore little realize the importance of this opinion.

In 1800, M. Baumhauer of Paris published a paper by J. W. Meigen entitled, "Nouvelle Classification des Mouches à Deux Ailes," in which he reviewed the known genera of Diptera and proposed many new genera. For all of these genera he gave names and short descriptions and cited the number of species, but gave no specific names. The generic descriptions

[1] A. Lowman, SCIENCE, 101: 183, February 16, 1945.

[1] Contribution No. 250 from the Entomology Department, University of Illinois, Urbana.