

proximately 3,000 students to 812. Of these, 580 were boys and 232 girls, the proportion being in the ratio of the boys and girls with complete entrance materials. The third hurdle eliminated 214 more contestants, leaving 409 boys and 189 girls in the running.

The fourth hurdle was based on the academic record of the individual; the high-school record "composite" score was the sum of relative rank in high-school class and units of high-school science taken, weighted 5:1 respectively. The 450 highest (308 boys and 142 girls) were deemed to have passed this hurdle.

The fifth step was an evaluation of the recommendations made by high-school faculty members.<sup>4</sup> Five trained raters scored this information in terms of specific actual accomplishments; and on this basis the population was then reduced to 207 boys and 93 girls—containing the 40 trip winners and the 260 students who were given honorable mention.

The essays of these 300 were read separately and scored by three members of the staff of Science Service. Every contestant had written an essay of about 1,000 words on the subject, "My Scientific Project," telling what he or she is doing or plans to do in science in the way of experimentation or other research activity.

At this point, on the basis of all the evidence thus far accumulated—the two sets of scores on the science aptitude examination, high-school record, recommendations and essay—the present writers then made a selection of the 40 trip winners to the Science Talent Institute held in Washington, D. C., 28 boys and 12 girls. *The names and geographical localities represented were completely unknown*, for this information had been blanked out so that identification was by serial number only. Also, no questions concerning either race or religion appeared in any of the forms used.

The final selections, from among the trip winners, of the 2 winners (a boy and a girl) of the \$2,400 scholarships and the 8 winners (6 boys and 2 girls) of the \$400 scholarships, were made with Dr. Harlow Shapley, director of the Harvard College Observatory and chairman of the executive committee of Science Service, acting as the third judge. These decisions were based on the "over-all" previous evidence, plus information obtained from individual, standardized 15-minute interviews specially designed to determine how well the contestant is fitted for a promising career in science. Scores on the Bennett Mechanical Aptitude Test,<sup>5</sup> which was administered at the Science Talent Institute, were also considered, as well as per-

sonality data obtained in an additional interview by a psychiatrist.

The 40 finalists this year are residents of the following states: Alabama, 2; Arizona, 1; California, 1; District of Columbia, 1; Florida, 1; Georgia, 1; Illinois, 2; Michigan, 1; New Jersey, 3; New York, 14; Ohio, 3; Pennsylvania, 3; Virginia, 1; West Virginia, 1; Wisconsin, 4; and Wyoming, 1.

The scholarships permit the winners to go to any college, university or technical school of their own selection for training in science or engineering; courses that may be pursued are those encompassed in the fields of activity of the National Academy of Sciences and the National Research Council. Eleven of the trip winners in this year's Science Talent Search hope to do research in biology, chemistry, medicine or physics; three want to be electronic engineers; two expect to become theoretical chemists, and one a mathematical physicist. Other choices of probable fields of study range from naval architecture to biochemistry. The careers of these trip winners will be carefully followed.

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### CONCERNING "GENOTYPES"

OF recent years there have grown up in both botany and zoology two uses of the word "genotype." That with a longer history is clearly defined in B. Daydon Jackson's "Glossary of Botanic Terms" as "the type of a genus, the species upon which the genus was established." But the usage which is now becoming prevalent is that of "a combination of the genes of an organism." Although the two terms come into little conflict, the former being employed by taxonomists and the latter by geneticists, I have noticed an increasing tendency for taxonomic workers to substitute for this word the phrase "type species." It is well in science to employ such terms as "genotype" with a single unequivocal meaning.

While priority sanctions the taxonomic use of the word, etymology does not. "Genotype" in the genetic sense is based simply and properly upon the Greek *γενος*, meaning "race" or "offspring," but in the taxonomic sense it is based upon the Latin "genus" (as employed in modern science), the stem of which is not "gen" but "gener." Etymologically, the compound of "genus" with "type" should be "generitype" rather than "genotype." We have the right formations in the adjectival "genie" and "generic"; every one recognizes that genie differences are between genes, while generic ones are between genera.

I suggest that the situation be cleared by taxono-

<sup>4</sup> Cf. Edgerton and Britt, *Occupations*, *op. cit.*

<sup>5</sup> George K. Bennett and Dinah E. Fry, "Test of Mechanical Comprehension," Psychological Corporation, 1941.

mists replacing the ill-formed word "genotype" by the correctly formed "generitype." This course will not only avoid a needless conflict of terms, but actually will give us a more satisfactory word.

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### TRANSLITERATION OF RUSSIAN NAMES

CONTRIBUTORS to the recent correspondence on the transliteration of Russian names appearing in *SCIENCE*, Vol. 97, p. 243; Vol. 98, pp. 132, 133, seem to be unaware of the fact that the Russian Academy of Sciences had already adopted a system of transliteration as far back as 1906. This Latin transcription of Russian names—which is based on the Czech alphabet—is still being used in the publications of the academy.

In view of this, it would be advisable (as I have already pointed out more than twenty years ago, in *Nature*, Vol. 110, 1922, p. 279) for all countries to conform to the rules already set forth by the Russian Academy, instead of attempting to devise their own systems. This is desirable because, in the event of Russia adopting the Latin alphabet for general use,

the task of formulating the rules will probably be entrusted to this institution, as the highest authority in the country.

The original rules were reproduced in *Nature* of May 14, 1908, p. 42. As they might not be accessible at present and as they do not comply with the new orthography introduced about twenty-five years ago, I have set forth the revised transliteration, which is as follows:

А, а = a	Л, л = l	Ц, ц = c
Б, б = b	М, м = m	Ч, ч = č
В, в = v	Н, н = n	Ш, ш = š
Г, г = g	О, о = o	Щ, щ = šč
Д, д = d	П, п = p	Ъ, ъ = ' (hard)
Е, е = e, je	Р, р = r	Ы, ы = y
Ж, ж = ž	С, с = s	Ь, ь = j (soft)
З, з = z	Т, т = t	Э, э = e
И, и = i	У, у = u	Ю, ю = ju
Й, й = j	Ф, ф = f	Я, я = ja
К, к = k	Х, х = ch	

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## SCIENTIFIC BOOKS

### HANDBOOK OF MEDICAL ENTOMOLOGY

*Insects of Medical Importance.* By JOHN SMART. With chapters on Fleas by KARL JORDAN and on Arachnids by R. J. WHITTICK. 269 pp. British Museum, London.

THE application of science in the field by our military forces has presented many difficulties, especially in the realm of biology as related to medicine and in matters pertaining to public health. Suddenly a great need arose for a large personnel acquainted with the practical phases of these subjects. Extensive training has been successfully undertaken, but there has existed a real lack of useful handbooks to aid those who could not enjoy the academic atmosphere of libraries and laboratories. In no field, perhaps, has it been more difficult to meet the demand for competent workers than in medical entomology. In many countries the danger from insect-borne diseases such as malaria, bubonic plague and typhus is ever present, while the prevalence of others like typhoid fever and cholera is greatly augmented through the activities of particular insects.

The present book is an attempt to present in brief form material that will enable workers who lack extensive training in taxonomic entomology to recognize and determine with some degree of certainty those insects that menace the public health in the several war zones of the Old World.

By reason of the paramount importance of malarial fevers a major part of the text and illustrations is devoted to a consideration of the species of anopheline mosquitoes, with keys for their identification both as larvae and adults. This section includes over 70 pages with many fine drawings of anatomical details. The numerous species are grouped geographically as Palaearctic, Ethiopian, Oriental and Australian and extensive notes are presented to correlate these larger areas with specific places or borderland countries. Such an arrangement should be especially helpful in dealing with this large complex, in which only a small proportion of the species are important vectors of malaria, despite their close structural similarity. Ecological notes on breeding places are included. There is a general review of the other blood-sucking Diptera with a table for the recognition of the several important families and more complete accounts of some groups. Thus, the gad-flies (Tabanidae) and the African tsetse flies are treated more extensively, especially the latter. A general account of Dipterous larvae that invade the body is given in a section on myiasis, together with enumerations of blow-flies and maggots that may occur in foods. To all sections frequent bibliographic references are appended in the form of footnotes.

A section on fleas, written by Dr. Karl Jordan, will prove valuable, although it is far less complete than the part on mosquitoes.