Latin is unsurpassed in this respect. Further, the technical terminology of virtually all sciences in most of the modern languages (as well as the artificial languages) is drawn from Latin or from Latinized Greek; Latin, therefore, has the common international vocabulary of science. The inflections of Latin, though by some they are considered a disadvantage, in reality give a greater precision in the indication of the relations amongst the words than is possible in a language which has a minimum of forms and depends largely upon word order to show those connections. Finally, Latin is even to this day the international language of the zoologist and of the botanist in the names of animals and of plants, for the anatomist in his entire technical terminology, for the physician and the pharmacist in the writing of medical prescriptions, for the chemist in the names of the elements, etc.

Yet, naturally, whatever may be the international language used by the scientists, it will not be his sole medium of publication. Rather we should look to see, in the international language, only abstracts of arguments and results which have been published in other languages; some longer articles of truly permanent value; and those few books which are epoch-making in their fields.

Such, in brief, was my presentation. But my argument as to the advantages and the availability of Latin can be appreciated properly only in the full form of the paper; I could give here but the salient points. Naturally, I do not fancy that all scientists —and I am thinking throughout of those in natural and physical sciences—can now read, much less that they can write, Latin; few persons there are who can write for publication in other than their mother tongue. But all scientists now learn to read from one to ten foreign languages; and if there were an agreement, even though only a "gentlemen's agreement," that Latin should be the chief international medium, they would give Latin a preferred place in their study of foreign languages. The starting point for this alleviation of the scientist's toils might well be an international review expressed in Latin, containing summary accounts of publications in all lands and languages, which pertain to some one science or to some one group of kindred sciences.

I should be glad to enter into correspondence with those who are interested, whether or not they agree with me.

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INSECTS IN THE CALIFORNIA TAR TRAPS

SEEPAGES and springs of petroleum from subterranean sources occur in many places in California and have existed at least since early Pleistocene time. As the oil meets atmospheric conditions the more volatile constituents pass away and leave a black, viscous, asphaltic tar. Many of these seepages are "alive" to-day and form slow moving streams with occasional pools of considerable size. The brilliant mirror-like surface of the substance looks strikingly like placid water and in this way has "fooled" the animals of the region for a geological period.

Mammals and birds particularly have been attracted to these apparent water holes probably most often to quench their thirst, take a bath or a rest on the quiet surface, but other times to feed on these same unfortunates. Once mired in the sticky tar, escape was practically hopeless and vast quantities of bones have accumulated in the more favorably located "traps." Most famous of these are the ones on Rancho la Brea in Los Angeles County. The birds and mammals of the Pleistocene have become well known from the collections made there and through their strangeness serve to illustrate forcibly the vast change in fauna which has taken place in the region.

Many other of these tar deposits exist in the state, and it is possible that some of them may rival the famous ones of Rancho la Brea as prehistoric traps. During a recent brief examination of one of these near the town of McKittrick, in Kern County, I was surprised at the enormous numbers of insects preserved beside bones of extinct mammals. Most of those seen in a hasty examination were beetles and in many cases the parts appeared to be disassociated but excellently preserved, even to the iridescent colors. It is not likely that this is the first observation of the occurrence, but attention is here called to it in hopes that entomologists may become interested in the comparison of the Pleistocene insect fauna of the region with the birds and mammals.

It would be well to add that the tar is just as effective in the capture of organisms to-day as it has ever been. In one canyon where there was a "live" seepage a small pool of tar not more than a dozen feet across was so thickly bestrewn with a species of large water beetle that a manufacturer of fly-paper would certainly look upon the sight with envy. In some places there is, therefore, in all probability, a practically continuous accumulation from at least early Pleistocene to the present time.

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SCIENTIFIC BOOKS

Biomathematics, being the Principles of Mathematics for Students of Biological Science. By W. M. FELDMAN, London, Griffin and Co. xix + 398 pp.

As W. M. Bayliss points out in his Introduction

to Feldman's "Biomathematics," students of biology are finding themselves to-day in need of mathematics for certain types of investigations. As few of those biologists now in middle life have any considerable knowledge of mathematics and as it is not even to-day widely recognized by those collegians who plan to specialize in biological or medical sciences that they will need mathematics, and as it is by no means certain that, even with a realization of the need, the desired parts of mathematics could be found in the collegiate courses offered by departments of mathematics, it is evident that there is at present and probably will for many years remain a place in biological literature for books that expound those principles and algorisms of mathematics which are of greatest importance for such students and elaborate the exposition with a larger variety of worked examples from these fields of science. Feldman's "Biomathematics" is one of the first books directed to meet these special desiderata and seems to be likely to succeed in meeting them.

The titles of the 21 chapters are: "Introductory," "Simplified methods in arithmetic," "A few points in algebra," "A few points in elementary trigonometry," "A few points in elementary mensuration," "Series," "The simple and compound interest laws in nature," "Functions, variables and constants," "Differentials and differential coefficients," "Maxima and minima," "Successive differentiations," "Integral calculus," "Biochemical applications of integration," "Thermodynamic considerations and their biological applications," "The use of integral calculus in animal mechanics," "Use of integral calculus for determining areas, lengths, volumes and moments of inertia," "Special methods of integration," "Fourier's theorem," "Differential equations," "Mathematical analysis applied to the coordination of experimental results," "Biometrics."

Whether the author might not have omitted some topics is a serious question. Fourier's series is presented without biological illustrations. And what are the occasions on which biologists or others must differentiate x^x? One may expect mathematicians to take an interest in the cute tricks of their trade and may excuse them for inserting in their texts artificial examples and methods suited to their solution, but in a book especially written for some class of non-mathematicians it would seem to be better pedagogy to eschew all methods which were not used in illustrative material of interest to the readers. In places Feldman's is too much a text on mathematics with illustrations from biology instead of an exposition of quantitative problems of biology with an explanation of their mathematical treatment (it is of course far easier to write the mathematical text). Still I know of nothing better for its intended clientele.

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LABORATORY APPARATUS AND METHODS

CERTIFIED SAFRANIN

IN accordance with the plan announced in SCIENCE for July 20, 1923 (Vol. 58, p. 41), the Commission on Standardization of Biological Stains has been extending its plan of certification of stains, the latest addition to the list of those certified being safranin. This certification, as stated in the earlier article, is issued only for the batch of which a sample has been tested and found satisfactory.

The procedure followed by the commission when asking for the submission of samples to be tested for certification is to furnish the companies with specifications, provided preliminary work has been done to show what these specifications should be; but otherwise to ask the companies to submit the samples which they think will be most satisfactory, assuring them that certification will be based on performance of the samples rather than upon their chemical composition. This second course was followed in the case of safranin, and upon the basis of those samples submitted which proved satisfactory, specifications have now been drawn up which will be used in the future as the basis for accepting samples for certification. The batches of safranin which are now being certified fulfil all these specifications in regard to performance. One of them, however, is of lower dye content than the commission will recognize in the future. The lower dye content of this sample, however, does not seem to make it less satisfactory as a stain.

The specifications that are now drawn up for safranin on the basis of the samples which have been found to be satisfactory and which will be applied to any sample hereafter submitted to the commission are as follows:

(1) Samples of safranin O must be of the type represented by Schultz No. 679 and on spectrometric analysis should have an absorption curve maximum at approximately 515 μμ as determined in a one cm layer by a spectrophotometer. Other dyes must not be present.

(2) Safranin samples to be certified by the commission must contain at least 75 per cent. total color as determined when reduced by titanous chloride in an atmosphere of carbon dioxide. One gram of the dye must consume at least 4.195 cc normal titanous chloride solution.

(3) The sample should prove satisfactory for histological use. No exact method for determining this can be given, but the sample must be submitted to