cussed by Drs. Heitzmann, Wilder, Dwight and Lamb.

8. 'Anomalies—Their significance.' Dr. Dwight.

9. 'Some muscular variations of the shoulder girdle and upper extremity, with especial reference to reversions in this region.' Dr. Huntington.

10. 'Some anomalies of the brain.' Dr. Wilder.

11. 'The correlation between specific diversity and individual variability, as illustrated by the eye muscle nerves of the Amphibia.' Professor C. Judson Herrick.

The discussion on papers 8 to 11, inclusive, was then opened by Dr. Baker, and continued by Dr. Shepherd (who illustrated his remarks with specimens), Dr. Wilder, Dr. Lamb (who also showed a specimen), Dr. Huntington, and concluded by Dr. Dwight.

Dr. Wilder exhibited a brainless frog and made remarks thereon.

On motion, the thanks of the Association were tendered to the College, and particularly to Dr. Huntington, for their hospitality.

The following members were present at some time during the session: Allen, Baker, Bevan, Bosher, Dwight, Ferris, Gerrish, Hamann, Heitzmann, C. J. Herrick, Huntington, Lamb, Moody, Shepherd, Spitzka, Weisse, Wilder. Total, 17.

CORRESPONDENCE.

A CARD CATALOGUE OF SCIENTIFIC LITERATURE.

EDITOR OF SCIENCE—*Dear Sir:* Your invitation to open in the columns of SCIENCE a discussion of the projected Catalogue of Scientific Literature to be prepared by international coöperation, the claims of which were presented in your issue of February 15, affords me a welcome opportunity to fall publicly into line with a great movement that I believe destined to prove of the highest importance to scholarship. As a few of your readers are aware, I printed privately, last summer, a brief circular advocating a similar enterprise. At the time of doing so I was at an out-of-the-way spot in the country, where it was impossible to exchange inspirations, except by post, with friends whose interest in the scheme might have been counted upon; but upon canvassing the subject in my own mind I became so convinced that the learned world was in sore straits in this matter, and that the way out was clear, that I felt sure I should presently discover that other restive spirits were beginning to agitate in the same direction. Little did I expect, however, to meet with so conspicuous and agreeable a confirmation of my premonition as came to me several weeks after the issuance of my circular (though dated before it), in the printed report of the Harvard committee, which has now appeared in SCIENCE. (The original communication of the Royal Society I have seen for the first time, through your editorial courtesy, in the proof sheets of SCIENCE.)

Although several of the suggestions contained in my own little circular were promptly outgrown by me, it may appear not inappropriate, on the principle of comparing small things with great, to reproduce here the contents of this highly aspiring but wholly unpretentious little document:

UNIFORM CARD MEMORANDUM INDEX.

The accompanying slip (size 2¼x3½ inches, 5.7 x 8.9 centimetres), designed to be cut out and filed alphabetically in the manner of a card catalogue, is printed as a tentative specimen of a projected **Uniform Card Memorandum Index**, and is herewith privately submitted to representatives of a few of the leading universities, learned societies and publication agencies, with a view to securing influential approval of the general plan, together with useful suggestions and criticisms as to its practical application. It is proposed that all the universities, learned societies and high-class periodicals of the world should coöperate (from January, 1895) in the production of such a uniform *memorandum index*, by publishing, as a supplement (or appendix, *or both*) to every number of their original publications, a brief slip-digest of the contents of each article—or even of important portions of each article, as may appear to be warranted. These supplements could be easily prepared (the digests being furnished in all or in most cases by the authors themselves), would be inexpensive both in their original form of publication and as separate slips, and would incalculably facilitate both the distribution and the classification for instant reference of all the newest results of discovery and research. Those interested in such a project are earnestly requested to communicate on the subject, before September 15, with the undersigned.

The specimen slip read as follows:

KINETO-PHONOGRAPH. PHONO-KINETOGRAPH. PHONO-KINETOSCOPE.
Edison, Thomas A., Invention of the Kineto-phonograph. *Century Magazine*, June, '91, p. 206.
"In the year 1887 the idea occurred to me that it was possible to devise an instrument which should do for the eye what the phonograph does for the ear, and that, by a combination of the two, all motion and sound could be recorded and reproduced simultaneously. This idea, the germ of which came from the little toy called the Zoetrope, and the work of Muybridge, Marié and others, has now been accomplished, so that every change of facial expression can be recorded and reproduced life size. The Kinetoscope is only a small model illustrating the present stage of progress, but with each succeeding month new possibilities are brought into view, etc., etc."

The above circular, though sent to but comparatively few persons, called forth a gratifying number of 'adherences' and of valuable suggestions. In particular, the president of one of the American universities famous for activity in research and in the promulgation of knowledge undertook to have furnished, with the official *imprimatur*, summaries of the contents of all the publications of his university.

The necessity of entrusting the organization of the enterprise to a great central bureau that would command universal confidence early became manifest, and an informal communication on the subject was addressed to one of the officers of the Smithsonian Institution at Washington, who wrote in response: "I heartily favor the idea. When you have the matter in shape to make a formal proposition I shall have much pleasure in recommending it to the Secretary."

Meanwhile, from correspondence and conference with numerous scholars, various points involved in the success of the enterprise have grown in distinctness. The problem of utilizing more effectively the ever-increasing mass of accumulated, scattered and current contributions to knowledge can no longer be shirked. The time is ripe for instituting widely concerted action for recovering mastery of the situation. The various efforts hitherto directed to this end have done great service; but they have been devised almost exclusively to meet the requirements of reference and circulating libraries in their relations to broad classes of readers, rather than to serve the immediate needs of the individual scholar engaged upon a learned specialty.

All productive scholars, it would seem, must have devised or adopted for their personal use some form of *index rerum*, some mode—systematic or unsystematic—of note making. It is safe to say that very many such scholars have adopted for this purpose the general idea of the alphabetical card index, the merits of which are at present almost universally recognized. The scholar of Anglo-Saxon race is fast becoming as wedded to, and as dependent upon, his reference slips as the German scholar has long been silently devoted to his *Zettel* or the French savant to his *fiches*. It now remains for the Anglo-Saxon, with his openness to new applications of old ideas and the proverbial genius of his race for practical devices, to bring the power of the printing-press, as well as of scholarly cooperation, to bear upon the problem of multiplying indefinitely the benefits of the private card index.

Just here I should like to emphasize a consideration that is unexpressed, though latent, in the masterly report of the Harvard committee. This is, that such a card catalogue as is there projected, if based upon a wise choice in the *size of card* adopted, would render it possible for every member of the rapidly recruiting army of those employing the card system for private notes to incorporate his own manuscript or type-written cards and the printed cards (pertaining to his own specialty) of the coöperative index into one homogeneous whole, ever-growing, ever abreast of the latest research. This consideration it was, with all the possibilities and problems of administration it opens up, that held the mind of the writer under a spell of fascination for almost a week of vacation leisure. For be it noted that the blessings of the proposed coöperative card

index are to flow directly into the lap of the individual scholar, seated at his own desk in his private sanctum, enabling him to discard (not inappropriate word) to the limbo of the great libraries everything that does not directly concern him, while filing within reach of his finger-tips absolutely everything (pardon the optimism of an enthusiast) that he may intimately desire.

How can so Utopian a consummation be most speedily attained?

Let universities and colleges, and all manner of learned institutions and societies, at once appoint committees similar to the Harvard committee (though of course not limited to the natural and physical sciences, since the project of the Royal Society will form only a portion of the great undertaking), to accomplish three preliminary objects:

1. To arouse an intelligent and earnest interest in the subject.

2. To induce the Smithsonian Institution to assume the American leadership of the movement.

3. To convince publishers—primarily the publishers to the respective institutions concerned—of the importance of printing, on slips of the standard size, No. 33, of the American Library Bureau ($7\frac{1}{2}$x$12\frac{1}{2}$ cm., 3x5 in. approximately), summaries of their current publications for distribution as publishers' announcements. This size of slip is already widely in use, both publicly and privately, and may well prove to be of the dimensions ultimately adopted by the authorities of the projected international index. A beginning of these publishers' announcements has already been made by Messrs. D. C. Heath & Co., at the personal request of the present writer, and has been favorably submitted to the attention of the Secretaries of the Royal Society by Professor Bowditch, chairman of the Harvard committee. Other leading American publishers have heartily favored the idea of these card announcements and have promised to introduce them into use.

Columbia College has within a few days appointed, through its University Council, a committee to further the interests of the proposed International Coöperative Catalogue of Scientific Literature.

Yours very truly,

HENRY ALFRED TODD.

COLUMBIA COLLEGE, March 2, 1895.

PITHECANTHROPUS ERECTUS.

EDITOR OF SCIENCE—*Sir*:

In my letter of February 14th occur two expressions which need amendment. For the phrase 'divergent roots,' p. 240, 1st col., first line, read 'divergent root stems;' and for the phrase 'is wider than long,' p. 240, 2d col., fifth line, read 'is much wider than long.' Yours truly,

HARRISON ALLEN.

PHILADELPHIA, March 4th, 1895.

SCIENTIFIC LITERATURE.

Electrical Engineering, for Electric Light Artisans and Students. By W. SLINGO and A. BROOKER. New and revised edition, London, 1895. Longmans. Price, $3.50.

The object of this work is to cover general electrical engineering, and, taken as a whole, it is probably the most successful attempt yet made in this direction. The demand for a satisfactory general treatment of the applications of electricity is a very large and important one, and anything which supplies this demand is more than welcome. It is very doubtful whether any single work is ever likely to be published which will completely set forth the numerous and rapidly developing branches of electrical science and industry. Nothing short of an encyclopædia of many volumes could be expected to accomplish this result. A general discussion of the most important principles and uses of electricity, particu-