who hold this view will take the trouble to look in the issue of SCIENCE for January 29, page 170, they will find enumerated a list of papers read before Section G (Botany) at the recent American Association meeting, two papers: 'Plant Formations in the Vicinity of Columbia, Mo.,' and 'The Distribution of some Iowa Plants; Formations on which they Occur.' Here, in succeeding papers, the word 'formation' is employed with two distinct meanings. The first paper, we learn from the abstract, deals with the several associations of living plants found in the locality treated of, while the second is 'A brief account of some of the more important plants found growing on the Carboniferous sandstones in eastern Iowa.' Suppose some one had read a paper, as might very appropriately have been done at the same meeting, on the 'Plants of the Potomac Formation of Maryland and Virginia,' would it be a paleobotanical, a geological or an ecological paper?

In this connection I may perhaps be pardoned for calling attention to the title of another ecological paper in the same number of SCIENCE (p. 169), viz., 'The Flora of the St. Peter Sandstone in Iowa.' This as it stands is calculated to cause a decided stir in paleobotanical circles when it is remembered that the St. Peter sandstone in Iowa is of Silurian age, and, so far as I know, has not thus far been found plant-bearing! It is only fair to add, however, that the second part of the title ('An Ecological Study') explains its scope, but the fact seems to remain that ecologists, aside from their misuse of terms, do not always sufficiently consider the titles for their papers.

F. H. KNOWLTON.

WASHINGTON, D. C.,
February 3, 1904.

SPECIAL ARTICLES.

ON TITLES FOR PAPERS.

ONE of the indirect advantages of the individual card catalogue will be that of the condensation of titles, since a man who has been often called upon to fill up several lines of a 3×5 card with the title of a four-page paper will become considerate of others, and reduce the titles of his own future articles to their lowest terms. There is in this regard the greatest disparity of usage among different authors and different schools. Thus in general it may be said that the fashion of long and ponderous titles is a characteristic of the English school, as may be seen by consulting the pages of the *Quarterly Journal* or the *Journal of Anatomy and Physiology,* in the last of which the size of the title is still farther set out by being printed entirely in large capitals. The opposite seems to be the case with Gegenbaur and his followers, as may appear by consulting the *Morphologisches Jahrbuch,* where occasionally, among others of moderate length, an exceptionally terse title meets the eye. An especially good example of this is Maurer's 'Blutgefässe im Epithel,' which another would have expanded into 'Ueber das Vorhandensein von capillaren Blutgefässe im Epithel der Mundschleimhaut bei einigen einheimischen Amphibien.' It is apparent that Gegenbaur himself set the lead in this movement, as may be seen by the titles which he employed, most of them those of masterpieces, 'Die Epiglottis,' 'Zur Morphologie des Nagels,' 'Ueber das Archipterygium,' 'Clavicula und Cleithrum,' etc.

There seem to be two main reasons for employing lengthy titles, first, the desire to show the limitations, the point of view and the treatment of the subject, giving rise to the *explanatory title,* and, secondly, the desire to appear sufficiently modest, to show how keenly one feels the vastness of the subject and how little has really been accomplished; the *modest title.*

A recent example of the first has just appeared in a leading journal, and with its twenty-four words leaves little to the imagination of the reader concerning its scope. This may well have been unavoidable in this case, but for the benefit of cataloguers it might be suggested that in such instances there might be used a title and a subtitle, the former short and for the use of the card index and general bibliographies, the other longer and more explicit, to assist the reviewers and those who have actually taken the work into their hands.

As a timely warning and to show what the outcome of this tendency may become if not

properly checked, I will quote the following, which is a masterpiece of descriptive writing, and leaves little doubt concerning the various standpoints from which the subject has been treated:

SACHS, Phil. Jacob. *Γαμμαρολογία sive gammarorum, vulgo cancrorum consideratio physico-philologico-historico-medico-chymica, in qua præter Gammarorum singularem naturam, indolens et multivarium usum non minus reliquorum crustatorum tractatio ad normam collegii naturæ curiosorum plurimis inventis secretionibus naturæ artisque locupletata.* 8vo, Francofurti et Lipsiæ, 1665.

On this head I may state as a sort of confession, that in an early article of my own I employed a title of eighteen words to designate the same number of pages. There may possibly have been reasons other than the length of the title which denied me the pleasure of seeing this article extensively quoted, but in my own later experience I know that an article of indifferent value may often be saved for a bibliography through the merit of having an easily quotable title.

Modest titles, or those in which the author acknowledges that the final word has not been said upon the subject, usually begin with 'A contribution to the study of,' 'A few points in the anatomy of,' 'Observations upon the structure and development of,' and seem to be especially popular with younger investigators. While composed in the most laudable sipirit, such titles are hardly necessary, since there is little danger of a misunderstanding on the point guarded against by the writer.

There are in all probability other forms of lengthy titles besides those touched upon here, and it is certain that titles may have numerous other defects besides length, but this article is intended as a protest, not a treatise; in short, *'a contribution to the study of the relative length of scientific titles, including an inquiry into the cause and origin of those that may be considered excessive, together with suggestions concerning the remedy for the same.'*

HARRIS HAWTHORNE WILDER.

SMITH COLLEGE,
February 6, 1904.

ELLIPTICAL HUMAN RED CORPUSCLES.

IN this short note the writer desires to place on record a peculiar anomaly in human red blood corpuscles. This interesting variation came to notice in the histological laboratory of the Ohio State University in October, 1902. The class at that time was studying the human corpuscles, and the attention of the laboratory assistant, Mr. Seymour, was attracted by the sketches made by a student who had represented the red corpuscles by elliptical outlines. Examination disclosed the fact that the colored corpuscles in the sample recently drawn by the student from his own finger were elliptical and not circular.

The student was directed to prepare another specimen, using a perfectly clean slide and cover-glass, and he followed directions closely, covering the slide as quickly as possible. The corpuscles were observed to have the same shape as before. Professor Bleile and Dr. Morrey confirmed the observation, and at Professor Bleile's suggestion numerous samples were taken by several people and the specimens invariably showed the same peculiarity. It was deemed advisable to extend the observations over a period of several weeks, subjecting the corpuscles to the action of various reagents, and also making measurements of the size of the cells.

To this end the writer carried the work on during a period of four months, specimens being taken at various intervals. The reactions to such reagents as water, dilute caustic potash, dilute acetic acid, dilute hydrochloric acid, tannic acid, etc., were normal, but in each specimen taken many cells having the abnormal shape were noted. The erythrocytes were distinctly elliptical, slightly biconcave, non-nucleated cells which did not adhere in rouleaux. In many of them the biconcavity was scarcely perceptible. It was estimated that 90 per cent. of the red cells did not have the circular outline of normal corpuscles. It was also shown that these cells were elliptical whether they were subjected to the pressure of a cover-glass or not. This seemed to be the only manner in which they differed morphologically from the normal cells, except in the slight degree of biconcavity. As this dif-