I quite believe in the sudden development of the mass of phanerogams being due to the introduction of flower-feeding insects.

While fully alive to the importance of laboratory researches, Hooker felt that nothing could take the place of a knowledge of the various kinds of plants in nature; and that after all, the whole was, in a sense, greater than its parts. In 1886 he writes to Asa Gray:

I am more and more absorbed in Indian botany, and have thrown aside all idea of making headway with—any desire to keep up with even—heads of chemico-botany, and microphytology. I may content myself with a casual grin at young men calling themselves botanists, who know nothing of plants, but the "innards" of a score or so. The pendulum will swing round, or rather back, one day.

In 1894 he recurs to the same subject, and writes to Francis Darwin:

I am glad you are going to teach the medicos a little practical botany. It is lamentable to find that all this botanical teaching of the greatest universities in England and Scotland does not turn out a single man who can turn his botanical knowledge to any use whatever to his fellow creatures. Where should we be if medicine, law or any other pursuit were taught after that fashion?

In his general ideas of education, he was "modern" in the sense of desiring practical vocational training; and in his indignation against the claims of the classicists. But he seems to have had little or no vision of an educated democracy, nor indeed of democracy in any form. He greatly admired certain characteristics of the Americans, writing to Asa Gray as early as 1854:

When you Yankees take up the higher branches of botany more generally you will turn out far more and better work than we do, for you are a far better educated, sounder, more practical people, and I look to you for the greatest discoveries, come when they may.

And in 1877, after traveling across the United States with Asa Gray, he wrote:

I had not the ghost of an adventure in America, where I saw a prodigious deal and learnt much. California was burnt up with nine months' drought, which obliterated the herbaceous vegetation and allowed me full time for the arboreous and fruticose. I was charmed with New England, disappointed with the Rocky Mountains as a range, and have no love for California, but all are full of great interest, and wonderful resources. Niagara did not disappoint me nor did the big trees. . . . The people I found to be wonderfully nice, and A. Gray is a trump in all senses.

The following, to W. E. Darwin in 1893, is singularly pertinent to-day:

I am dreamer enough to look for a time when America will forbid a European war! What a splendid rôle this would be for a nation to undertake—to send us all to our tents and tell us that we may snarl at one another in the length and breadth of Europe as much as we please, but nothing more, and that if we go further she will intervene.

Here we may leave this fascinating record of opinions and events, having quoted freely, but scarcely more than touched the treasures it contains. To have read it, following Hooker to the Antarctic, the Himalayas, the Atlas mountains and America; visiting him through it at Kew and at his home; all this is sufficient to stir the imagination and ambition of the most lethargic if he cares anything for science. The book should be in all public libraries; and it is permissible to hope that eventually a cheaper edition, perhaps somewhat abbreviated, may further widen the circle of its influence.

T. D. A. Cockerell
University of Colorado

A SUGGESTION FROM PLATO, WITH OTHERS

Students of human embryology, obstetricians and gynecologists are in daily need of terms to designate the various things included in an abortion. Many also realize the need for a more consistent use of such old words as embryonic and ovum. The word ovum constantly is used in contemporary medical literature to designate the unfertilized female sex cell; this cell when fertilized, the chorionic and amnionic vesicles with or without the contained embryo, and even the later product of conception. Under such circumstances confu-

sion is unavoidable and it certainly would seem advisable to restrict the term ovum to its comparative embryological significance. But this restriction leaves us without a designation for the whole product of conception. For this the word conceptus fortunately seems to be available. It is not new, and does not sound particularly well in the plural but we have other similar words in long established usage to which the latter objection applies. The term conceptus has the advantage of being applicable throughout the entire period of gestation.

It may seem that we should make use of the word conception, but a recent experience illustrates some of the difficulties which we are sure to encounter in adopting it. A proofreader for example, of a manuscript recently published, substituted the word conception for conceptus in a part of the manuscript. Because of delay in the mails and because of other things, an opportunity was not afforded to make the necessary changes before publication. Hence, in one sentence in which it was stated that a number of conceptuses were examined, it now is stated that so many conceptions were examined. The latter may imply: (1) that a given number of fertilizations were examined, (2) or that a certain number of individuals in the early months of pregnancy were examined, (3) or that abortuses were examined. Yet, none of these things was meant. None of the American medical or nonmedical dictionaries accessible to me here at Stanford University defined the word conception as referring to the thing conceived, except in the sense of mental conception. Murray, however, does recognize the use of the word in the sense of embryo or fetus, but since this usage is rare even in English medical literature and also foreign to us, it probably would be wiser not to try to revive an old meaning. Moreover, such a revival would not obviate the possibility of misunderstanding. Hence, an unequivocal term such as conceptus seems preferable.

At present the word embryo frequently is used to designate conceptuses in the earlier months of gestation. It is used still more frequently to designate merely the body of the developing individual during the early stages, in contrast to the word fetus, which is applied in the later months of pregnancy. Hence, we have need for still another term to be used in common for the embryonic disc, the embryo, or the fetus. My former colleague, Dr. Adolph Schultz, has kindly called my attention to the word kyema. I was happy to learn from my friend Professor Foster, that it is excellent Greek and was used in the proposed sense by no less than Plato[1] himself. It was used in this sense also by Æschylus.[2] Professor Foster, however, suggests, that we preferably spell the word cyema. This term of Plato's also has the advantage of being available for comparative embryology and of being adapted to meet such needs as are represented by the terms cyemetric and cyemology. At present, no one can know what is meant when one says that there are no embryonic remnants present. The addition of the word cyema would largely avoid this difficulty. It is not my purpose to suggest that the long established term embryology shall be abandoned or displaced, in spite of the fact that the derivative embryometrics is somewhat misleading. The same thing, to be sure, will remain true of the term embryology as long as we continue to use the term embryo in a restricted sense and in contrast to fetus. In these respects the derivatives of cyema would be preferable, it seems to me.

Although the word abortion is available to designate the individual thing or the material aborted, it has not been the custom to use it in this inclusive sense. As now used, the word invariably is restricted to apply to the act itself. To use it in a double sense would lead to some confusion. Since blood clot, pus, decidua and mucosa, usually not only are included with but frequently also surround the entire conceptus, one could use the word abortus to designate all the material expelled during abortion. It is only in this or a similar way that one can avoid the use of such misleading words as mole, and such expressions

[1] Rep. 461C.

[2] Aesch. Eum. 659.

as the entire mass, embryonic mass, abortion mass or quite inaccurately even the chorionic vesicle when the latter is surrounded by a certain amount of decidua and blood clot even!

I trust that readers will generously remember that I am aware that change may not imply immediate improvement or progress, but the absence of it surely never does. I realize full well that the use of unnecessary terms is to be avoided, but this is equally true of awkward circumlocution and misunderstanding. When anyone writes or says, at present, that no embryonic remnants were present or that he has seen an interesting abortion, it is impossible to know what he means. Although the word embryo could by common consent be used in the proposed sense of cyema, long usage probably would make such an attempt futile for this reason alone. The introduction of this term and of the others suggested does not needlessly change old usage. It abrogates nothing save confusion.

Since I recently happened upon the term cubus, which the ancient Greeks (Athenæus) used for what I have designated as the preiliac fossa[3] in bovines, sheep, goats and horses, I take pleasure in recording this incidental finding. At the time I suggested the above term nothing but the German designation "Hungergrube" was known to me. None of the works on veterinary medicine and anatomy in English, which were accessible to me gave a name for this fossa. Since the term cubus seems rather far fetched, at least to one unfamiliar with its origin, I can not recommend the term cubical fossa.

At the suggestion of the late Professor Mall, who was ever ready to welcome and accept whatever answered a need, I am prompted also in this connection to say a few words in explanation and justification for several titles I have used in scientific papers. One of these titles is the old one of Spolia Anatomica.[4] Some of my friends have taken exception to this title and others have felt prompted to twit me! The objection apparently is to the word *spolia*. I used it in an inclusive sense to represent observations and descriptions of anomalies from the dissecting room and such as I happened upon while engaged in investigation. All of the things reported under this head were essentially anatomic windfalls. Since they were incidental to the work of the student of anatomy and the dissecting room, or that of the anatomist in his laboratory, they certainly could with entire propriety be called by-products or leftovers—spolia. That is exactly what they were. This use is an old and not a new one. In fact, such use is not new even in modern literature of anatomy. If I am informed rightly, the skin, horns and hoofs, and so forth, were regarded as the spolia or by-products of slaughtering, and this they remain to this day. Likewise, the shield and sword and armor of the fallen combatant were the spolia or the by-products of the gladiatorial combat. They too were removed in the spoliary or spoliarum. And even in the chase and, for that matter, in many wars of the *past* the spoils were the by-products, not the aim. To have interchanged the two is a very recent and lamentable thing. I am also reminded, and very gladly so, that there still are those to whom the spoils of angling and the chase remain incidental and the love of these sports, the aim.

While I must insist then that the use of the term spolia anatomica, is strictly correct, I can not commend it very highly. It tells no more about the content of a paper than the wastebasket does of its content, and it makes proper indexing difficult. Consequently, unless, as generously done by the "Index Medicus," all sub-titles of an article so designated are listed separately, no one knows what has been reported under such an omnibus title. Usually the things so reported really do not attract the attention of those who would be interested in them. Furthermore, in these days of counting titles in order to gage a man's productivity, one inclusive title makes a very poor showing in place of three or four scores of separate ones. Yet in spite of all these disadvantages, I chose the term advisedly and

[3] *Am. Jr. Anat.*, Vol. 21, 1917.

[4] *Jr. Anat. Physiol.*, Vol. 48, 1914; *Anat. Rec.*, Vol. 9, 1915, and Vol. 12, 1917.

do not propose to desert it merely because I used it in other than the predominating sense.

I have also been guilty of using the term osteology redivivus.[5] I did this with full knowledge of the fact that well recognized English writers had used it in similar connection in other than anatomic literature. George William Curtis used it thus in American literature. Nor did I stop here for I sought the advice and the approval of one of the foremost philologists in this country, a man of international standing for several decades, who after looking the matter up said I would be following good precedent in using it.

I have used these terms then and am suggesting others now, not because I desire to appear versed in Latin and Greek, but because they express what I want to say, and fill a need. They are free as the mountain breezes and at the service of anyone who, like myself, knows none better. May those who do, make me and the science of embryology their debtors.

A. W. MEYER

STANFORD UNIVERSITY

THE ROOSEVELT WILD-LIFE FOREST EXPERIMENT STATION

NEVER before in America, and for that matter, possibly, never before in the world, has there been a forest biological station devoted primarily or exclusively to the study of every phase of forest wild life. The establishment of such a station at The New York State College of Forestry, at Syracuse University, is thus an event of considerable general interest and importance, not only to those interested in the conservation of wild life, to foresters, and to zoologists in general, and particularly to field naturalists, but in addition to many others who are interested in the ecology of fish, birds, game, fur-bearing animals, and other kinds of forest wild life. This station, named in honor of the man, a native of the state of New York, who, with Gifford Pinchot, did more for forestry and forest wild life than any one else has done, thus becomes a very appropriate memorial to Theodore Roosevelt. Further, this station is the direct outcome of plans, started in December, 1916, with the cooperation and hearty support of Theodore Roosevelt, for the investigation of forest animals.

[5] *Anat. Rec.*, Vol. 8, 1914.

The establishment of the present station, as a memorial to his father, has had the hearty support of Lieutenant-Colonel Theodore Roosevelt, Jr., who writes:

> I think your ideas are excellent and I know that my father would appreciate no type of memorial more than that which you suggest, as you know it was one of the subjects that was always uppermost in his mind. I give my consent without reservation for the use of his name for this memorial.

As suggested above this idea of a Roosevelt Wild Life Memorial is the only one of the suggested memorials, known to me, which comes so near the *direct approval* of Theodore Roosevelt. Plans for the study of forest wild life, as stated above, were presented to him in December, 1916, and received his characteristic approval with enthusiasm and energy. He suggested that they be taken up "in a big way," commensurate with their importance, and in these words we know the kind of memorial which is worthy of the man.

In New York state the forest land and fresh water area nearly equals that of the tilled land, so that the proper care, management, and use of forest wild life is one of the large economic and social problems, and it is this same wild life which is one of the two main sources of income which finances conservation in New York state. Thus on economic grounds alone New York state would be fully justified in establishing such a station. The character of the problems involved in the study of forest wild life in these millions of acres of forest lands and waters are similar in many respects to those involved in varied wild life preserves and sanctuaries, in our National Forests and in our National Parks. The function of this station, as defined by the New York law is:

> To establish and conduct an experimental station to be known as "Roosevelt Wild-Life Forest Experimental Station" in which there shall be maintained records of the results of the experi-