seven small research laboratories, a large general laboratory and several special laboratories, including rooms for music and sound, photography, optics, illumination, electrical measurements and heat and temperature measurements. One room will house a physics library. One of the two large lecture rooms seats two hundred and eighty students and the other eighty. There are twelve smaller recitation rooms.

A NEW chemistry laboratory for Purdue University will be started in the spring. It is planned that when completed this building shall be one of the largest and best-equipped laboratories in the country.

DR. K. LARK-HOROVITZ, of the University of Vienna and more recently of Stanford University, has been appointed professor of physics at Purdue University. He will have supervision of the advanced work in physics and will pay special attention to the development of research.

DR. J. J. WILLAMAN, of the division of agricultural biochemistry, University of Minnesota, has been promoted to a professorship. Mr. Charles F. Rogers, formerly assistant professor of botany of the Colorado Agricultural College, has joined the staff with the rank of instructor.

DR. ANNA R. WHITING has been appointed professor and head of the department of biology at the Pennsylvania College for Women, Pittsburgh, Pa.

DR. FREDERICK E. EMERY, instructor in physiology at the University of Wisconsin, has been appointed associate in physiology at the University of Buffalo.

DR. HELEN BOURQUIN, formerly professor of physiology at the University of South Dakota, has been appointed assistant professor of pharmacology at the University of Michigan.

## DISCUSSION AND CORRESPONDENCE

### A PROPOSED CHANGE OF ELECTROCHEMICAL NOMENCLATURE

WHEN Faraday[1] in 1833 proposed the new terms *cathode, anode, cation* and *anion,* the nature of electricity and particularly the manner of electrical conduction in solutions were not clearly understood. Since he had no other basis for naming the electrodes, he called that one towards the east the *anode* and that one towards the west the *cathode.*

This nomenclature to-day would appear quite ridiculous if long usage had not accustomed the names to our ears. Indeed, as illuminating and descriptive terms they are useless and a beginner remembers only with difficulty whether the anode is the positive electrode or not. To overcome this difficulty, to place the electrode names on a more logical basis and to simplify electrochemical nomenclature, I should like to propose that the terms anode and cathode be rejected and that in their places an abbreviation of the terms positive electrode and negative electrode, namely, pos-ode or *posode* and neg-ode or *negode,* be substituted. None would have difficulty in telling at once that the posode was the positive electrode and that the negode was the negative electrode.

Furthermore, in 1833 the idea that like and unlike, or positive and negative, attract each other was also not well understood, so Faraday decided to call those bodies which pass to the anode the anions, and those which pass to the cathode the cations. At the present time, however, the fact that positive particles are attracted by the negative electrode is so very well known that Faraday's terminology for the ions is unnecessary. Hence, just as positive electrode was contracted to posode, positive ion can be contracted to pos-ion or *posion,* and, similarly, negative ion can be contracted to neg-ion or *negion.* A glance at either of these two simplified names will enable any one to tell at once which is the positive and which is the negative ion.

A further advantage of this new system of nomenclature is seen in X-ray tube phenomena. The negative "particles" or electrons which stream from the negative electrode are called cathode rays. To one unfamiliar with this terminology the question immediately arises whether cathode rays like cations travel to the cathode or whether cathode rays have the same electrical sign as the cathode. This obvious inconsistency in chemical usage no longer exists if cathode rays are called *negode* rays; then, just as *negions* are negative ions, so *negode* rays must be negative rays.

The only other difficulty in adopting this new system is an etymological one. Unfortunately, positive and negative are not of Greek origin, as are ode and ion, but this trouble is insignificant compared to the advantages to be gained.

MALCOLM DOLE

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[1] *Philosophical Transactions 123,* 48 (1833).

### AN ANALYTICAL DIRECTORY OF MUSEUMS

WITH the tremendous growth of museum collections of all kinds within recent years there is a constantly increasing demand for information regarding both museums and their contents. The profession is continually seeking statistics on the administrative and financial phases of its activities, and the general public

is in need of information regarding the location of museum material in order that such material may be more fully utilized. To meet these needs a proposal has been made that some central agency attempt the compilation of what might be called an analytical directory of museums.

Data regarding museums, which would permit of the fullest utilization of the vast stores of material and at the same time assist those engaged in museum work to study the relations of individual institutions to museums as a whole, would need to be national in scope. A mass of material concerning every museum should be brought together and arranged in such a manner that the field could be viewed from a great variety of angles in an expeditious manner. No single museum would be justified in undertaking a work of this sort, yet every institution would doubtless be willing to cooperate. Its publication by a central agency, such as the American Association of Museums, would be feasible, and the demand for such a book promises to be sufficient to warrant the undertaking.

The increase in the number as well as the size of American museums has made a knowledge of their collections far beyond the capacity of even a large group of persons. While a specialist in a single field may be informed regarding the location of all important material appertaining to his branch of science or art, it is often difficult to get into immediate communication with such a person, and many would be required in order to cover the entire field of modern museum effort. The value of summarizing the information possessed by those best qualified to interpret museums becomes apparent when we consider the advantages of using the material not of one museum but perhaps of a dozen or more.

Very few museums have series of objects in any category which are not supplemented and amplified by the possessions of other institutions. The immediate knowledge of the whereabouts of all important accumulations covering a certain subject may be of inestimable value to an investigator. A published survey of the sort suggested would obviate in many cases the necessity for hurried and often cursory inquiries among a few museums selected more or less at random. Advantages would accrue not only to the public but museums would find themselves benefitting from the increased interest in and use of their collections.

When museums as a group have available exact information as to their status with relation to the political divisions of the country, to population and to each other, more efficient administrative methods will be possible and certain duplications of effort will be revealed. Perhaps no greater need for information regarding the distribution, kinds of museums and means of support, is felt than by the organizers of proposed institutions or the directors of small existing museums. With many duties of a highly diversified character often imposed upon a single person in the capacity of director, the need for tabloid information is keenly felt.

These statements recognize briefly the two main divisions of the proposed analytical directory. Elaboration of what might be called the professional aspect would include statistical consideration of museums in relation to population, distribution of the different types of museums, relative attendance, types of administrative control, tables showing increase in the number of museums and sundry other arrangements of facts. In order to supply the kinds of information usually sought by the general public the directory would list museums geographically as well as according to type, there being general descriptions of each organization and its scope. Indexes would furnish a key to the location of all important collections in a large number of fields, descriptions furnishing some indication of the relative importance and extent of each accumulation. Other lists would show the serial publications of museums, staff members, educational and other activities carried on to supplement exhibited material. Further ramifications would suggest themselves as the work progressed and could be incorporated if time and funds permitted.

RALPH CLIFTON SMITH,
*Acting Director, The American Association of Museums*

## OCCURRENCE OF GERMANIUM IN TOPAZ

IT is an established fact that germanium is closely related to tin in a chemical sense. The two elements have analogous compounds and they occur together in natural minerals such as sphalerite and enargite. With this as a basis a search for germanium was undertaken in cassiterite from numerous localities. The arc spectrographic method was employed[1] and it was observed that while germanium was present in practically all the cassiterites examined, it was present in them in bare traces. This low content could be explained by assuming that the original magma carried very little germanium as compared with tin. But since nothing is known of the mineralogical identity of germanium in cassiterite, it was safe to assume that, irrespective of chemical similarity, segregation took place during or before the final formation of the hypothermal veins or pegmatite dike minerals. Lack of isomorphism, complexity of ions,

[1] For a description of this method see Papish, Brewer and Holt, *Jour. Amer. Chem. Soc.*, 49, 3028 (1927).