

approving only such as maintain the highest plane of intellectual integrity and conservatism in the deduction of conclusions from the facts.

President Hopkins is in no need of vindication by a committee of this association. The facts in the case speak for themselves and every chemist and student of soils whose opinion is at all worthy of respect will amply sustain him in the interpretation of these facts. The unanimous action of the committee was inspired, above all else, by the desire to discharge a duty to those who rely on the association as an authority as to strictly scientific methods of research, and the practical application of the results of such work to agriculture. The members of the association are not only affiliated with control and research work, but frequently serve also as teachers in our agricultural schools. They should not, therefore, shirk the moral responsibility imposed upon them. A negative attitude could not be assumed in the discussion under consideration, nor could it be honestly ignored.

The report of the committee was adopted by the association.

APPOINTMENTS IN COLLEGES AND UNIVERSITIES

TO THE EDITOR OF SCIENCE: The question raised by Professor Wenley in SCIENCE, August 21, as regards the desirability that each great department of inquiry should establish a "bureau of information to bring men and places together," appears to me to relate to a need which deserves the ventilation suggested by Professor Wenley, with a view to common action. Probably no department feels this need more than that of mathematics in view of the fact that so few people are familiar with the real nature of advanced work in mathematics, or, in the more emphatic words of Sir Oliver Lodge, that "the mathematical ignorance of the average educated person has always been complete and shameless." This fact has too frequently led authorities to accept men at their own avowed estimate, or at the estimate of some friends who did not take the matter very seriously,

since they were not held responsible for their advice by the men who really understood the situation.

While publications like "American Men of Science" render valuable assistance, yet this service is far from complete in view of the facts that the grouping in such a work cannot be sufficiently minute, nor can the issues, with up-to-date changes, be sufficiently frequent to afford just the information that is generally needed by those entrusted with the filling of important positions. In considering this question the Carnegie Foundation for the Advancement of Teaching in its Bulletin Number Two, issued May, 1908, calls attention to the method adopted in the choosing of professors in the Italian universities, which has shown excellent results. The main feature of this method is that the professor is finally chosen by a jury of five professors of the same subject or of a kindred subject to that in which the vacancy exists. In the selection of this jury the faculty of each of the twenty-one Italian universities is invited to vote for five men, and the minister of public instruction chooses five names from amongst the ten having the highest votes.

In sharp contrast to this method stands the inbreeding system followed by most of the larger American institutions, and the still more vicious system adopted by many of the smaller institutions as well as by some of the larger ones, according to which the vacancy is made known to only a few trusted individuals in order to avoid the examination of the credentials of a large number of applicants. One of the principal objections to the system of inbreeding is that it does not emphasize sufficiently high scholarly attainments and tends to encourage superficiality, which frequently attracts local attention, but seldom receives national recognition. It is said that chiefs of divisions under the federal government are frequently surprised at finding, by means of the civil service, men of very high ability who had been hitherto entirely unknown outside of their own regions. Such discoveries would be of the greatest importance to the college and the university,

and a system of appointments is necessarily defective in so far as it does not insure the finding of the very best available man for the vacant position.

While a system of appointments calling for a national survey by specialists whenever an important position is to be filled would doubtless serve as a great incentive to the younger men, yet the main advantage would result from the fact that men of the greatest energy and ability would be placed in positions where they could work to the best advantage, instead of wasting the greater part of their energies while others are wasting most of their opportunities. It is a question calling for national action, since our system of inbreeding is so well intrenched and works to the advantage of so many persons of mediocre ability, that it is scarcely to be expected that the authorities would be willing to face the storm resulting from a decided change in a single institution.

The natural body to establish a bureau of information, if Professor Wenley's suggestion were to be adopted, would appear to be a national organization of men representing the department of inquiry. If the American Mathematical Society and the American Chemical Society, for instance, would appoint committees representing the various parts of the country, and entrust such committees with the nomination of the best possible men for the positions brought to their attention, they would doubtless render a most important service. As such a committee would feel the great responsibility of having their actions reviewed by a national society of experts, it would doubtless look into the matter much more carefully than individuals do, who are casually asked to express their opinions in regard to the best available men. It seems also likely that appointing bodies would generally be very eager to secure such expert advice and thus remove a part of the responsibility from their own shoulders.

Whether such a bureau of information would be as satisfactory as the Italian system, properly modified to meet our situation, it seems difficult to predict. At any rate, the present haphazard method seems so bad that

it does not appear likely that any one resulting from a full discussion of the matter could fail to be far superior. It need scarcely be added that a wise system of appointments would be apt to check the tendency towards czarism on the part of our big institutions—a tendency which has alarmed many of our best men and threatens to serve as a barrier in securing the very best talent for university positions.

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ON THE ORIGIN AND AGE OF THE SEDIMENTARY ROCKS

TO THE EDITOR OF SCIENCE: In replying to Dr. Barrell's criticisms¹ I wish, first of all, to make it clear that I have no fault to find with the "detailed studies of the geological record"; the matter in dispute has to do with the *theories* which the geologists have founded on their interpretations of the observations.

Dr. Barrell states that I claim to have demonstrated that the earth was "protected by a cloud envelope until the Tertiary"; herein he disregards my published—qualified—statement that (in view of my results) Manson's hypothesis must now be modified; and the nature of this modification is clearly indicated by my references to "warmer" and "colder" months of the year as still existing at the very beginning of a glacial epoch; in other words, while I accept the theory that the former higher temperature of the ocean was necessary to supply the material for the (now disappearing) ice sheets, I find that climate then, as now, must still have been local, and there seem to be no good reasons why climate should not have been sensibly local in those earlier times for which we have records showing that living organisms then existed; only in the still earlier history of the earth was the cloud mantle so thick that the sun's influence was rendered practically insensible at the earth's surface.

But, considering the comparatively small size of the earth, this condition of things could exist through the hundreds of millions of

¹ SCIENCE, pp. 371-3.