

The latter is more easily reduced than the former, and when it was used a larger number of tissues were found colorless after death. Those tissues which were colorless when alizarin-blue was used were the seat of the most active reduction during life. The author does not profess to have done more than lay the groundwork for future investigation. The results thus far reached do not enable him to draw any very important conclusions, though his discussion is interesting and highly suggestive.

A NATIONAL UNIVERSITY.

SECRETARY LAMAR recommends in his annual report that a 'national university' be established in Washington. He says that "this national institution, which Washington, Adams, Jefferson, and Madison thought so necessary, has never been established; and in these later years the idea of a national university constitutes no part of the plans of statesmen, and seems to have been lost sight of by the people." This statement is not strictly correct, for it seems that in 1869 Dr. John W. Hoyt of Wisconsin brought before the National teachers' association, meeting that year at Trenton, N.J., a resolution, which was adopted, to the effect, that, in the opinion of that association, "a great American university is a leading want of American education;" and a committee was appointed to mature plans for such a university. This proposition was considered at the meetings of the association in 1870 and 1871, but there is no evidence that the committee ever did any active work.

Notwithstanding this inaction of the project, some action was taken by congress in the spring of 1872, looking to the establishment of such a university, when two bills were brought into the senate. One of these was drawn by Dr. Hoyt, who, although chairman of the committee of the national association, had never been able to get that committee together, and it was therefore essentially a bill presented by a private citizen. Neither bill was supported by anybody in any way; and the senators who introduced them did not imagine for a moment that any legislation would grow out of them.

Secretary Lamar calls attention to the scientific bureaus which "have grown up, one by one, under the government, with observatories, laboratories, museums, and libraries, until the whole range of physical science is represented by national institutions established by the government for the pur-

pose of prosecuting researches, embracing astronomy, meteorology, geography of land and sea, geology, chemistry, statistics, mechanical inventions, etc.," and expresses an opinion, that, if these bureaus "could be combined as integral parts of one scientific institution, such an institution would be of greater proportions and more comprehensive than any other in the world;" and that, "should a university be erected thereon with a superstructure commensurate with the foundation, it would be without a rival in any country." This is a picture of a crowning university, richer, better, and more comprehensive than any existing institution, which may to some be fascinating.

By all these would-be benefactors of American education, many of the difficulties in the way of establishing a national university have been overlooked. In August, 1873, President Eliot of Harvard made a report to the National educational association on the then talked of national university. Although in his report we find little of "democracies having been the cradles of pure thought and art," or of a burning aspiration on the part of the American people for "a higher education, — higher than the common school or academy or college can furnish," — we do find much of the cool common sense of that well-known leader of education.

We can hardly hope as yet that civil service reform is fully established in the United States. There is, therefore, a fatal defect in any congressional bill to establish a university, so long as the principles of appointment to United States offices, and the tenure of those offices, remain what they now are. A teacher should hold office through good behavior and competency, and it is only upon these conditions that competent professors can be secured for our colleges and universities. Permanence of tenure is necessary to make the position of a teacher one of dignity and independence; and young men of vigor will not enter a profession which offers no money prizes, unless they are induced by stability and peacefulness, and by the social consideration which attaches to it.

The government of a national university would necessarily be in the hands of some board of officers, and the constitution of such a board would lead to many difficulties. If the principle of local representation were to be applied, one would infer that the interests of Maine and Oregon, Minnesota and Florida, must necessarily be different, whereas philology, history, philosophy, science, and mathematics are the same in Massachusetts and Cali-

fornia. The professorships might as well be divided around among the states, as the places in the board of regents. The influence of sectional feeling could but be felt, and would certainly be injurious.

The demand by the American people for a higher education, referred to by Secretary Lamar, evidently means free education. The gift of such an education would rest in the hands of the members of congress, and would only place so much injurious patronage at their disposal. Our leading universities are already so well supplied with scholarships, and there are so many benevolent people standing ready to give assistance, that no deserving American boy need despair, from want of funds, of obtaining a liberal education.

Another point to be considered, before congress attempts to establish a university, is whether it would not be acting on un-American principles. During the war the country became accustomed to seeing the powers of the government exerted energetically for destructive purposes, and since the war there has been success in turning this power to the aid of the arts of peace, and markedly in the building of railroads. Had we not better leave the paternal government to Europe, and follow the example of our ancestors, who well understood, that, to make the people free and self-reliant, it is necessary to let them take care of themselves, even if they do not take quite as good care of themselves as some superior power might? We have already several good universities. Let us turn our energies to their development, and to the aid of those promised in the newer parts of the country.

THE DECAY OF THE OBELISK.

AT the time the obelisk was placed in its present position in Central park, considerable discussion was aroused as to the ability of the stone to withstand the rigors of our climate. Upon examination the surface of the obelisk appeared so fresh, that authorities consulted at the time seemed to think that we need give ourselves no uneasiness as to the durability of the stone, and concluded that any action of climatic agencies would proceed with extreme slowness. Now, within less than five years, the commissioners of public parks in New York, acting under advice of Dr. Doremus, have found it necessary to cover the obelisk with a preparation of paraffine.

My attention during the past summer having been called to certain forms of weathering, due,

as I supposed, to the expansion and contraction of the surface from excessive daily changes of temperature, I desired to examine the obelisk. Through the courtesy of the park commissioners, I was invited to inspect it at the time the scaffolding was first erected for the purpose of making a preliminary examination of the shaft from base to apex. While expecting to find some crumbling, I was quite unprepared for the rapid disintegration observed on all sides.

Comments upon the recent condition of the stone have led to some misconception as to the cause of the weathering. It has frequently been spoken of as the result of the action of the atmosphere, causing chemical decomposition of individual minerals in the rock. This is a mistake. The weathering, in my opinion, is almost wholly a process of disintegration, and not of decomposition.

At the time of the preliminary examination, the surface of the granite was found to be more or less in a state of disintegration; fragments being easily detached with any sharp-pointed instrument, while on the scaffolding pieces several inches in length were removed by means of the small blade of a penknife. One piece which I collected, taken from the west side of the obelisk, measured ten inches in length, and over one-half inch in thickness. A thin tabular specimen from the south face was four inches long by three wide. Since then, I understand, much larger pieces have been removed. An examination of both the firmer parts of the obelisk and the detached pieces present an equally unaltered condition of the constituent minerals. Indeed, the most marked feature of the rock is its fresh appearance.

A thin section of the rock, prepared for examination under the microscope, presents identical characters with those given by Dr. Stelzner of the Freiberg mining academy, who made a careful study of the mineral composition of the stone, to accompany the report of the late Lieutenant-Commander Gorringe. Little need be said here as to its composition. It is a hornblende mica granite, rich in felspar, with the relatively large crystals of hornblende greatly subordinate to the mica. The accessory minerals are magnetite, sphene, apatite, and zircon. It is in no respects an uncommon rock, and in America occurs in many localities in the far west. Even in minute details it bears the closest resemblance to the granite of the great Mormon temple in Salt Lake City. For building purposes the latter rock is probably the better, being more compact and finer-grained.

The microscopic section prepared for the purpose of observing what chemical decomposition, if any, had taken place, shows almost no alteration