for the development of the scientific spirit at Yale than the fact that Silliman's *Journal of Science,* for many years the one high grade American periodical of its kind, was published here. In other lines we have not kept up to the traditions set by Professor Silliman, and have suffered from it rather severely; but it is by no means too late for recovery.

The independence of the different faculties at Yale is in some respects a help, and in other respects a hindrance, to our investigators. It is a help in that it helps to keep alive the traditions of academic freedom. It is a hindrance in that it sometimes prevents the most effective cooperation between the laboratories of different departments.

A thing which is an unmixed help in every way, and should not be overlooked in any discussion of Yale's advantages, is the Graduates' Club. By furnishing a center in which instructors and students of all grades and visitors from abroad meet informally on a plane of social equality, it tends to diffuse the spirit of academic freedom and academic progress. It adds immensely to the attractiveness of New Haven as a place for the ambitious investigator, be he student or instructor, and does more than any other one thing to help the formation of that indefinable thing called a university atmosphere. The Graduates' Club was not organized with this end in view. If it had been, it probably could not have accomplished the result so effectively.

SCIENTIFIC RESEARCH.[1]

A COLLEGE, as the word is usually understood in America, is a school of general training. Its work is found to be the more effective the better it is fitted to the traits of the individual, but in the nature of things its work with the individual is not limited to a narrow range of subjects. The university is a school of instruction through investigation. Its characteristics are advanced research and specialized development. As matters are, the faculty of the American university has to deal with two sets of students and two classes of

[1] From the annual report of President David Starr Jordan, Stanford University.

instruction, those of the college and those of the university. But in both cases it is for the university to set the standard. To the university teacher, individual research is the breath of life, and it is the duty of the institution in every reasonable way to foster its development.

In the practical consideration of this problem we may take the following propositions as granted:

1. A few men, and but a few, even in the greatest universities, ever contribute very much to the direct advancement of science.

2. No one can be a great teacher without the spirit of research; without this he lags behind the progress of knowledge, and his mental equipment becomes second-hand.

3. With most men the practical purpose of research is that they may be better teachers.

4. With most men a reasonable following of students is an aid to research, not a hindrance.

5. Those who feel called to research, but who can not or will not teach, should in general look outside the university for careers, at least until they have clearly proved their eminence.

6. The university should recognize the superior teacher or investigator by relieving him, as far as may be, of administrative drudgery, which uses up time and strength more than teaching does. Every active worker should have what he needs in the way of help of stenographers, artists, readers, curators, mechanics and the like. A man of choice powers should not waste his time on what cheap men can do. It is often best to relieve the ablest men in the department from its executive responsibility.

7. It is desirable that a university should publish the results of completed investigations of its professors, and do this in first-class form. Such publication in worthy manner is a stimulus to good work. But material brought together under stress of demand for publication is best left unprinted.

A MEMORIAL TO HERBERT SPENCER.[1]

A SHORT time ago a petition was presented to the Dean of Westminster asking permission

[1] From *Nature.*