ductive, and as a result the pipe has been pulled out, broken down and the hole abandoned.

A. F. LUCAS

WASHINGTON, D. C., June 3, 1912

UNIVERSITY CONTROL

LETTERS FROM YALE UNIVERSITY

IT is quite unnecessary for me to speculate regarding what such a system as you propose would be. Exactly this system is in effect in New Haven. In fact Yale University consists of a collection of separate schools. Each has its own funds and almost complete autonomy. These funds are indeed held by the corporation and president, but in the main each department spends its income as its own judgment dictates with little interference from the university authorities. Each faculty nominates to the corporation its own new members, and as the corporation nearly always confirms nominations this amounts to election by the faculty. Each faculty elects its own dean who presides over its meetings. Its committees are either appointed by the dean (never by the president) or elected by the faculty itself. Such conditions fulfill almost exactly the suggestions of your pamphlet. The question is then: Does this system of university government attain the objects to which you look? I gather from your pamphlet and from previous articles of yours that the happiness of the professor is the principal object toward which you are striving. This is certainly achieved at Yale to a degree equalled, perhaps, nowhere else in America. Of course, satisfaction with one's position makes for loyalty and other incidental advantages; but is the happiness of the members of the faculty the principal object for which a university exists? Is not that form of university government best which provides the most ready adaptation of the university to the community which it serves? Ought not any form of university government to be judged by the degree of progressiveness of the institution having this government? I am inclined to believe from personal observation that in spite of all the advantages of democratic government which Yale enjoysand which any university planned as you suggest would doubtless have-a more centralized control would make for great interdepartmental cooperation and a more ready adoption of new measures than is afforded by such democratic government. After all every institution inevitably adapts itself to the views of the masters whom it serves, that is, to those from whom it obtains funds. The state universities depend upon the people of the state, the endowed universities upon their alumni. It is an article of faith with every loyal alumnus that his alma mater is perfection. With a body of "loyal" alumni viewing every change with suspicion and with a faculty thoroughly satisfied with things as they are, there would not be under the system of government which you propose any sufficient machinery for the initiation of change. There are few-if any-of the endowed universities at least which would not in my opinion benefit enormously from having a Woodrow Wilson in the presidential chair. Certainly the one institution that has enjoyed this advantage failed to reap the full benefits therefrom, because the presidency carried with it too little power and the other elements in the university too much.

There are many things in the statement which are in harmony with my own views. I have always been, and still am, a strong believer in the desirability of autonomy for the individual schools or departments of a university. To-day our universities are so large and so complex in character that it is impossible to have adequate control over all the varied interests of the university in the hands of a central body. I believe in the desirability of a corporation, or board of trustees, in whom rests final authority for all matters pertaining to the university; but I think that the initiative, the control and the general management of a department or school of the university should rest in a governing board or subcommittee, whatever you choose to call it-with a chairman or dean or director, who is given, subject to said board, a large measure of authority. The corporation of the university should be representative of all the interests of the university, so far as possible. Here at

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Yale, where alumni representation is perhaps as strong as in any university, we have been reaching out of late years further and further, so that to-day we have on our corporation various men elected from the alumni; but in addition we have what is called an alumni advisory board, a body composed of representative alumni from all over the country; but while having no real authority, they are able after discussion among themselves to present to the corporation suggestions and advice, sometimes of great value. This, no doubt, is a move in the right direction. I have advocated, however, what I see you advise here, the desirability of a movement in the other direction, namely, of closer relationship between the corporation and the professors or other officers of the university. At present, in most institutions, if not in all, the president is the sole person on the board of trustees or on the corporation who is supposed to be in touch with the activities of the faculty or faculties. At present, however, with the large size of the university, the president does not have, and can not necessarily have, an intimate knowledge of what is going on. I believe, therefore, very thoroughly in the idea of direct or indirect representation on the corporation of the university of the faculty in the persons of say three professors, who might sometimes be the deans of the individual departments. In your third paragraph regarding the unit of organization within the university, you have outlined exactly what we have in force here. Thus, in the Sheffield Scientific School, the scientific department of Yale, our governing board, composed of permanent professors, about twenty-four in number, is the deliberative and active body, subject of course to the corporation. The size of this group is such that it is thoroughly efficient. Your fourth paragraph is likewise in harmony with our customs and our beliefs in the Sheffield Scientific School. The director is elected every five years. He is given a large measure of authority, but all the same he is subject to the governing board of the school, and there is a very distinct autonomy. Professors and assistant professors, and indeed instructors, are all selected by the governing board, or in practise by committees appointed by the governing board, subject to their approval. Nominations then go from the governing board to the corporation for confirmation. Regarding the salaries, personally I am a strong believer of having the salary the same for all officers of the same grade, subject possibly to advances on the basis of years of service.

(1) Approved, except that the treasurer should be responsible to the president, as otherwise he could hamper the actions of the president by lack of financial support. (2) The professors should elect the president to continue in office at the pleasure of the trustees and removable only by the trustees. I think his salary should be larger and his position more dignified. I do not believe in electing an executive officer and then not letting him execute. The present autocratic attitude of certain presidents would tend to be limited if they were elected by the professors and the professors were able to remonstrate to the trustees; but it is equally clear that the efficiency of the president should not be hampered by the necessity of keeping in favor with all the professors. (3) Approved. (4) There is danger of professors being required to waste too much time in executive work and keeping to themselves powers which should be delegated to executive officers. I think the president should assume the burden of finding candidates, weighing their qualifications, deciding what positions should be filled; but he should do this in consultation with committees of the professors and his action in regard to all appointments should be ratified by faculty vote. (5) The idea of general faculty meetings at occasional intervals is a good one, though as you state not much business can be transacted in such a large body. In conclusion, I would differ from the plan outlined in conferring more working power on the executive officers and leaving the professors free for teaching and research, but at the same time make the executive officers responsible to the faculty as well as to the trustees.

On the whole I think I approve of the policy you set forth. There are minor details I should wish to consider more. You know that to a very considerable degree what you advocate is the plan at Yale University. Our departments and notably this school are in great measure autonomous. It seems to work well here. It has long been a question in my own mind if a unit of 1,000 students with the necessary instructors, buildings and equipment was not as large a one as could be handled by one man as president, dean, director or what you will to obtain maximum efficiency. This in a way seems to be the army view of it, where the regiment of about this magnitude of unit has its colonel. The kind of management that a colonel must give is what I think one should expect (the difference between the two affairs being properly considered) from a dean or director. I mean that personal supervision of matters that comes of personal knowledge. And when the university is 5,000 in size the president would do well to become a general.

I think you are correct in believing that our universities need remodeling. We have a democracy here at Yale and yet the most effective administration is in the Sheffield Scientific School, where democracy and autocracy are combined. After all administrative heads must have power to act and a good administrator does not work well hedged in by all sorts of limitations. It takes the snap out of one to work under restrictions. The more I see of democracies, the more I come to believe in a limited monarchy.

The more I see of university management the more I feel in a cloud as to what is the best thing. At the present time I haven't any definite opinions on the subject. All I can say is that to me the question of the actual formulation of rules to govern a university is much less likely to have a real influence than the spirit and ideas of the people connected with the university. I can not help thinking that the latter will be the dominant factor, whatever organization may be laid down.

I thoroughly agree with the proposed plans (3), (4), (5), in their essential details. Your views on these points are, I believe, correct. With regard to (2) my reply would depend somewhat on the interpretation of your words. The expression "expert knowledge of education" is the point at issue. Our college and university presidents ought in many cases to talk less and become more familiar with the men, *i. e.*, teaching staff and their work. I am not at all certain that your further suggestions under (2) are expedient. Suggestion (1) does not appeal to me as presented. I do not believe in extreme democracy. However, I prefer to omit discussion of this point, as I have never given any serious thought to it.

I do not wish to be drawn into the discussion. I wish to tell you, however, that I heartily approve of the policy of SCIENCE to air the university situation. Its fearless attitude is very needful, in my humble opinion.

I am in accord with the general principles. At the present time the president of most American universities is "neither fish nor flesh nor good red herring." He is so overburdened with administrative duties that he is unable to inform himself as to the educational aspects of the different departments of the university. I speak feelingly on this point because I have been more or less intimately connected with several university medical departments, and it has been my experience that university presidents need about as much education on the subject of medical schools as ordinary intelligent laymen. I dare say the same is true of law and divinity schools, etc. I do not mean to deny that there are brilliant exceptions to this general statement. I am therefore very strongly in favor of the division of the work now accomplished by university presidents into an executive portion, to be taken care of by a chancellor or some similar officer and a board of trustees, and an educational portion, to be overseen by a trained educator. When you come to think the matter over there are singularly few college presidents who hold that position on account of special training. I agree also as to the unit of organization consisting of the school or department, that being the natural and logical unit. I also agree in the main with the machinery proposed in paragraph (4). The only inadvisable thing, to my mind, would be the constitution of a permanent board of advisers-if you mean it to be permanent. I would add that it might be wise to set a time limit upon the deanshipsor directorships-whatever you care to call Personally, I doubt very seriously them. whether a single individual should be the controlling force in a department for more than ten years. Your fifth section, which proposes the senate and the plenums, I think is also desirable. I assume that this senate and the plenums would legislate regarding the educational policy rather than regarding the financial policy.

I heartily approve of your scheme for university control. In our university, as in others, the head of a department has altogether too much power—or uses it too arbitrarily. In fact, members of the faculty scarcely dare to oppose his plans or to vote against his reelection, for fear of reprisals, unjust discriminations, etc. Thus a president or head of a department may become a sort of dictator, or like a political "boss."

Your reprint is a very moderate statement of the evils arising from the present system of college and university control. The worst of these evils is probably its discouraging and deterrent effect upon the men exercising the teaching functions in this class of institutions. And if this system continues without essential modifications, this form of its evil results is likely to grow with constantly accelerating rapidity. Self-respecting and gifted and independent men will not choose a career which may at any time be cut short or even totally ruined by the caprices of a presidential "boss." For myself, and much as I love and highly as I prize the office of the teacher, I should hesitate long before accepting, were I again young and asked, under the changed conditions, to enter the life of a college or university professor. As in all similar cases, the remedy is by no means so clear as are the evils demanding a remedy. I am inclined to think that the details of any change of plan would need to differ in different institutions. Certainly they could not be precisely the same for the private and the state institution. And in both cases, care would not be of small importance to avoid changing the benevolent despot for the uncontrolled mob. It would seem also that some means should be devised for placing the control of instruction and the control of finances in largely different hands, while securing frank and cordial intercourse between the two.

SCIENTIFIC BOOKS

The Biology of the Seasons. By J. ARTHUR THOMSON. Illustrated by WILLIAM SMITH. New York, Henry Holt and Company. 1911.

The Natural History and Antiquities of Selborne, in the County of Southampton. By GILBERT WHITE. With illustrations in color by GEORGE EDWARD COLLINS, R.B.A. London, Macmillan & Company. 1911.

It is worth while to consider these two books together, for resemblances and contrasts. They are typical of the centuries to which they belong, of the old and the new in natural history. Professor Thomson points this out, in his introductory chapter. "The older naturalists-before Darwin's day-made many careful pictures of the life of plants and animals as it is lived in nature. The indefatigable patience, the keen observation and the sympathetic insight of many of these pre-Darwinian naturalists must remain as models to which in these later days, with improved methods, we try to approximate. Gilbert White's 'Selborne,' above all, remains evergreen. But the old records are for the most part contributions to Natural History rather than to Biology. To most of their authors there was wanting the biological key which Darwin first taught men to use." But in post-Darwinian writings "biological ideas have become dominant; analysis has become more penetrating; the pictures have a broader