

restrial species, the methods of dispersal being different in the two classes of animals.

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"SAME"—EDUCATIONAL EXPERIMENT STATIONS

TO THE EDITOR OF SCIENCE: I have read with much interest the bill of Senator Newlands for the establishment of engineering experiment stations and heartily approve "same."

It is especially gratifying to note that bulletins giving results of investigations "shall be sent to persons, newspapers, institutions and libraries . . . as may request same" (Sec. 3, SCIENCE, p. 891).

In connection with "same" it is interesting to note that the use of the word "same" without "the" before it, which formerly was considered a sign of illiteracy, has now so far become customary that it may be allowed in a bill introduced in the Senate of the United States, and that both "same" and "as" may be used as relative pronouns.

The bill for the establishment of engineering experiment stations should be passed, after it has been improved by the Senate's grammatical censor. It is to be hoped that some day in the near future another bill will be introduced in the Senate for the establishment of one or more Educational Experiment Stations. The government, through its Agricultural Experiment Stations teaches the farmer how to raise crops; through its Bureau of Mines it teaches the mine owners how to mine coal and to avoid wastes of property and of life; should it not have Educational Experiment Stations to teach our schools and colleges how to avoid educational wastes?

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SCIENCE AND WAR

TO THE EDITOR OF SCIENCE: The Boston Sunday *Herald* prints a feature called "Herbert Kaufman's Weekly Page." It must be popular, though the writer has never heard it quoted—in contrast to this paper's apotheosis of American wit, the "Line o' type." The page is a collection of moral sentiments in a form to which no one can deny a frequent force and picturesqueness. Its dominant appeal is emo-

tional. A few issues since it contained an appreciation of science running in part as follows:

For half a century we have liberally endowed, supported and encouraged the scientists. Community funds paid for the institutions in which they were educated and underwrote their experiments.

And all the while, we believed that these endeavors were promotions in the interest of civilization. . . .

To-day we stand horror-stricken before the evidence of inhumanities only made possible through scientific advancement. . . .

Chemistry, you stand indicted and shamed before the Bar of History! . . .

You have prostituted your genius to fell and ogish devices. . . .

You have turned killer and run with the wolf-pack.

But we will reckon with you in the end.

We can probably agree with Mr. Kaufman that science has increased the amount of suffering that war inflicts. No account need be taken here of the questions if this is due to science or human nature, and if the compensations are not sufficient; the second because it admits an endless argument, and the first, of none. The issue boils down to whether, if the encouragement of science on the broad lines of the past were abandoned, the horrors of war would be proportionately lessened.

This would be conceivably so if it were humanly possible to restrict scientific work to lines of no value for warfare. But success in war is as keenly desired as ever, and it is the part now of every prudent nation to equip itself in the best practicable manner for carrying it on. The writer has elsewhere remarked on the commonplace that victory is not to the side that can exert the strongest physical force with its own bodies but which can most intelligently direct the forces of nature. If the total amount of scientific work were thus restricted the human result would be to concentrate the work of science more and more upon warlike matters with a consequently increased social suggestion of war. A liberal encouragement of scientific progress serves to diffuse men's energies over other and more peaceful interests. To blame chemistry for the horrors of

war is a little like blaming astronomy for nocturnal crime. It is better to keep the bellicose applications of science as its incidental products rather than the chief ones they would become under those elements of human nature that must also be "reckoned with" in the end.

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QUOTATIONS

SCIENTIFIC APPOINTMENTS UNDER THE GOVERNMENT

A SCIENTIFIC journal must avoid the discussion of party politics, but it is legitimate to point out that the two leading parties have adopted platforms which, as far as their principles go, might almost be interchanged, and have nominated candidates who have much in common, both of them being lawyers, university professors and sons of clergymen. In view of these circumstances it is of interest to those concerned with science that Mr. Hughes in his first campaign speeches should select as one of his two leading issues the appointments by President Wilson to scientific offices under the government. This would not have been a vital political issue a few years ago, and it is certainly gratifying that it should now have become so, more especially as both parties and both candidates profess the same desirable principles and only dispute about the extent to which they have been maintained.

In opening his campaign at Detroit, Mr. Hughes charged the administration with having displaced the scientific heads of the census and of the coast and geodetic survey with men not having scientific qualifications. The word "displaced" is ambiguous and was perhaps intended to be so, and the reply of the secretary of commerce that both men had "voluntarily retired" is also, and it may be purposely, ambiguous. Men familiar with university affairs, like the two candidates for the presidency, know that professors sometimes have their resignations presented to them. It is allowable to say either that Dr. Wilson displaced Dr. Patten as president of Princeton University or that Dr. Patten resigned and was suc-

ceeded by Dr. Wilson. As a matter of fact, Dr. Durand's resignation as director of the census was forced, and Dr. Tittman, who was sixty-five years old and in indifferent health, resigned voluntarily from the Coast and Geodetic Survey.

The vulnerable point in the action of the administration is the appointment of their successors. Mr. William J. Harris, appointed director of the census, was chairman of the democratic state committee of Georgia and the appointment appears to have been for political reasons, as has unfortunately so often happened in the bureau of the census, where the extension of civil service rules has been least adequate. E. Lester Jones, when appointed superintendent of the coast and geodetic survey to succeed Dr. Tittman, was deputy commissioner of fisheries. His appointment to that office and his promotion to the head of the survey in the same department appear to have been personal rather than political. He has proved to be an efficient executive, but his appointment to both offices certainly violated the principle that these positions should be held by experts.

It can not, however, be denied that there are two sides to this question. Under modern conditions a distinguished man of science is likely to be a good executive, but the number of scientific men available for a position of this character is limited, and it is by no means certain that it is desirable to divert the skilled expert from his research work to an executive position. Another solution of the problem would be to make the heads of bureaus purely administrative officers, to be filled by men used to administrative work, but for the scientific policy of the bureau to be decided by a committee of its scientific experts and for the more eminent of these to receive salaries not smaller than that of the executive head.

Mr. Hughes has not pointed out, as an impartial judge might have done, that the two scientific appointments mentioned are the only ones in which the president is open to criticism, or that he is the first president who has officially asked the advice of scientific men on such points. At the meeting of the council of the American Association for the Advance-