strued that man never adapted himself to that diet as he did to beef.

It is worth recalling that any such prejudice in European races is only a thing of yesterday, when discussing such a question as this, since horse flesh was eaten in parts of Europe at least for an apparently unlimited time. It went out of use when it was declared "unclean" by Pope Gregory III., who died in 741. This is discussed in a paper by Esser, on horse flesh, which appeared in the *Journal für Landwirtschaft*, 43 (1895), No. 3, pp. 349–358. The prohibition was so effective that horse flesh did not assume importance in Europe again until after 1870.

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ANOTHER TYPICAL CASE

TO THE EDITOR OF SCIENCE: About a year ago a short article by Professor Pickering appeared in SCIENCE under the heading "A Typical Case." The point of the discussion was that a man who had been trained to a high technical efficiency in research had been obliged to take a position in which he was overworked and underpaid to such an extent that he had been forced to give up research because of lack of time and funds, particularly the latter. Thus the world at large loses the benefit of his experience and training.

I am personally interested in a closely related problem which I would like to have considered. I can illustrate it best, probably, by some account of my own experience and I am going to put it on a frankly personal basis, so that due allowance may be made for my own feeling in the matter. My first acquaintance with research was in some preliminary work on a problem in morphology. At that time I was on a fellowship stipend. Marriage at the end of the year made it impossible to continue on such a condition. In connection with high school teaching the line of study was shifted to a rough biological survey of the locality. This was interrupted by a shift in location and the next opportunity for advanced study happened to be in the line of history. A little later the unfortunate acceptance of a position with a bankrupt college caused me to be stranded in the middle of the year and I again took up my original problem in morphology. This study was advanced sufficiently by the end of the year to enable publication of a paper which received favorable comment from workers in that line, especially abroad. Overload in teaching for the next few years prevented any systematic research being done. Finally an opportunity came for attendance at another university, expenses being partly met by acting as half-time assistant. The results of research of that year were covered by a paper on regeneration. Since that time I have not been able to command sufficient funds to enable me to attend regular sessions of a university and support my family. I have had some summer-school study but not of a sort to give residence credit, I am informed.

For three and one half years now I have been working on a local plankton problem under the advice and direction of a university authority on that subject. For more than two years of that time I have averaged more than fifteen sixty-minute periods per week through fifty-two weeks of the year in study of quantitative and qualitative features of the problem. The value of half of that time has been at least trebled through the aid given by my wife in computing and recording. I am hoping to get my own paper into press this year. I have not been able to obtain any university credit for this work because it could not be counted "in residence." I would like to have a Ph.D. degree, because it seems that that is regarded as a necessary factor in finding a position which would enable me to support my family and still carry on the research in which I am so much interested. Since my efforts have almost exhausted my scanty resources, such a point is of very great interest to me.

I feel quite certain that my case is fairly typical in much the same way as the one mentioned by Professor Pickering. It may be that I have actually done more research than some of similar experience but there are individuals who have done more than I have. There are also a good many who could do acceptable research but who get off in small communities

without any chance of stimulus by personal contact with investigators and so allow their interest to die.

It is becoming more and more certain that amongst other bad features of our "educational system" there is a growing tendency to formation of caste distinctions. The high-school teacher to some extent assumes an exclusive air toward the grade teacher, the university teacher toward the high-school teacher. Within the universities teachers without doctor's degrees sometimes find an embarrassing attitude among their own fellows. A newly fledged doctor sometimes considers himself superior to an older man with a lower degree.

If the universities can not possibly grant higher degrees for extramural work, no matter how valuable, may it not be possible to devise a method by which recognition and encouragement may be given to those doing effective research not technically recognizable under university rules. Could a national council be assembled to confer some mark of merit upon such people? Could a society somewhat like Sigma Xi be formed for such a purpose? If something could be done and a high but reasonable standard maintained, a man with such recognition might stand as high or even higher amongst scientists than the mere doctor. For is not achievement in the face of adversity of greater value than achievement with every facility granted? Is not the man who can do much with little better than the man who must have much in order to do at all?

I am perfectly aware that the easy-chair type of university man will sneer at such a proposal, but I feel sure that there is truth in my contention. I know some one will say that proper research can not be done with poor equipment. Much of the finest research ever done in any and every line has been done with poor equipment and such things might happen again. The man with poor equipment sometimes makes up in resourcefulness for far more than the fine equipment that another may have. Then too there are many problems yet to be solved which do not demand expensive or elaborate equipment.

I also anticipate the objection that standards would be hard to fix or sustain for such recognition as I have suggested. The results could scarcely be worse than they are for the doctor's degree. I know one state superintendent of public instruction who flourishes a Ph.D. without ever doing any graduate work. In another case a man boasts of the way in which he manipulated credits through two of our best known universities so as to get the degree in two years. In two cases I have heard about the thesis for the degree was repudiated by the department in which the work was done almost as soon as published. A national council would certainly do no worse than this.

So far as I am personally concerned I am determined to go on with such research as I can whether I get any sort of recognition or not, but my own situation has made me think deeply on the matter and I have finally concluded that something could be done to at least encourage isolated workers if scientific leaders cared to do so.

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Science in the Service of the Nation

The suggestion contained in *The Scientific Monthly* for September, 1916 (p. 310), that the National Research Council's proposal to help "render the United States independent of foreign sources of supply liable to be affected by war," but failure to propose anything looking toward the cooperation of our nation with other nations in producing supplies, might not meet the approval of all scientific men, is well taken.

That science is in for a period of criticism, even condemnation, because of the part it is playing in the modern war game is indicated by mutterings to this effect heard in diverse quarters. How is the charge to be met?

The mere pointing to what science can do through medicine and other instrumentalities to relieve somewhat the horrors and destruction of war, is clearly not enough. Something more than repair work is needed.

So universal and impersonal are the principles and methods with which science works,