

if concurring with me, when here I should have expected dissent, as the results are at variance with his former opinion.

In my book upon the Falls of Niagara, I have set forth the data found in my researches, by which their changing history has been discovered. The age of the falls is a very interesting, though secondary, problem. My observations may be repeated by others, with variations in treatment. The leading points raised by Gilbert are variations in treatment, of magnitude relatively small; and a third (that upon which he indicates his belief in their great antiquity) rests upon inadmissible analogies. All of these points, though tending to divert attention from the main issues, in reality confirm my conclusions. I have no theory as to the length of time to defend, except that which is suggested by the changing physical conditions, as measured by the falls, in the gorge and in the volume and height of the cataract, and as I have said in my book, a matter of a few thousand years does not make an important variation in the value of my pioneering work "in the correct line of investigating the problems presented by this remarkable region." I am pleased that my critic thinks that the determination of the age of Niagara lies within the scope of observation, and is of so much popular and scientific interest.

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THE QUESTION OF PROFESSORS' SALARIES

THE statement is sometimes made, that a general increase in the salaries of college and university professors would be of no service to the institutions concerned, in improving the character of the men available for professorships. I believe this view to be incorrect, especially as concerns our colleges; and I venture to present the following suggestions for the consideration of those who hold it.

A general survey of the institutions of learning, large and small, throughout the land, leads to the painful conclusion that our faculties no longer, as they once did, represent groups of cultivated men. The word "cul-

ture" has of course fallen into disrepute in our day; but the cultivated man, while we no longer aim to produce him, demands and receives our respect and admiration wherever he is found. It would not be difficult to cite a few notable survivals of the type here and there. The rarity of teachers of this kind in our college and university faculties to-day will be readily admitted by all who have any intimate knowledge of the matter. Yet the desirability of having such men as instructors of undergraduate students is keenly felt by those who have to choose a college for their sons. The function of the undergraduate course is precisely to give the student what he will not get when as a graduate he enters the special field of his life work; therefore the undergraduate course should give the student a general enrichment of life; which is exactly what we mean by cultivation.

But we are content at present that the highest product of our educational system should be the specialist; a man usually thoroughly conversant with one small branch of learning, and fairly well acquainted with some allied subjects, but often ignorant in every other field of human interest, without ideas of his own in any field but his own, and dead to everything that can be classed as the amenities of life—the arts, literature, human society.

I venture to suggest that our specialist is a man of this kind because he comes from a home which lacks those things of which we now deplore the absence in him. Then why do our institutions of learning draw from such a class of material? They have no choice; and for this reason: the youth who decides on the teaching profession as his career must of necessity abandon the idea of accumulating money; that surely no one will dispute; and there are many who are willing to accept this as a condition of their existence. But very few are willing to abandon the ambition for wealth as an aim in the future, and at the same time to accept a present and permanent reduction in their scale of living. For the ambition not to be rich makes for happiness about as well as the ambition to be rich; but it does not make for happiness to

have to get along in life without comforts and reasonable pleasures that have hitherto been within our reach. A cutting down of the scale of living is one of the sources of real suffering.

Hence if we take, say, \$2,000 as the average salary of our college professors, we may say that on the average our professors will be drawn from homes where the scale of living is adjusted to the same figure, or a little more. But the children in such homes have, in our day, few of the advantages of life—few books, little or no travel, perhaps one may say without offense, little social experience. That was not so a generation ago, when salaries were about the same, but the scale of living totally different. Nowadays the college professorship offers no material inducements except to those who have been brought up in a pretty severe economy, and who can get from it all the comforts to which they have been used, and perhaps something more, with often an added pleasure in a certain prestige, which is attractive. Many will say that the self-made man is the grandest type of manhood we can put before our young men, etc. But the self-made man, admirable and effective though he often is, is rarely a cultivated man, and therefore can not give us all of what we want in the college teacher. And then, the self-made men on our faculties have so rarely finished the job.

Now a general rise in salaries would, I think, make it possible for our undergraduates to have for their intellectual guides not men who merely know immeasurably more of Latin or of botany than do the students themselves, but men who bring with them fine traditions of cultivated living and of "high thinking," a wide experience of life and humanity. It should, therefore, be the aim of the college to pay such salaries to its professors as would enable them to give to their own children what the college would regard as a perfect preparation for professorial work. Only in this way can it draw its teachers from a class in which such preparation is possible.

The graduate student has totally different needs, and in the university there should be found room for both types of teachers, the

man of cultivation and the man of knowledge. Of these two the latter is more necessary to the advanced student than the former. I believe it is equally true that for the younger student, the man of cultivation is more necessary than the man of knowledge.

Everything depends, however, on the point of view, and no one can recognize more clearly than the writer that his own is hopelessly old-fashioned; though in a time that we regret and admire it was almost universal.

S.

SCIENTIFIC BOOKS

Life and Letters of Herbert Spencer. By DAVID DUNCAN, LL.D. 2 vols. 8vo, pp. xiii + 414; vii + 444. New York, D. Appleton and Company. 1908.

Obviously enough, it is impossible at this early date to offer a just estimate either of Spencer the man, or of his "synthetic philosophy." "The Autobiography," covering sixty-two years of its author's life, and the volumes now before us must always serve, nevertheless, as primary sources for that more objective appreciation to be undertaken, doubtless, after the lapse of years. In these circumstances, and in this journal, I shall confine myself to certain points suggested by the "Biography," and eschew excursions farther afield.

The contents of Dr. Duncan's work are as follows: (1) Twenty-eight chapters of strict biography, filling the whole of Volume I., and 245 pages of Volume II. The method employed is to rely largely upon Spencer's correspondence, and to connect the scattered parts by apposite comments which serve also to fill out lapsed details. I am much struck by Dr. Duncan's admirable restraint in subordinating his own personality, and permitting the events to tell their own tale. (2) Two chapters, entitled, respectively, Characteristics and Personal Reminiscences, and Spencer's Place in the History of Thought; in these the biographer speaks for himself, and, especially in the former, introduces appreciations furnished by intimate friends and familiar acquaintances. (3) Five Appendices, which fall into two distinct groups. (a) Contributions from