

It would still remain true that childhood in its first dozen years or so, with its ready adaptability to changing conditions, its rapidly changing dominant interests, in a word, its instability, would be affected most strongly by its latest influences. In my opinion it is quite possible for the later school life to make good the defects of early training; or, it may undo very largely what has been well begun, on the one hand, as, on the other, it may build on an excellent earlier foundation a superior superstructure. If this be true, and I believe it is (in the absence of scientific knowledge one can only generalize from his own experience and observation), the great importance of good teaching, wise management, and the most wholesome and refining general atmosphere in the high school are apparent. In any event, it will be admitted, I think, that as the period of adolescence approaches, and especially during that period, the instability above referred to rapidly diminishes. The individual gradually emerges. The child becomes a youth. This is a critical period in the life of every human being. To assume the wise guidance of young people during this important period is the exalted function of the secondary school teacher. He is to be the inspiring, sympathetic, discriminating, and vigorous guide and leader of boys and girls just developing into manhood and womanhood. To be such a guide and leader in very truth he must have resources, both natural and acquired. The least that should be demanded of him is that he shall have taken pains to secure an equipment of knowledge that will give him broad, sane, and healthy views of life, with its duties and its privileges, and liberal intellectual sympathies; together with a conscious power in some one field that enables him to maintain, both for himself and his pupils, a high standard of achievement. Such

an equipment every college graduate who has made good use of his opportunities may possess. It is not often that one who has not profited by such an education can be expected to possess it.

There are special reasons why the teacher of mathematics should have a liberal equipment of general culture in addition to special knowledge and power in his particular subject. Pure mathematics is profound and interesting; but its subject-matter, save in its elements, is so remote from the common interests of men that its devotees are in constant danger of what may be called a professional or academic isolation; and this isolation is almost sure to increase with increasing devotion to the subject. It has fewer points of contact with the ordinary affairs of life than natural science, or language, or history; to say nothing of subjects like economics and political science. In this respect mathematics differs from all other subjects. Factoring, radicals, and quadratic equations, polygons, parallelograms, and spherical triangles, sines, tangents and trigonometric formulæ, the theory of equations, determinants, and complex numbers, point and line coordinates, involutes and evolutes, derivatives, differential equations, and elliptic functions, may completely shut out from view the living panorama of nature and society in which most men live and move, and have their being, and from which the young, in particular, derive most of their incentives and conscious purposes. In my opinion it is therefore not asking too much that the high school teacher of mathematics should possess and understand the importance of the general training that enables him to appreciate extra-vocational, *i.e.*, for him extra-mathematical interests. It ought never to be possible for the teacher of mathematics, however high he may rate the importance of his own