

radius of that which touches the sides AB , AC , is

$$\frac{r}{2} \left(\frac{(1 + \tan \frac{B}{4})(1 + \tan \frac{C}{4})}{1 + \tan \frac{A}{4}} \right),$$

r being the radius of the circle inscribed in the triangle.

68. If $\frac{a+cx}{c+ax}$ be expanded in series as-

cending by powers of $(1-x)$ and $(1+x)$, and A and B be the coefficients of $(1-x)^n$ and $(1+x)^n$ respectively; then

$$\frac{A}{B} = \pm \left(\frac{c-a}{c+a} \right)^{n+1},$$

the upper or lower sign being taken according as n is even or odd.

J. L. COX, B.A., *Mathematical Master,*
Collegiate Institute, Colchesterwood.

PROFESSOR SEELEY of Cambridge, delivered in the theatre of the Royal Institution, to what, he said, he might regard as a kind of academical audience, some "Suggestions to Students and Readers of History." Among other educational developments in the national university in which he had taught for nearly ten years, was a growing interest in history, to which a small but earnest number of the young men had resolved to devote their lives as a study not less worthy the attention than mathematics or classics. They had given up the current notions of history, seeking to make it more reasonable and useful. Most of the recent efforts to popularise history were traceable to the impulse given by Scott's historical novels. That wizard made his personages—e.g., Louis XI.—as real as Achilles or Robinson Crusoe; and it must not be forgotten that it was amid the successive appearances of his marvellous works of fiction that Macaulay's youth and manhood were passed. Macaulay aimed to make truth as charming as fiction, just as Scott had made fiction look like truth. The historical romancer was the father of the romantic historian, and Macaulay had set the fashion of the "readable" histories which were so dear to the popular mind. It was taken for granted that if a book was difficult to read it was because the author was stupid. Teachers of history must make their subject attractive, kindle the eye of the pupil by a life-like recital of great deeds done by great men, and all the rest might be skipped. The dull details must be dropped, gaps filled up by brilliant conjectures, and Clio fulfil her function of proclaiming great events with the trump of poetry. How surely, along with this ideal of history, fiction would usurp the place of fact, and prosaic realities be ignored, the lecturer showed with great ease, and this without ignoring the real merits of Macaulay and the large school of which he was the type. One might well pity the boy who had not read "Ivanhoe," in spite of its historical blunders; and it was undeniable that at rare and long intervals there were epochs worthy of dramatic narration. Still, Professor Seeley

could not but think that Macaulay's historical method ought now to be as much out of fashion as the old stage-coach. Mr. Buckle's opposite theory of a scientific history in which the political element, the development of political constitutions and of national freedom, the actions of kings and ministers, must make way for considerations of climate, soil, food, the conditions of social phenomena, and industrial life, was dealt with no more tenderly. Buckle's book was the greatest hit since the publication of Macaulay's "History," but it delighted general readers far more than students, and was not much talked of now. Since the Greek times the political factor had always been the chief one in history, and so it was with the great writers in the seventeenth century—Hobbes, Locke, Montesquieu, and Rousseau. Buckle was right in calling attention to the importance of the social and economical elements, but not in depreciating the political, which must always be of primary moment. Professor Seeley ridiculed at the same time the fashion of making every seventh chapter or so of a history a *resumé* of the philosophy, theology, literature, art, and science of a period, all which subjects required very special knowledge in the writer to be treated to any purpose. The faithful historian had plenty to do in giving facts, not possibilities and conjectures, without going out of his way to talk of what he could hardly understand. A true science of history must, at the risk of being thought heavy, like such books as the "Principia" and the "Wealth of Nations," treat history as the biography of States. This was the best for universities and schools, because its study would be at the same time the study of politics. Nothing could be more absurd than that a self-governing people like our own should neglect such knowledge, which was one of the most crying wants of the times. History must be built on nothing but solid, prosaic fact, and it would thus become true science, a science which would grow into the most practical in the world by being made the basis of politics. At present our study of history was neither scientific nor practical.