

IMAGINARY CONVERSATIONS

By R. J. GILLINGS.

Inspector: "Miss Churnside seems to have taught her first year class how to square numbers like $5\frac{1}{2}$ and $6\frac{1}{2}$ pretty thoroughly."

Subject Master (gratified): "I'm pleased about that."

Inspector: "However, there is a serious defect in her teaching."

Master: "Is there?"

Inspector: "There is indeed! Not one pupil could explain the reason for the short-cut method they were using."

Master: "But she was not expected to explain the theory of it. It is, in fact, quite beyond their comprehension in first year."

Inspector: "Then she should not be teaching it."

Master: "Why not?"

Inspector: "My dear sir, it is contrary to all educational principles."

Master: "I am prepared to argue about that. You do not, for instance, refuse to drive your De Soto because you don't understand the mechanism of an internal combustion engine."

Inspector: "Tut, tut! One cannot argue by analogies like that."

Master: "Well, then, what about the tests of divisibility set down in the syllabus? How would you justify the tests for 9 and 11?"

Inspector: "H'm. That is a point certainly."

Master: "Furthermore, even in the primary school they are taught that the area of a circle is πr^2 . A rigid proof of this formula cannot be given until they reach the honours course for the Leaving Certificate."

Inspector: "I agree there. However, a verification could be given by dividing the circle into sectors as is done in Pendlebury's Arithmetic."

Master: "And we do that! I can also mention the method for the extraction of square roots, as set down for first year arithmetic. I venture to say that very few teachers could give a clear explanation of the *modus operandi* of the method they teach for square root."

Inspector: "I'm afraid you're right! Now that I come to think of it, there are one or two other items in the syllabus for which the justification could not be given when they are first treated. I hadn't thought of it that way before in mathematics."

Inspector: "I'd like some boy to come to the blackboard and prove Theorem 4."

Teacher (after a pause): "They do not know the theorems by numbers, and, in any case, they do not attempt to *prove* that theorem now."

Inspector: "Indeed! And why not?"

Teacher: "Because they treat it as an assumption."

Inspector: "Am I to understand—do you mean to tell me that the class treats one of Euclid's theorems as an *assumption*?"

Teacher: "Certainly."

Inspector: "Amazing! There seems to me to be a certain lack of rigor in your teaching. Whose extraordinary idea is this?"

Teacher: "Well, you see, the 1940 syllabus suggests it, following the 'Report on the Teaching of Geometry in Schools', published by the Mathematical Association in 1923. The Mathematics Master in this school favours it, so that our first year classes——"

Inspector: "Excuse me, I must have a few words with your Mathematics Master. It appears that certain changes have been made in the teaching of Euclid of which I am not aware. Where can I get a copy of this report you speak of?"

Inspector: "It appears, Mr. Marbottle, while in some ways it is very creditable, that much of your time is taken up in looking after the sporting activities of the school, to the detriment of your teaching."

Mr. Marbottle: "Well, the job of Sportsmaster certainly does take up a lot of time in a big school. There are six teams playing in the regular competitions, and the House Competitions include another twelve teams. They take up a lot of my time. Then, of course, the Monday afternoon practice alone sometimes keeps the coaches and myself until 6 o'clock."

Inspector: "Yes, yes! No doubt it is all very necessary. But the scholastic work of the pupils must not be jeopardised for the sake of football, which is, after all, only a game, whereas the educational attainments of the children are in a sense their bread and butter, a preparation for their future life as citizens."

Mr. Marbottle: "The organisation of the sporting activities in a school of this size is a job for a full-time teacher. For instance, the arranging of travelling concessions each

Wednesday for half of the competing teams takes two whole teaching periods."

Inspector: "I can imagine it! And your classes suffer as a consequence. That, Mr. Marbottle, is the very thing I am pointing out to you."

Mr. Marbottle: "As Sportsmaster I just have to do these things, with an inadequate allowance of nine periods per week. If I didn't do much of the work at home, I'd never have the sport organised at all. But what *is* wrong with my teaching? I thought my classes were doing very well in the circumstances."

Inspector: "More definition of method would result from analysis of topics for basic material, and from design of techniques to treat it, bearing in mind the deviation of mechanical skill and understanding, and the implementation of motivating ideas."

Mr. Marbottle: "I see! . . . But I still think my classes are doing very well in the circumstances."

Inspector: "Do you? The question is, Mr. Marbottle, how did you get on in last year's Leaving Certificate?"

Mr. Marbottle (with asperity): "I didn't sit for it!"

"I think it is a fallacy to assume that we can improve tomorrow's society merely by improving today's schools. If education stopped with schooling, and if our only teachers were our school teachers, we might hope to create a new order in one generation. But we know very well that education goes on in the office, on the farm, the train, and in the hotel lounge, and that every man who is admired by a boy teaches the boy something. That is why, in my opinion, we must greatly expand our programme of adult education. Any policy of raising the level of intellectual health inside the schools, without curing some of the intellectual sickness outside the schools, is either cynical or stupid, and is bound to fail."

—Eric Ashby, "Challenge to Education".