

Firstly—Practice of thinking. This depends on each of us individually, but still if only one of us were to practise he would not do nearly so much as if the practice were more general. I mean thinking leads on to more thinking, and the more general the thinking the more active will the thinking be individually. We must each of us take up every subject for discussion and work at it and think about it, and see if we cannot find out something about it that will be new to the others; and even the papers, we must not leave it entirely to the writers, we must at least find out enough on the subject to be able to appreciate it and to make an interesting and instructive discussion on it afterwards, and if we can't find out anything on the subject we can at least find out points about which we are ignorant, and ask questions. Don't be afraid to ask questions. If we don't think ourselves we can at least set the others thinking.

Secondly—It tends to clearness of thought. A most important thing. We can't depend on our thinking if it is not clear. We can't trust ourselves. We never can know whether we are right or wrong. The hurried way many of us have of reading our books is very likely to produce lack of clearness. It is easy enough to follow the reasoning of the author, and we are too apt to imagine we see things when we don't. How often have we found great trouble in writing out a proof in an examination which we saw so clearly when reading it over before. This writing of our thoughts is extremely good for us. How often we are unable to explain to others what we think we see so well ourselves. By writing papers and preparing for the discussions and taking part in them we can help ourselves greatly to get out of this bad way of thinking.

Thirdly—It tends to originality of thought. This, gentlemen, in the engineer is most necessary. At every turn in his work problems crop up that have to be treated differently from anything he ever heard or read of before. As I said before, we do very little but follow the reasoning and thoughts of others. This is all very well as far as it goes. When we were learning to swim we had a float of some description to help us, and how well we could get on with this help; but directly we left go we lost confidence and sank. The tendency of fellows working for examinations is to let all original thinking go and to follow only the lectures and text-books; and we get so out of the habit of thinking for ourselves that when we come to something entirely new we are flooded. Again and again have I been going over somebody's notes of a lecture a week or so old and we have come to some step or steps that we could not follow, and which, to us, were