

DANGER

It is not possible for us to exist without running risks of death. You do not refuse to go in a motor car because of the many things that may go wrong and result in a smash and possible death. You do not refuse to go in a ship, or in an aeroplane, because the ship may be wrecked, or the aeroplane may crash. But unless you are a fool you would not go up in an aeroplane with someone who knew nothing about flying, but was prepared to "see what happened" when he pulled a lever this way or that way.

Many a brave man has been killed whilst doing something dangerous which he knew to be dangerous; we call him a brave man if he deliberately takes big risks to produce commensurate results or because circumstances require of him that he shall endanger his life. The more he knows about what he is doing, the smaller the risk he runs, however great it may yet be. If he risk his life, and probably that of others, to serve no purpose, merely because he deliberately does foolish things in his ignorance, he is not brave; he is a public nuisance and a menace.

Every boy or girl wants to do things; relatively few want to spend time finding out what other people have done, and what happened to them. There is admittedly a fascination in performing dangerous experiments, and such experiments have been and still are of great value to civilisation; but they should not be performed by people who are not fully aware of what they are doing.

We have reached the stage where it is essential that everyone should have an elementary knowledge of scientific principles; it is extremely difficult to-day to get through life without carrying out routine household "experiments" which are dangerous to the ignorant; and most people want to do things which may quite well be extremely dangerous to anyone who has no knowledge of the principles involved.

Everyone should have a general knowledge of the principles of physics, sufficient, for instance, to lead them on to a fundamental knowledge of electricity. Admittedly, it would be nice if you could avoid the drudgery of learning things, and merely know them, so that you could pass on to sections which you might con-

sider more interesting; but, fortunately or unfortunately, it cannot be done.

Your lives to-day are controlled by the applied physicist, who in turn is dependent on the researches of the pure physicist: in chemistry, in biology, in engineering, in medicine, we commence with a knowledge of that fundamental science; and the activities of these other applied scientists touch you at very many points in your routine existence. If you do not learn to play the piano now, it is vaguely possible that you may be sorry later on in life; at some future date you may perhaps be saddened that you did not learn Russian or Japanese or Chinese in your schooldays, so that you could "brush up" the subject when required; but it is quite certain to an observer of the trend of human conditions that you will regret it later on in life if you have not acquired a rudimentary knowledge of science.

A boy or girl can take it as axiomatic that any experiment which he or she really wants to perform is dangerous; to enumerate any of the things that are done would in most cases only act as an invitation to try them, so that it is safer *not* to detail those things that they should not do. Reference can be made to these in the science course. The pupil must learn to find out first of all from books what is the reaction to certain actions, and to refer to his teacher for fuller information and further references.

Science is not dangerous; it is ignorance of science that is dangerous.