THE TEACHING OF MATERIA MEDICA.  

many of its mysteries, and, above all, who realises the heavy calls on a student’s time and memory, he will sift the chaff from the wheat, and rest content with giving his pupils a clear insight into the principles of bacteriology, thereby increasing their knowledge, arousing their curiosity, and stimulating them to keep in touch with a subject of increasing importance, and not the least interesting of those with which the medical curriculum is loaded.

THE TEACHING OF MATERIA MEDICA 
AND THERAPEUTICS.

By ROBERT J. ROWLETTE, Trinity College, Dublin.

THE medical curriculum falls naturally into two great divisions. The early years are allocated to the study of pure science, the later to applied science and the gaining of empirical knowledge. Midway between these two studies, both in time, and in logical position, comes the course of teaching in materia medica and therapeutics.

The student enters on this study early in his hospital life, and the course of lectures he receives is the first experience he has in systematic teaching of the application of scientific principles to matters of practice. It is important that both aspects of the subject should be made evident. On the one hand, the student must see that the principles he is asked to accept, on which treatment is based, are scientifically deduced. On the other, he must see that these principles bear fruit in practice. It is never to be forgotten that the entire medical curriculum is intended to train men to prevent or to cure disease, and this fact must be specially borne in mind in dealing with the teaching of materia medica and therapeutics.

The customary course in these subjects usually contains discussions of three distinguishable but closely related subjects—pharmacology, therapeutics, and materia medica, and the attention paid to each of these three branches varies with the individual teacher.

Pharmacology is a pure science, more nearly allied to physiology than to any other subject in the medical curriculum. Our knowledge of it comes in part from our observation of the effect of drugs on man, and in part from experiments on other animals. Nevertheless, as disease complicates the experiment, by introducing a multiplicity of constantly varying factors, we must not assume that a drug will necessarily produce the same effects in a hospital ward as in a pharmacological laboratory. Pharmacology, as corrected by experience in the treatment of the sick, is the basis of therapeutics.

The first step must be, therefore, a course of practical experimental pharmacology. The student must see with his own eyes that such a drug produces such an effect, and he must see, in as
far as is possible, exactly how the effect is produced. The extent
of this course in pharmacology must depend largely on the
resources, as regards equipment and personnel, of each school.
In the best equipped school the class engages in a serious practical
course, in which each student carries out a series of experiments
under supervision, just as he would in a class of practical
physiology. In other schools he listens to a course of didactic
lectures illustrated by demonstrations. Such a course may be
carried out in a special pharmacological department, or where
resources do not permit of the establishment of such a department,
in the department of physiology. The object of the course, again,
will be suggestive rather than positive. The student is to realise
how knowledge can be gained by pharmacological experiment,
rather than to accumulate a mass of knowledge so gained. He
must, however, learn a certain number of established facts. He
must become familiar with the pharmacological action of the
several groups of important drugs—the narcotics and anesthetics,
the nervous stimulants, the purgatives, the antisepsics, and the
rest. This knowledge can, no doubt, be gained from books, but
the main principles of it can be better grasped from lectures. The
spoken word goes home where the written word fails.

But the teacher must not be content with merely teaching the
principles of pharmacology; he must constantly give a practical
turn to his discourse by therapeutic reference. He requires,
therefore, to be not only a pharmacologist, but a clinician of
experience and judgment.

For therapeutics is not merely applied pharmacology. Much
of our knowledge of treatment is in the first instance empirical,
and only becomes scientific at a later stage. And the practitioner,
while distinguishing these kinds of knowledge, cannot afford to
neglect everything which is not scientifically established.
"Probability is the very guide of life."
The teaching of therapeutics must be, therefore, a blend of
scientific principles with empirical knowledge. It is true that
in a brief systematic course of lectures it is unnecessary and
undesirable that the lecturer should load the minds of his hearers
with a mass of details. Such details can best be learned in the
hospital wards, but he can give the principles which vivify the
mass of otherwise unmeaning details. Knowledge is science
only in so far as it can be stated in general principles, and it
will be the constant aim of the teacher to lay stress on what is
known of the principles underlying therapeutic action.

But what of the traditional materia medica? Of necessity the
student must learn something of the more important individual
drugs. He must know the preparations and doses of those in
common use, and more particularly of those of which an overdose
would be dangerous. The great bulk of the Pharmacopoeia is
unnecessary to him, and it is undesirable that he should attempt
to burden his brains with it. Most of the necessary details of
materia medica are better learned from books than from lectures,