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A NEW RULE FOR DOSES.

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THE doses, given in works on *materia medica* for the administration of medicines, are intended for adults of average health and strength. These average doses are, of course, varied by the physician, when prescribing, so as to suit differences of age, disease, sex, temperament, idiosyncrasy and the like. Of the various modifying circumstances that affect the dose, age has always been recognized as the most important, as it is the most obvious one. Several schemes or rules, intended to aid the memory in apportioning doses to different ages, have been proposed. Two are commonly referred to as the best. Both of them are familiar, and both may be found in the United States Dispensatory.

The first is the table of Gaubius, according to which the dose of an adult being 1, or 1 drachm, that of a person from

14 to 21 years will be $\frac{3}{4}$ or 2 scruples.

7 to 14 " " " $\frac{1}{2}$ or $\frac{1}{2}$ drachm.

4 to 7 " " " $\frac{1}{3}$ or 1 scruple.

At 4 years old, the dose will be $\frac{1}{4}$ or 15 grs.

At 3 " " " " " $\frac{1}{5}$ or 10 grs.

At 2 " " " " " $\frac{1}{6}$ or 8 grs.

At 1 " " " " " $\frac{1}{12}$ or 5 grs.

Dr. Young's rule, extracted from the *Pharmacologia* of Dr. Paris, is generally preferred, on account of its simplicity, to the table of Gaubius. It is this:—"for children under 12 years, the dose of most medicines must be diminished in the proportion of the age to the age increased by twelve; thus at 2 years to $\frac{1}{7}$: viz., $\frac{2}{2+12}=\frac{1}{7}$. At 21 the full dose may be given."

Physiological experiment has shown that the weight of animals is not only as important an element in apportioning doses of drugs as age, but is probably a more important one than that. Thus, Dr. Fraser,

of Edinburgh, in his recent admirable monograph on *Physostigmia* and *Atropia*, has shown that the minimum lethal dose of sulphate of physostigmia for rabbits is 0.04 grain for every pound. M. Claude Bernard has called attention to the fact that in physiological experiments with drugs on animals, the dose should vary with the weight of the animal. Clinical observation shows that men in this respect are not unlike other animals; and that in the administration of remedies the dose should vary with the weight of the patient, in order to obtain the best therapeutical result. Guided by this principle, it is easy to give a rule for doses that is more exact and more easily remembered than the table of Gaubius or the equation of Dr. Young.

Assuming the average weight of an adult to be one hundred and fifty pounds, for whom an appropriate dose is 1 or 1 drachm, the dose of most medicines must be increased or diminished in the proportion of the weight of the patient to that number of pounds. This proportion is represented by a fraction, whose numerator is the patient's weight and whose denominator is 150. If a child at birth weighs six pounds, the appropriate dose for it would be $\frac{6}{150}$ or $\frac{1}{25}$; if it weighs ten pounds, $\frac{10}{150}$ or $\frac{1}{15}$. A child 2 years old, weighing twenty pounds, would require $\frac{20}{150}$ or about $\frac{1}{7}$ of an adult dose; or, more precisely, $\frac{1}{7\frac{1}{2}}$, which is exactly half

way between the quantity indicated by the table of Gaubius for a child two years old and that indicated by Dr. Young's scheme for the same age. A person whose weight is two hundred pounds should have $\frac{200}{150}$ or $1\frac{1}{3}$ of an average adult dose. A child 12 years old, weighing 75 pounds, would require $\frac{75}{150}$ or $\frac{1}{2}$ of an average dose.

The modifications of the average dose, demanded by a patient's idiosyncrasy, disease and other conditions than age or weight, are not, of course, met by the above rule.

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