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USES AND ABUSES OF DIGITALIS.

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ALL potent remedies are capable of causing harmful effects, and digitalis is no exception to this rule. The use of such a substance in therapeutics depends upon the beneficial effects being obtained by smaller doses than will cause toxic or harmful effects. There is, as it were, a gap between the appearance of beneficial and of toxic actions that constitutes the region of therapeusis. In dealing with patients suffering from circulatory insufficiency we must of course strive to obtain maximum beneficial results, and can do so only by approaching as closely as we can with safety to the phase of harmful or toxic effects. If the gap should close up it will be impossible to obtain beneficial

results and we will do more harm than good to our patients by using digitalis. It is important, therefore, to understand the possible actions of digitalis, to know when they may be utilized to the advantage of our patients, to understand clearly what it may be expected to do in any given case, what it cannot be expected to do, and to avoid harming our patients in an endeavour to help them.

The principles of its action have naturally been worked out more completely in animals than in man, but much careful work and analysis have been done on human subjects also, and we recognize three or four primary actions that can be of value in treatment.

(1) Digitalis interferes with the conduction of stimuli from the auricle to the ventricle.

(2) It increases the tone and the contraction of the ventricular muscle.

(3) It slows the sino-auricular node or pacemaker in the rapid action of failure.

A consideration of the mechanism of the heart beat and of arrhythmias that are