cation table; and thus learning how to construct the table for himself, he is not left to memorize it by merely mechanical associations. There must, be repetition, of course; the table must be so thoroughly memorized that any pair of factors instantly suggests the right product. But, if there are a few repetitions of the acts of apprehension by which the several products are formed, the task of mastering the table will be immensely lighter than if left to the symbol-memory alone.

Use and Abuse of Drill.-It is clear from the foregoing considerations, that Repetition, Drill, is necessary, for there is, and must be, a mechanical side to education. Drill is, as we have said, necessary for the formation of right habits, for the acquisition of skill in certain work in the primary stages, for the accumulation of the right experiences and the consequent development of mental and moral power in all stages; but there is a point at which drill ceases to be of any value for the growth of knowledge, or skill, or capacity, and becomes positively harmful. Unintelligent repetition cannot strengthen intelligence, ceaseless questioning on unimportant details, monotonous recallings of mere sensuous associations, "thorough grinds" on what is already well known, destroy interest which, is essential to attention, and so induce a habit of mind-wandering, the greatest foe that the educator has to confront.

Dealing with the concrete as if the concrete were all in all—as if "from the concrete to the abstract" meant to begin, continue and end with the concrete, is to ignore the fact that abstract thinking is the only true thinking, that the concrete is only means to end, and that so far as it delays the power to grasp the abstract, it defeats its end, hinders rather than helps mental development. It is, perhaps, owing to this reign of the concrete that so many teachers are deficient in power of abstraction and analysis. We have known students maintain that from the proposition some A's are not B's, the necessary inference is some B's are not A's They could not perceive the fallacy without using a "concrete" example, as c.g., some living things are not bipeds, therefore some bipeds are not living things. Thus, also, many have failed to answer the question, "What is the A of the B whose A is C?" till they had thought of a particular case, as c.g., what is the length of a line whose length is five inches? The power of analysis is the test of a trained intellect.

It ought perhaps to be mentioned that there is not unfrequently excessive drill through a teacher's ability "to interest his class." But the thing is, not simply are the pupils interested, but are they interested in the main thought of the lesson? When pupils have been drilled on a lesson to the fatigue-point, or to the monotony-point, the teacher arouses the flagging attention by introducing an "interesting story," or illustration, in which the thought of the lesson is supposed to be repeated, and thus "more drill" secured. But the real interest is in the illustration and not in the thought it is supposed to illus-Children have been "drilled," trate. say on the number *two*, ringing changes on one and one, nothing and two, two less one, two less two, till under the monotonous repetition interest and attention die out ; but the teacher is for more drill, and so introduces interesting "stories," of which the heroes are two mice, or two cats, or two dogs, or two elephants, or two deinotheria. Undoubtedly there is *interest*, but it is not in the *two*; it is in the mice, or the cats, or the elephants, etc., and thus there is no attention to the thought of the lesson, but amusement or ex-