to a succession of experiences, however complex it may appear in its results, so that, in any discussion, it will make the matter much clearer if we study the machinery which makes education itself at all possible. It is evident that we only appreciate sight, or any one other of our senses, because it exists; and in the evolution of sense organs, the feeling of the want of them in the individual evidently succeeds their possession of the species. Through the senses a section of the universe is opened to us, a section which is limited by their powers in bringing, and the capacity of the brain for storing what is brought. But with the utmost exercise of our receptive powers our view of the world remains a section still. When we find, for instance, that vibrations of the air below thirty-two and above 100,000 per second, make no impression on the human ear, we understand that we are cut off from a wide range of possible sound. So that every mechanical appliance by which we can enlarge the field of experience tends to increase our knowledge, and, therefore, to affect our conceptions of the world about us.

The "atoms" of the intellect are thus seen to be the single sense-impressions, and the conclusion is inevitable that reason is generalized experience. It is possible to check the correctness of this conclusion through a study of the intelligence of the lower animals, and the efficiency of their senses. And so far we have found that the generalizations of knowledge which they are able to make, and which we have called in the past instinct, to distinguish them from our own reason, stand in direct relation to their capacity of receiving sense-impressions.

It may be said that what the lower animals do know, they come to know by similar means and in the same way that we acquire knowledge. It is now the generally accepted conclusion by scientific minds, that instinct and reason differ in degree, and not in kind. Our literature is already full of proof, drawn from the habits of vertebrate and invertebrate animals, that this position is a just one, and explains fully the relationship between the intelligences of the different animals themselves, as well as between the intelligence of the races of men and that of lower types of existence. Reason is, then, built up out of past experience, which we use when brought into fresh contact with things. We become more reasonable as we experience more, and the object of education is to impart that reasonableness more quickly, so that the growing generation may not be obliged solely to find how things are from the slow process of its own experience, but profit by the knowledge which was gathered by those who passed away before. Reason, then, depending on the sense-impressions, must be affected by the character of the sense organs. If these were more perfect the acquirement of knowledge would be easier. In fact, they are found to be limited and unreliable beyond what we might at first be inclined to grant. But however justly we may distrust our senses on any particular occasion, we cannot consider them, or any one of them, as totally unreliable. All that we can do is to point out their insufficiencies, to check the evidence of one sense by that of another, to try by repeated experiment to establish the actual condition of affairs.

The pictures which our senses give us are not to be regarded as false although they may convey a misleading idea of the object perceived. Every action of the senses gives us a comparatively true perception of external objects. A correct judgment is formed after a full examination through all the senses that can be brought to bear