

Regarding the powers of intercommunication, Dr. Wasmann not only contends that they possess these powers, but gives (on pp. 69 and 70) a scheme showing the signals which he has seen used to induce various activities. He holds that these actions point neither to an "intelligent understanding," nor to pure reflex action, but are sufficiently explained through sensory perception and the power of originating impulses.

The next chapter is of a controversial character, replying to the question, "What proof can be brought against our acceptance of psychical powers in ants?" The claim is made that Bethe has, without satisfactory knowledge of the facts and without exercise of necessary caution, set up his new reflex theory too boldly; and that this theory is unacceptable because of its innate indefensibility.

"The different forms of learning* in man and the animals" is the next subject treated. On the ground of biological facts, Dr. Wasmann recognized six divisions, as follows:

I. Independent learning.

1. Through instinctive exercise of reflex action.
2. Through sensory experience, by means of new associations of ideas presented thereby.
3. Through sensory experience and the intelligent application of earlier conditions to new.

II. Learning through the influence of others.

4. Through influence of the impulse of imitation.
5. Through human training.
6. Through intelligent instruction.

Regarding the above forms of learning, he makes, among others, the following generalizations:

In man alone are all six forms found. Other animals possess, according to the grade of their psychical development, either the first alone, the first and fourth, or the first, second, fourth and fifth.

In ants, as well as in the higher animals, the first, second, fourth and fifth are indicated. But the second and fifth forms are more highly developed in some other animals than in ants.

Only the third and sixth forms prove the possession of a real intelligence on the part of the learner. As these cannot be demonstrated in animals, no actual proof of animal intelligence is existent.

* I can get no better rendering of "Lernens" than this.