

Einstein—Continued

has succeeded in devising mathematical formulas which bring under a single set of laws the phenomena of electricity and magnetism with those of gravitation. If so, it will be a great triumph of mathematical genius, for hitherto no scientist has been able to demonstrate such a relationship, although many have attempted to solve this perplexing problem.

The laws of the motion of bodies in the two fields are much alike in form. For instance, Newton's law of gravitation states that two bodies attract one another with a force proportional to their mass and inversely proportional to the square of the distance between them. Two bodies charged with opposite electricities behave in the same way; that is, they attract one another with a force proportional to their charge and inversely proportional to the square of the distance between them.

But there is this important difference between the two cases. It is possible to interpose a screen between two electrified or magnetized bodies that will cut off the force while nothing will interfere with the effect of gravitation. Every radio fan realizes

the effect of interposing sheets of metal or grids. But the pull of the sun on the earth acts through 93,000,000 miles of empty space and would act the same if this space were filled with iron or anything else.

Because gravitation acts the same between all bodies regardless of their composition or what is between them, Einstein did away with the idea of a hypothetical pulling "force" of gravitation and simply said that bodies came together because of the peculiar state of the space between them due to their presence and distance. His brief paper of 1915 generalized his theory of relativity of 1905 to include gravitation as well as mechanics and now it appears he has in another five-page paper extended the general theory to cover electricity and magnetism.

Science News-Letter, January 26, 1929

Experiments in cooking at New York State College of Home Economics show that best results with green vegetables are obtained by dropping the vegetables into boiling water and cooking them in a open kettle for the shortest possible time.

Frogs Learn Geometry

Zoology

Frogs are not so dumb as they look. They can learn a simple proposition in geometry, as that a square is not a triangle. And they will remember their lesson for a little while, at least if they are paid for it.

A European experimenter, S. Biedermann, has reported the results of tests on the learning capacity of frogs. He set square and triangular blocks in pairs before his squat pupils. One block would have a delectable insect attached to it, the other would have nothing. After a sufficient number of repetitions the frog would learn that one shape was associated with the idea of food, the other with the idea of remaining empty; and when both blocks were presented without the accustomed bait the frog would hop expectantly to the one that had hitherto served as his dinner-table.

A number of different species of frogs and toads were thus "educated." Tree frogs proved to be the most apt pupils.

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Japan's land area is about that of the State of Montana.

Babies—Continued

Another evening the story is that she is quarantined for sickness. Lindbergh comes to see her and brings her medicine. Lindbergh's mother also comes at her request and says, "Haven't you got well yet? My! My!"

This four-year-old with an ingrowing idea comes from a wealthy home where governesses take scrupulous care of her. But she gets no taste of excitement or danger in her routine existence. So she has found a way for herself to put adventure into her quiet life—the only method at her command, the dream stories. Constant harping on the same morbid idea obviously is bad for the child, but the mother of the four-year-old who suddenly discovers such a habit firmly established is very much at sea as to what to do.

The psychologist did not tell her that if she had taken as much care of the baby's personality development as she has taken of physical welfare, this dream life would probably not have become so important to the little girl's life. There is no use bewailing spilt milk. But such cases point their warning unmistakably for other mothers to see. The warning, as Dr. Furfey sums it up, is that the younger the baby, the more easily it may be changed—for better or worse.

Science News-Letter, January 26, 1929

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