Models of buildings, set on this machine, are given a chance to display points of strength and weakness, and the engineers can turn the knowledge they thus obtain to account in perfecting the resistance of their structures to the thrusts and pulls of an unruly earth. Machines constructed for this purpose in the past have not been able to follow the actual movements of an earthquake at all accurately, due largely to imperfect control mechanisms. Mr. Ruge's device consists essentially of an electromagnetic control over a valve, that in turn determines the rate and amplitude of motion of an oil-driven piston moving the shaking table. The current that operates the control is increased and diminished by a photoelectric cell, or "electric eye," in response to a controlling cam cut out of paper, in the exact shape of the earthquake's record curves. A spot of light constantly "watches" the irregular edge of the cam.

BELIEF that man lived in America hundreds of thousands of years ago was challenged by Dr. Ernst Antevs. Man could not have lived in America more than 20,000 years ago, he said, because ice sheets would have blocked his passage. Only one chance in a million exists that human beings came to this continent at about 40,000 years ago, but no scientific evidence, truly verified, has been found to show that he did. This estimate of Dr. Antevs, based on geological studies of climate of past ages, is much higher, however, than would have been accepted a few years ago. But it discounts the idea that because stone tools of ancient man found in America resemble paleolithic artifacts thought to be 500,000 to 250,000 years old found in Europe, man may have existed in America at such an early time.

FOSSIL remains of the world's largest insect, a prehistoric dragon-fly nearly two and one half feet long that was king of the air about 150,000,000 years ago, have been found near Elmo, Kansas, by Dr. Frank M. Carpenter, of the Harvard Museum of Comparative Zoology. Although only a part of one wing was discovered, the fact that many other smaller insects of a similar type have been found in excellently preserved condition, has enabled scientists to gauge accurately the size of this entire specimen. The insect was a member of the protodonato group which lived in the Permian Age, about 150,000,000 years ago, when there were no birds or mammals on earth, but only fish, amphibia, reptiles and invertebrates. With long thin bodies and good-sized wings, these insects were the most powerful that ever lived and were undoubtedly supreme in the air in their time. They were exceptionally speedy and were so strong that they could cover great distances in one continuous flight. Their diet consisted mainly of smaller insects, probably cockroaches to a great extent, since these were very plentiful at that time.

PLANTS, complete with leaves and roots, have been grown from almost microscopic bits of plant-embryonic tissue from which such plant parts have not previously been known to develop, says Dr. Carl D. LaRue, of the University of Michigan. The bits of tissue were all cut out carefully, usually from sprouting seeds, sometimes from buds on stems, and planted in a sterile nutrient medium, with a very little of the growth-promoting substance known as hetero-auxin—a concentration of one part in twenty million. From wild lettuce seeds, bits of the primary stem, bearing no trace of roots or leaves, grew successfully in Dr. LaRue's glass containers and produced complete plants with both roots and leaves, which are still living. Corn and oat embryos, removed from their natural source of food in the seed and transplanted to the nutrient medium, have grown and produced roots and green shoots.