

The ELEPHANT a PIGMY BESIDE the FLEA

Suppose the Size of Insects Were Proportionate to Strength, What Then?

CAN you imagine an elephant as a pigmy beside a flea?

Then you have never considered the marvelous strength with which tiny insects have been endowed by nature, in proportion to their size. There is nothing more wonderful than this in the domain of animal life.

More than two hundred times its own height can the flea leap. At this rate man would be able to skip over the Eiffel Tower at Paris, which is 984 feet high, with little effort.

It has been estimated that a certain little beetle, if it attained the size of a cow, with its strength increased in proportion, could slaughter and carry off a herd of six steers at one sweep.

The smaller insects are the stronger they are, as a rule. Had nature been prodigal with them and given them greater size—made them, say, 1000 or 1,000,000 times larger—and increased their muscular powers accordingly—well, to say the least, old Earth would not have been habitable for man.

HERCULEAN strength, then, does not rest in human beings, nor even in the royal monarchs of the jungles—these types of physical power are anomalous and false. In the tiniest insects of the earth, beetles, fleas, and even creatures of the water, is found a strength which, in proportion to the size of the animal, makes man appear one of the weaklings of creation and such animals as the elephant mere pigmies.

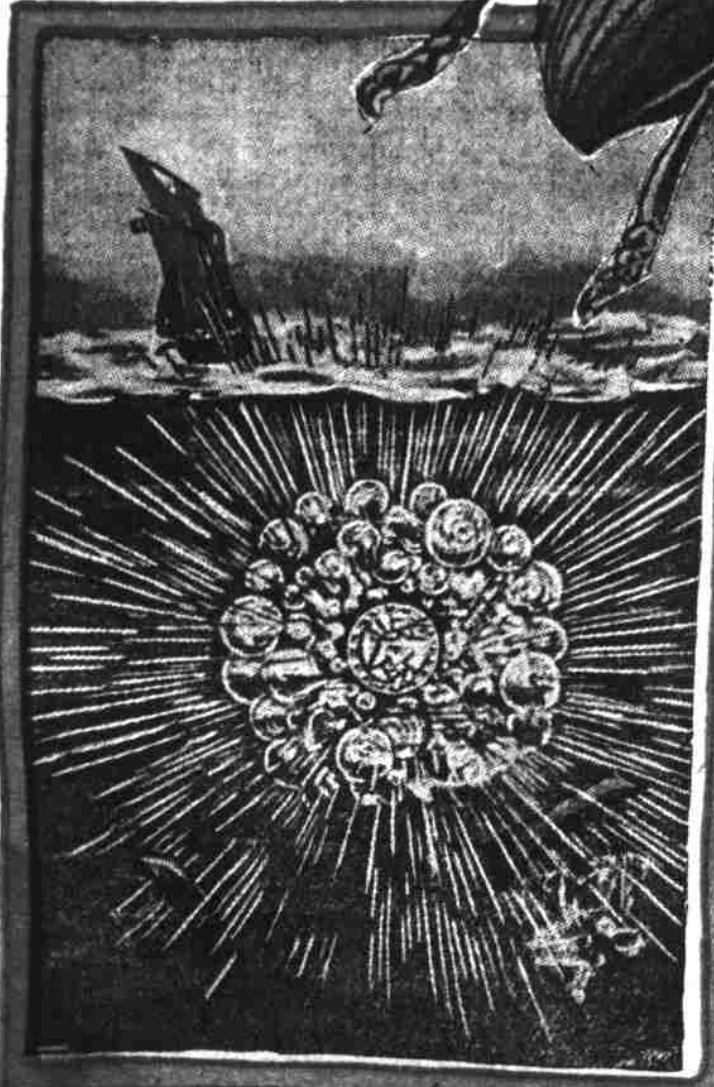
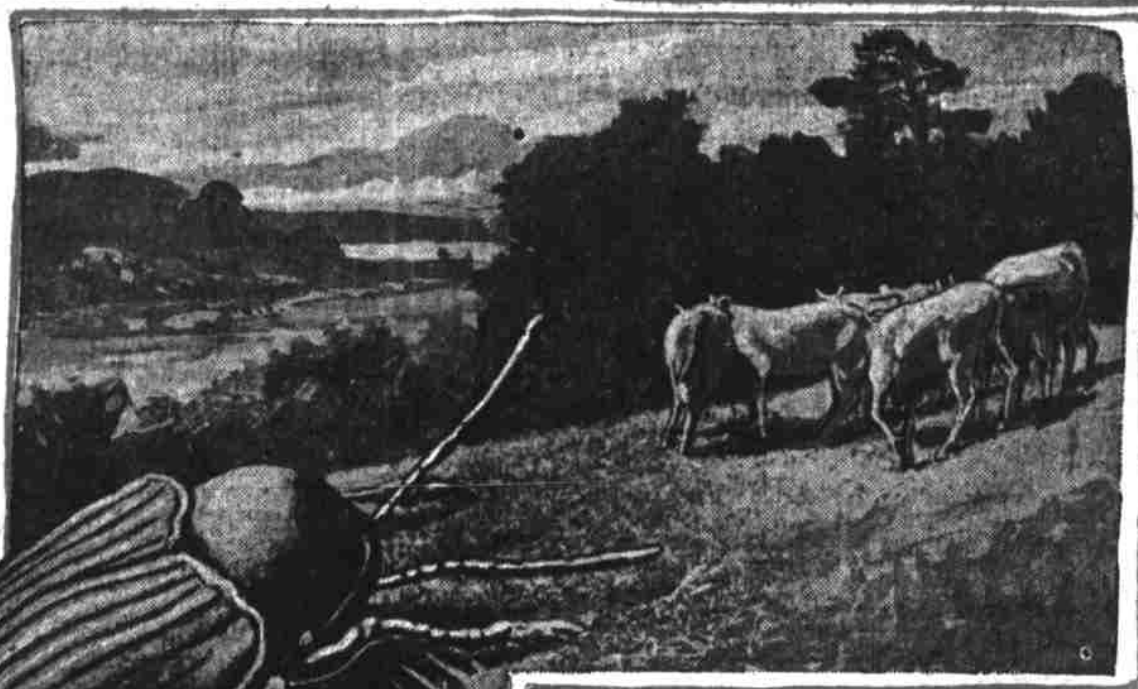
If the strength of a little oyster's jaws, for instance, were given to man in proportion to his size, man could hold at arm's length eighty locomotives.

If the strength exhibited by a small water scorpion in the muscular resistance of closing its shell were given in proportion to man, an acrobat could juggle balls weighing thirty-four tons.

Certain beetles, if the size of a horse, would be able to exert twenty-one times a horse's strength; the little white ants, which build hard mounds of earth, if enlarged to a size near that of man, would build houses nearly a mile high, beside which the boasted skyscrapers of the present would resemble toadstools. The human mind can hardly conceive a more terrible creature than the ordinary spider grown to the size of man or larger; it would catch human beings and devour them more easily than the spider does the fly.

The mind, by no stretch of imagination, could

log over twenty-eight feet long and twenty inches square. This is practically what the ordinary housefly does when, with its feet, as you hold it by the wings, it grasps and lifts a match. What would the fly do if it were several hundred or several thousand times larger and just as pestiferous and tantalis-



This Submarine Creature Could Destroy a Fleet.

conceive a more appalling state of affairs than that which would exist if small insects grew to the size of man with their present strength increased in proportion.

An ordinary cricket, one of those seemingly harmless creatures, whose only mission in life is to chirp, if grown to human size, would be invulnerable to the attacks of a regiment of men. The great shell-like covering of the head and forepart of the body would withstand the bullets of the most powerful rifles. This giant cricket could carry on a campaign of forage and destruction with immunity. Man would be helpless.

No man living could hold with his arms and legs

ing as it is at present? Nightmares of horrors, things more fearful than ought to be seen in an opium dream, would confront us, if many of the ordinary beetles which we now trample under foot had been permitted by nature to grow to the size of beasts of the field, and retain proportionate strength.

Poe, in his story of "The Sphinx," describes a pleasant apparition compared to what the ordinary beetle would be under such conditions.

Imagine a great creature, with blood-hued, scaled body and sharp horns, with a shield as impenetrable as steel over the back, and long legs moving like the pistons and rods of a giant engine, and claws that could crush one as between two sharp saws!

Many of the small beetles, if developed several thousand or a million times their size, could devour a herd of oxen as readily as the oxen now pluck a bunch of grapes from a vine, and would take jumps a mile in length.

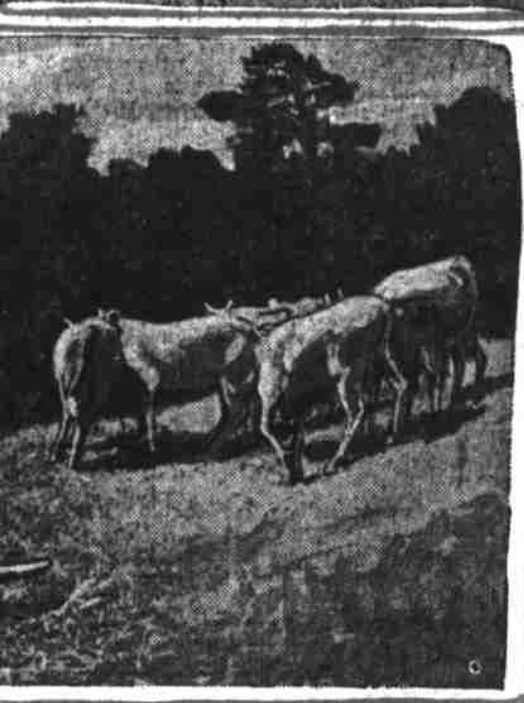
As the creatures of the animal kingdom decrease in size their strength increases proportionately. This, undoubtedly, is a wise provision of nature. In prehistoric times, however, the leviathans of the sea and the monsters of the land possessed incredible strength. Suppose, as the human race declines, the little creatures should grow

larger, and, instead of losing their strength, should gain in muscular power!

Plateau, a Belgian naturalist of world-wide repute, has made experiments in testing the strength of insects and even infinitesimal water creatures, and their physical power is almost beyond one's comprehension.

On many of the vines and roses you will find a small louse known as the attise, which can jump 100 times its height and leap in a straight line 500 times its length. To pursue this creature, if it were approximately his size, a man would have to take steps nearly 140 yards long.

To ascertain scientifically and accurately the strength of the smaller animals and insects, M.



Invulnerable to Rifle Bullets.

Plateau constructed a very ingenious apparatus. This consisted of a minute harness, made of two threads, a small pulley and a little flat plate.

The harness was fastened to the insect, and, as it moved about, small weights were placed on the plate in the rear. This was done until the little creature could draw no more, and its strength was registered.

These experiments showed remarkable results. One beetle, in proportion, possessed twenty-one times the strength of a horse; a bee was proved to be thirty times stronger.

The bee pulled a chariot twenty times heavier than itself. The majority of specimens tested, weighing a sixth of a gramme, supported weights of ten grammes, amounting to sixty times their own bulk.

Forty thousand of these insignificant little insects together would exert the power of one horse.



Most Terrible of All Airships.

An earwig can drag six matches with ease. To compete with this little animal, if enlarged to his size, a draft horse would have to pull 360 logs as long and round as himself.

Astounding strength was discovered among the shellfish. Tremendous force lies in the muscles of the little bivalves which hold fast and tight the closed shell.

To test this strength the Belgian naturalist inserted between the two shells of mollusks two hooks, one of which supported the fish and the other a scale. This scale was gradually loaded with weights until the shells were forced open.

Strength is a term hardly to be applied to man when one considers the wonderful power of these creatures of the water. An oyster bore a weight of



thirty-seven pounds before it opened the shell. To stand a parallel test, a man would have to hold at arm's length forty locomotives in each hand.

The little mussel resisted a weight of nearly four pounds. The average mollusk bore several hundred times its weight—some of them 500 times their weight. Fancy an acrobat lifting a weight of 77,000 pounds!

Among the insects no less remarkable power was found—a power that taxes one's credulity. White ants build mountains sometimes reaching the height of seven feet.

These are so hard and compact in structure that oxen can pass over them without damaging the wonderful houses. Imagine a man building a house 1000 times his height, or a mile or over upward.

Among the most marvelous insect architects is a small bee which builds a house of actual mortar. Oftentimes these structures weigh sixty-five pounds, and are so secure that it is necessary to employ iron

What a Horrible Monster a Gigantic Spider Would Be.

rods to destroy them. One can conceive the colossal character of this work when he considers that these houses are formed of bits of mud of the size of the head of a pin, which the little worker carries distances of one to two miles.

The armor of steel-clad battleships would not be proof against the porcupine-like darts of a little sea creature were its size anywhere near that of a present-day ship. These little creatures throw out from their bodies myriads of tiny arrows with tremendous energy. Were one of these little fighters the size of a modern ship, or even less, it could sink a fleet of battleships by its submarine missiles.

Birds have possibly greater power. They take long journeys, such, for instance, as crossing the Mediterranean, without rest. This, too, in the face of the fearful storms that prevail there. As to speed, the swallow can make from sixty to ninety miles an hour—a pace rather humiliating for the automobilists.

Power is manifested in other ways by insects. Some of the beetles, for instance, have a skin so hard that it requires a pin driven by hammer blows to penetrate it. Their hold on life is vastly superior to that of man.

Nature was exceedingly merciful to man when she restricted the size of such powerful little creatures. Were the elephant a pigmy beside the flea, man would be compelled to dwell in hiding from hundreds of insects that he now crushes contemptuously under foot.

