

SCIENTIFIC MISCELLANY.

The Daily Activity of Animals—The Air as a Rock-Carrier—Shall the Cooking School Be Abolished?—Another Low-Temperature Anomaly—Heat-Screening Effect of Atmospheric Dust—Structure of the Arc Light—A New Fiber Process—A man Dissolved in Acid.

A method of recording the daily activity of animals was described at the late meeting of the American Physiological Society. A circular cage, rotated by the slightest movement of the animal, is used and the motion is automatically recorded on a moving strip of paper. Rats, mice and squirrels have been made to report their periods of activity and rest by this means. Rats and mice divide their time into about 12 hours of rest during the day and 12 hours of intermittent work at night, short intervals of work in the latter period being interrupted by nearly equal rests. The squirrel, in winter, works steadily for 20 minutes to 2 hours early in the morning, and is sometimes active for a few minutes late in the evening, resting nearly 22 hours a day. Food has a decided influence. Diet rich in proteid induces great activity, fat having the opposite effect, and reducing the actual work of rats and mice from 6 or 8 hours to a few minutes. No uniform effect of alcohol could be demonstrated. The activity of animals is increased by high barometric pressure.

The air has received too little credit as a geological agent, in the belief of Prof. J. A. Udden, of Augustana College. It is 813 times lighter than water, and exerts no wave motion on the earth's surface, the erosive effect of wind therefore being important only in regions of abrupt and broken reliefs under a dry climate. Rock material can be transported by the atmosphere only as fine dust, the largest quartz particles an ordinary strong wind can sustain being about 1-250 of an inch in diameter. The carrying capacity of air for smaller particles is great, being estimated to be, at a velocity of five miles an hour, about 1-1000 of that of an equal volume of water. The whole atmosphere over the Mississippi valley, if the wind blows ten times as fast as the water runs, may transport 1000 times as much dust as the river.

About 120 elephants are now living in Europe, according to Mr. C. J. Cornish. Nearly all belong to the Indian species, the less docile African elephants numbering about a half-dozen.

The refinements and changed conditions of modern civilization are transforming man into quite a different creature from that of a few generations ago. The latest suggestion is that we are bringing upon ourselves a degeneration of the intestinal tract. An eminent French surgeon declares that a certain American instrument for intestinal use is too large, leading the London Lancet to ask whether the intestine among the French is really smaller than among Americans and if so how far French cooking—notoriously the best in the world—is responsible for the difference. Digestion being made easy, so to speak, is it the case that a partial arrest of development has been the consequence? The magnificent teeth of savages have caused dental decay to be sometimes looked upon as a product of civilization dependent to a great extent upon knives and forks; and it may be worth while to inquire whether the human race has any reason to dread analogous deterioration as a result of elaborate cookery, and whether dainty dishes are a physiological mistake.

Cotton and other substances regarded as bad conductors of heat have been tested under great cold at M. Raoul Pictet's laboratory. At temperatures lower than about 80 degrees below zero C., the substances behaved like perfect conductors of heat radiation, and copper cylinders cooled to 170 degrees below zero (274 degrees below zero F.) rose in temperature quite as rapidly when encased with a layer of cotton wool 20 inches thick as when naked. At temperatures higher than 80 degrees below zero, the influence of the packing became perceptible, and the rate of warming varied with the thickness of the layer.

Investigations by Prof. A. Bartoli have proven that atmospheric dust exerts a very considerable influence on the intensity of the sun's rays passing through it. In July, 1892, the great eruption of Etna filled the air in its vicinity with an insupportable dust, which fell gently, and gave the sun a slight reddish tinge. On a calm cloudless day it was found that 28 per cent of the heat transmitted by pure air was intercepted by this dust.

Artificial whalebone is made from leather by a German inventor. The

material is soaked for three days in sulphate of potassium, then stretched on a frame, slowly dried, exposed to a high temperature, and afterward put under heavy pressure. Genuine whalebone is scarce, and good imitations will find abundant uses.

The formation of the electric arc between carbon rods has been exhibited by Prof. J. A. Fleming in a Royal Institution lecture. Experiment has proven that the arc cannot be started unless either the rods are first brought into contact or the insulating power of the intervening air is broken down by an electric spark. In a magnified image of the arc it is seen that the positive carbon is most intensely hot at the extremity, and is hollowed out into a crater, from which about 80 per cent of the light is emitted. The negative carbon is less hot. The space between the two, the true arc, is filled with carbon vapor, which has the violet color of incandescent carbon, while outside this is an aureole of carbon vapor of a golden color. The light being due chiefly, to the incandescence of the carbon in the crater, is most intense in the direction from which the largest area of the crater can be seen.

A new process for manufacturing paving blocks, building materials and other objects from wood fiber is reported to have been patented in Switzerland and other countries. The fiber is first rendered antiseptic by treatment with vitriol, corrosive sublimate, etc., and is then mixed with a suitable agglomerant having mortar as a base. The plastic material so obtained is pressed into moulds. The objects made are light, porous and tough, bad conductors of sound and heat, and can be sawed, nailed, drilled, and otherwise treated like wood.

In a recent terrible accident in a chemical factory at Mulhouse, Alsace, a man was literally and completely dissolved in sulphuric acid. An explosion of nitrobenzol seems to have blown him into a large trough containing sulphuric acid to a depth of about three feet, and the discovery in this trough of his rubber respirator, with some porcelain buttons and other more or less insoluble articles, was the only evidence of his fate.

In German experiments, copper has been found to prolong the existence of leaves on potato vines, and increase the number and size of the tubers. A two per cent solution of sulphate of copper in lime water was sprinkled on the plants.

A new species of giraffe—of a bright chestnut color, with almost invisible white stripes—has been discovered in Somaliland by Major Wood, of the British army.

The first "Home saloon" was opened in Chicago Tuesday February 5th. It was organized by the temperance women of that city, and its ambition is to furnish all of the attractions of the saloon without its demoralizing influences. Handsome women serve the refreshments, which are of a non-intoxicating variety, and free lunch is constantly on the counter. The plan would never be a success in any other place except Chicago. Though we are in favor of trying it in Hickory:

Dr. Johnson drank immoderate quantities of tea and kept a pet cat.

Aristotle found amusement in walking on the seashore and collecting specimens of what?

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Queen Elizabeth was very profane and when angry would kick and cuff her maids.

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