

NEWEST SCIENTIFIC DISCOVERIES & REMARKABLE FACTS

Man Is Just What His BACTERIA Make Him

MAN is just what his microbes make him, according to Dr. Robert T. Morris, of New York. With a normal proportion of symbiotic bacteria he is a good citizen; with an excess of inimical bacteria he may be a criminal. When he speaks it is not he but the microbe that is speaking. Freedom of will is subject to dictation by the microbe.

Nature is trying out certain races, one after the other, in order to eliminate the ones which are incapable of development beyond certain points, says Dr. Morris. This is done through the microbe—the agent of sublime power—which attacks the cells of which all men and organic structures are composed.

Dr. Morris blames the microbe for the decadence of nations, and the depression of literature, art and philosophy. The bodies of all animals and plants are composed of groups of cells, and in the orange, these cells are all exposed to microbial attack, says Dr. Morris. The kind of microbes in charge of the attack produces its own characteristic effect as in the orange. A normal man, like the unspiced orange, is normally agreeable. He may be unusually agreeable or unusually disagreeable, for the same reason that the orange is agreeable or disagreeable at various stages in its history.

Incidentally, Dr. Morris says, the microbe causes practically all the unhappiness in the world. It is found, on reading the life histories of the depressing philosophers, that all were ill men. The body cells conduct all physiological processes, but they are in constant warfare with the microbe. When microbes or microbe poisons reach the cells a destructive process follows. Perhaps the most important of these destructive changes is represented in what is called allergy, which refers to a certain general kind of toxic sensitization of protoplasm.

When civilization has carried a certain plant to the point where its stem has all gone to form petals it has no more good sex cells left for continuing its race. Much the same process occurs among animals. In addition, the protoplasm of any species is wound up by nature, and, given a certain time to run, becomes senescent.

Senescence of protoplasm is hastened by processes incidental to civilization. The highest end of culture, then, is elimination of the race among plants and among animals. The superman is the man who is bringing his family lineage to a close. A double rose among plants and a genius among men represent the same thing.

Most of the plants with double flowers are so vulnerable to microbial influences that they readily succumb or produce freaks in progeny if they have any. Most of the geniuses are so vulnerable to microbial influences that they succumb easily, or produce freaks in progeny, if they have any. A double rose may have progeny which, if left to struggle, will either fall quickly or will revert to a simple type.

The progeny of a genius when left to struggle will quickly succumb or will have a tendency to revert toward a primitive type.

In this way nature sets limitations, prohibiting too rapid development of species of plants or of animals in order to conserve the protoplasm of a species against premature senescence.

"Microbe toxins," Dr. Morris continues, "give us a sort of a literary solvent, allowing us in the library to reduce many mysteries to simple formulas for analysis, from the literature of ecstatic passion to that of morbidly ordered emotions, and to the literature of calm science. In scientific criticism of genius in literature we have to make note of some such order as this: "A mind allergic to the tubercle bacillus (Stevenson with his spirited optimism).

"A mind allergic to the colon bacillus (Nietzsche with his baby philosophy).

"A mind belonging to a definite psychosocial type (Mrs. Elizabeth Barrett Browning with grace and sweetness in morbid exaggeration of feminine characteristics).

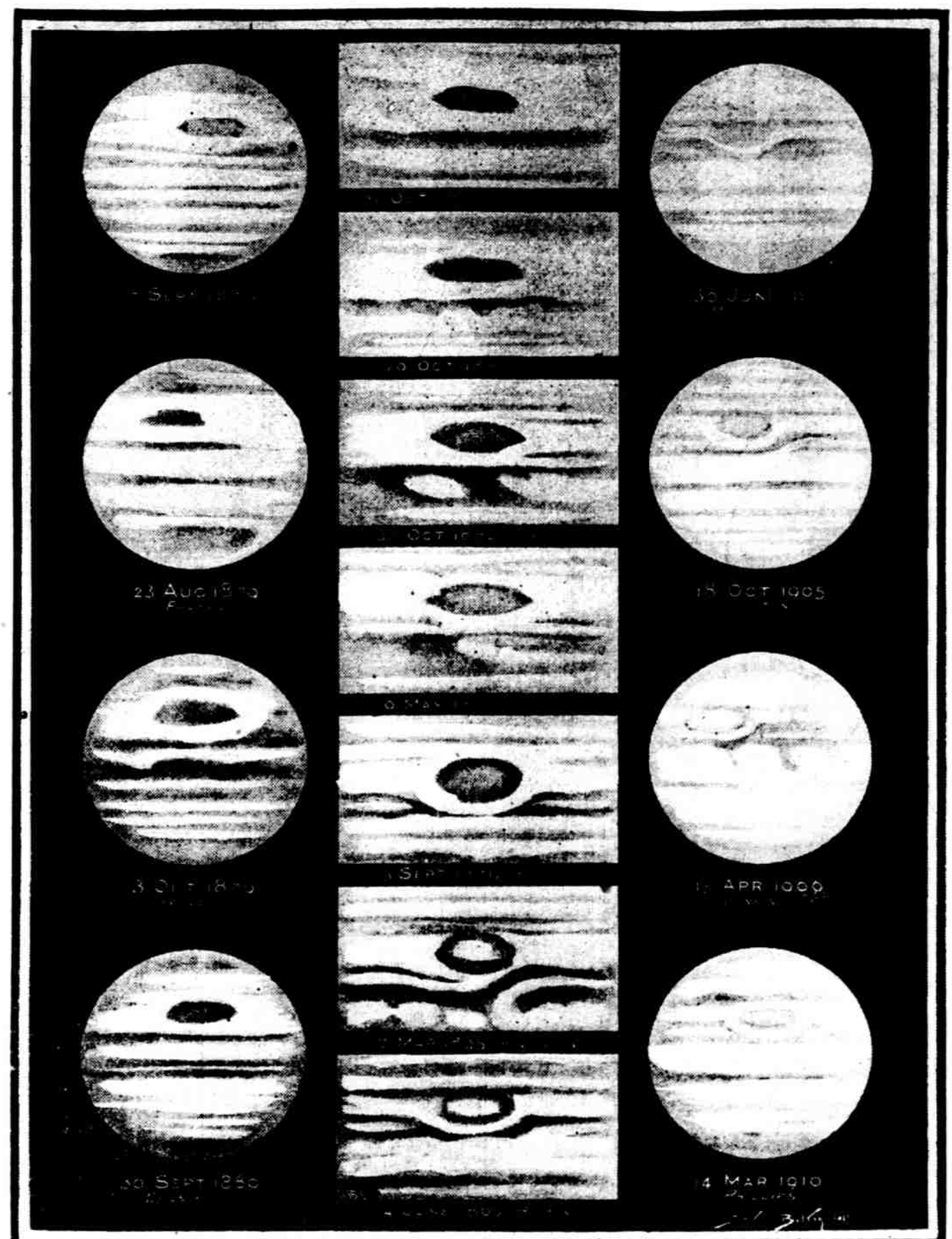
"A mind with a definite psychosocial evolution (De Musset), with fine inspiration in the euphoric stage. He did not write much when in the depressive stage because dipsomania supervened.

"A mind with another definite psychosocial evolution (Strindberg), with beauty in his collection of 'Fairy Tales' belonging to the euphoric stage; distress in his 'Inferno' of the depressive stage.

"A mind that we might classify at present as belonging to the internal secretion of aberrant gland development (Octave Mirbeau represents the latter).

"Reading the list of great minds which have strongly influenced art or literature is reading a list of ill men whose physiology was abnormal. The history of their lives reads like a hospital report. The same is true of the creative geniuses in science, but not to the extent found in literature and art."

Is Our Cousin Jupiter Making a Moon? If Not, What Is the "Great Red Spot"?



JUPITER, the earth's con-in-planet, making a moon? This is the question interesting astronomers just now.

Scientists proposed that the earth, when once in a plastic condition, rotated so rapidly on its axis that the matter at the equator could not adhere together, and a breach caused a portion to be fractured, which part separated gradually from the earth. So, apparently, men of science reason, in the case of Jupiter, the rotational velocity of which at its surface is as great as the earth's used to be, there is at present a phenomenon which suggests an epoch in the evolution of moon-making. The puzzling object on the surface of Jupiter, known to astronomers as the "Great Red Spot," is not a fixture of the planet, or it might be regarded purely as a volcanic vent emitting hot vapor. Scientists never have been able to ascertain the constituent properties of the "Great Red Spot." It possesses an extremely oblate spherical outline, and its major axis measures more than 20,000 miles. Its slow, irregular drift on the planet shows that while it is detached from the main globe, and is partly concealed by Jupiter's dense atmosphere, it moves round with the planet's axial rotation. This is especially noteworthy from the fact that theory tells us that our moon, in its early stages of evolution, was carried round with the earth's axial motion, all the while just grazing the surface, and that its distance therefrom increased through countless ages, and is increasing. The inference denotes a Jovian moon in embryo.

New Metal More Powerful Than Radium Is Discovered

A METAL more mysterious than radium! According to an explorer in Namanga, a part of the territory of Ferghana in Asiatic Russia, he chanced to place his hand on a pasty mass lying among mica and other minerals. This substance, which was unknown to the discoverer, was opaque in color and noticeably heavy. He carried a considerable quantity of it to a chemical laboratory in Moscow, where he subjected it to a minute analysis and experimented upon it with various reagents, with astonishing results.

In the presence of an acid, this metal, which as yet is nameless, generated such an excessive degree of cold that the glass vessel which contained the acid was immediately reduced to powder. Then an iron vessel was employed with the same result. The chemist continued the experiment with a large piece of granite. This was decomposed suddenly without either an explosion or an emanation of gas but with a stupefying lowering of the temperature.

Treated with an alkaline reagent, the substance, which stubbornly resisted every analytic process, lost 20 per cent of its weight.

These astonishing results so engaged the curiosity of the scientific experimenters that they journeyed to Ferghana, and after patient research succeeded in gathering a larger quantity of this puzzling mineral, so as to be able to continue and extend their observations.

Value of Wood and Coal as Fuel

THE fuel value of two pounds of wood is roughly equivalent to that of one pound of coal. This is given as the result of certain calculations now being made in the United States forest service laboratory, which shows also about how many cords of certain kinds of wood are required to obtain an amount of heat equal to that in a ton of coal.

Certain kinds of wood, such as hickory, oak, beech, birch, hard maple, ash, elm, locust, longleaf pine and cherry have fairly high heat values and only one cord of seasoned wood of these species is required to equal one ton of good coal.

It takes a cord and a half of shortleaf pine, hemlock, red gum, Douglas fir, sycamore and soft maple to equal a ton of coal, and two cords of cedar, redwood, poplar, catalpa, Norway pine, cypress, basswood, spruce and white pine.

Equal weights of dry, non-resinous woods, however, are said to have practically the same heat value regardless of species, and as a consequence it can be stated as a general proposition that the heavier the wood the more heat to the cord. Weight for weight, however, there is little difference between various species; the average heat for all that have been calculated is 4,600 calories, or heat units, per kilogram. A kilogram of resin will develop 9,400 heat units, or about twice the average for wood. As a consequence, resinous woods have a greater heat value per pound than non-resinous woods and this increased value varies, of course, with the resin content.

The available heat value of a cord of wood depends on many different factors. It has a relation not only to the amount of resin it contains but to the amount of moisture present. Furthermore, cords vary as to the amount of solid wood they contain, even when they are of the standard dimension and occupy 128 cubic feet of space. A certain proportion of this space is made up of air spaces between the sticks, and this air space may be considerable in a cord made of twisted, crooked and knotty sticks. Out of the 128 cubic feet a fair average of solid wood is about 80 cubic feet.

It is pointed out, however, that heat value is not the only test of usefulness in fuel wood and, since 95 per cent of all wood used for fuel is consumed for domestic purposes, largely in farm houses, such factors as rapidity of burning and ease of lighting are important. Each section of the country has its favored woods and these are said to be, in general, the right ones to use. Hickory, of the non-resinous woods, has the highest fuel value per unit volume of wood, and has other advantages. It burns evenly, and, as housewives say, holds the heat. The oaks come next, followed by beech, birch and maple. Pine has a relatively low heat

Second Albino Snake Found

WHAT is reported to be the second albino snake ever found, and the first ever caught alive and watched carefully for purposes of scientific study as to characteristics and habits, was given to Professor Storer, of the department of vertebrate zoology, by a farmer who found it in the country near Berkeley, California. The snake is about the size of the ordinary gopher snake, but is marked by the entire absence of color. This peculiar reptile, which has a sort of fleshy hue with a bit of a pinkish tinge, is being closely watched by the members of the class who frequent the museum of vertebrate zoology for any developments of unusual characteristics.

Automatic Window Locking Device

A SIMPLE invention, which will make a possible proper ventilation for every room where there is a window and at the same time afford protection that comes from a tight lock, is soon

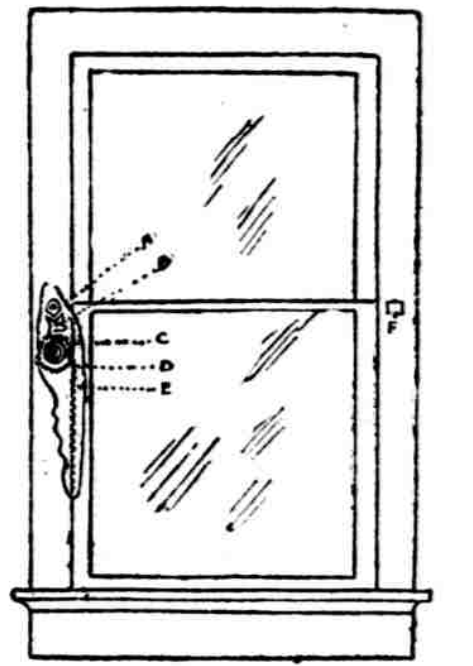


Figure A, button to lower sash; B, fits to Figure A and controls Figure C; C, cogwheel propelled by coil spring; D, coil spring; E, ratchet to Figure C; F, button to upper sash (same as lower).

to be placed on the market by a San Francisco company.

There is a button for the lower sash, a button for the upper sash, a cog wheel, ratchet and coil spring. That is all. The parts are few and so arranged that it is nearly impossible for the mechanism to get out of order. The manipulation is still more simple. By turning a small knob or button, the top sash moves down or the bottom sash moves up. The window locks wherever it stops and there is its great advantage. The prowling thief cannot open the window; it is just as secure as if both sashes were locked tight.

Any carpenter can install the device in a few minutes, either in new or old windows.

Quaint Tricks of Number Nine

THERE are some curious facts and coincidences connected with numbers. The number 9 is, perhaps, the first as regards such experiments, although number 7 is more prominent in literature and history. When you once use it you can't get rid of it. It will turn up again, no matter what you do to put it "down and out."

All through the multiplication table the product of 9 comes to 9. No matter what

Weather Experts Aid to Armies

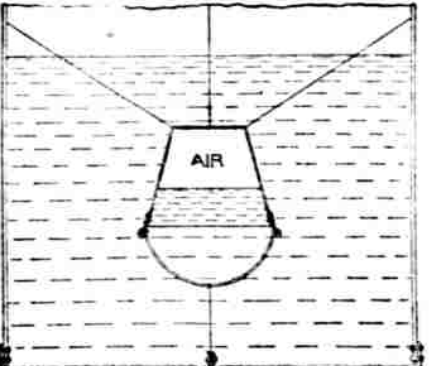
A FEATURE of the present war is the extent to which weaker prophets are working in conjunction with armies. Skilled meteorologists are attached to the headquarters of both the allied and German troops, and their work consists of forecasting weather conditions twenty-four hours ahead. Such prophecies are of the greatest value to modern military commanders, for they always have to reckon with the elements in making their plans. In fine weather, for instance, heavy artillery can be transported across country in half the time that would be required if rainstorms rendered roads muddy and waterlogged. Heavy guns loaded on three-ton motor-lorries are obviously difficult to transport over ground sodden with rain, and in similar fashion marching troops cannot take fast progress if conditions under foot are bad. If a general, however, expects wet and boisterous weather, he can lay his plans accordingly. He allows an extra number of hours for the carrying out of a movement, and thus his schemes are not thrown out of gear by the unexpected intrusion of inclement elements.

The aid of the military meteorologist also enables a commander to take advantage of fog, rain, or snowstorms for purposes of strategy. Troops can maneuver in thick mists with comparative ease, and they are safe from detection; hence a general anticipating fog can utilize it as a screen for placing guns or advancing his men. This actually occurred at the siege of Namur, for a thick fog enabled the Germans to hasten the fall of the town by dragging their big guns to advantageous positions without being impeded by artillery or searchlight.

Weather experts carefully watch for signs of high winds, for such seriously interfere with aeroplane reconnaissance. If he expects the weather to be boisterous, a commander does not rely on information that may be brought to him by his air-scouts, but arranges to replace them as far as possible with cavalry scouts.

Saving Water Tank

MANY water tanks are ruined every year by the expansion of the water when freezing in severe weather. A scheme to prevent this is to take a copper bucket of good size and suspend it



in the water in an inverted position, allowing air to remain in the bucket. When the water freezes the extra pressure on the tank that would be otherwise exerted, instead acts on the air in the bucket which is compressed, and thus the pressure on the walls of the tank is relieved. A copper bucket should be used as a tin or iron bucket would soon rust out.

A small railroad operating an oil-burning locomotive on the Tahoe national forest, California, had a breakdown and burned wood instead of oil for one day. On this day fifteen fires started along the right of way. During the preceding year, only one fire occurred near the railroad.

The arboretum established at Washington in Rock Creek park now contains 1,200 trees, comprising ninety-two different species.

There is a big market in Hawaii for box shooks for packing canned pineapple and pineapple juice.

Strength of Fly

AN ENGLISHMAN has made many experiments with various insects, such as caterpillars, fleas, butterflies and flies, which show how extraordinarily strong these insects are.

A bluebottle fly weighing 1-25 of an ounce was lifted by a thread to a tiny wagon and drew a total weight of a little over six ounces, or practically 170 times its own weight. A caterpillar harnessed in a similar manner pulled twenty-five times its own weight.

A strong man with a like equipment of large size can at most move but ten times his own weight.

Fish With a Pouch

THE kangaroo has always seemed to have the monopoly of that convenient way of carrying its babies in a pouch, but it has been discovered that a fish has the same useful receptacle, which it uses for a similar purpose. The pipefish, as it is called, from the length of its jaws, has a pocket on the underside of its body nearly half its length. It is found in the male species only and is the only part of its body which is unprotected by large flat plates, which take the place of scales in its protective armour.

If a pipefish is taken from the water and its little ones shaken out of the pouch back into the water they always seem either unable or disinclined to run away.

But if the father is placed in the water again all the small fish immediately swim back into the pouch. These curious little creatures have prehensile tails, which they use to hold on to the seaweed to prevent themselves being carried away by the tide.

The pipefish is similar to the small eel, being about a foot in length and an inch in thickness. But unlike the eel, it has a very long jaw and the peculiar defensive armor already mentioned.

Double Door Lock

AN additional safety device for a door lock of simple construction can be attached easily. When the door is closed and the lock bolt turned drill a hole about one-eighth of an inch in diameter through the frame of the door, just back of the plate A, as shown in the illustration, passing through the bolt at C. By this device the door can be secured from the inside with the pin B, pushed into the hole and through the bolt C. The bolt cannot be withdrawn by means of a skeleton key or other lock-picking devices. The hole in the bolt should be a trifle larger than the pin and countersunk slightly on both sides to allow for any slight movement out of line.

'Wooden Russia'

THE name "Wooden Russia" is the popular one given to that vast forest area of Russia in Europe, which covers 464,568,000 acres, or 25 per cent of the entire area of the country. Yet some fear is felt that the country may be deforested through the carelessness of private owners, and the imperial government is considering steps for the protection of the forests. In Russia houses built of any material other than wood are almost unknown outside the cities, and wood constitutes the principal fuel.