

Latest Projects Of Science

Possibility of Generating Power in Tropical Waters—Chemistry Offers Aid to Insane

Nikola Tesla has once more focused attention on the possibility of extracting energy from tropic waters—a possibility which Georges Claude tried to convert into a reality on an experimental scale at Matanzas, Cuba. The basic principle is not difficult to understand.

Water boils at 212 degrees F. at sea-level, where the atmosphere exerts a pressure of 14.6 pounds to the square inch. On a mountain 10,000 feet high the atmospheric pressure is only ten pounds, so that water boils at 199 degrees F. If we could remove the atmospheric pressure almost entirely water could boil without any heat at all.

The surface temperatures of Caribbean waters is about 75 degrees, but at a depth of 3,000 feet it is not much above 35 to 38 degrees F. Pump the surface water into a fireless "boiler" and it will boil if the air is exhausted from the boiler. The steam given off the turbine is condensed to form a drives a turbine and the exhaust from vacuum by means of cold water drawn from the depths. Hence we have a kind of sink into which heat units flow, driving a turbine in the process.

When they read of projects such as those of Claude and Tesla, engineers sharpen their pencils and begin to figure. Suppose the turbine were of 35,000 kilowatt size. The rotating portion, or "rotor," would have a diameter pipe leading from the "boiler" to the or 100 feet. The diameter of the steam throttle would be about 25 feet. The very largest power houses would be pigmies in comparison with a Claude or Tesla plant of small capacity. Add to this the difficulty of designing plants of any size to avoid the slightest leakage, and we see how remote is the realization of what must be dismissed as an enchanting technical dream.

Game birds can eat with impunity rain poisoned with strychnine, not because they are immune to strychnine—they die if it is injected into their blood, but because the poison does not pass through the walls of the intestines. A man can swallow snake venom, but it will kill him if he gets it into a scratch. He can acquire the parrot disease by way of the mouth, but certain monkeys yield to it only when the blood is directly affected.

These facts were presented by Professor Wilder-Bansett of Cornell University before the American Chemical Society to defend and elaborate views of a famous French physician, Claude Bernard, advanced over sixty years ago on the subject of insanity. All poisons, anesthetics and drugs act to interfere with the brain or the sensory nerves produce mild insanity, because they affect thinking and action. Thus anesthesia causes a coagulation or puckering of the proteins in the brain and sensory nerves, with the result that emotions and reasoning are influenced. If the affected proteins are made mushier normally is restored. This actually turns out to be the case when ephedrine or sodium tetracyanate is administered to anesthetized men, dogs, rabbits and goldfish.

All this means that chemistry is actually discovering how the tissues of the brain and nerves can be chemically affected to treat the insane. Not the physician but to the chemist must we look for much of our progress in medicine.—W. K.

Astronomers Successfully Use Plane as Observatory

Los Angeles.—Scientists, using an airplane as their observatory, recently saw what probably was the greatest shower of the age-old Leonid meteor since the historic display of 1865. It was the "hit show" of the universe, coming only once in every 33 years, and first seen just a thousand years ago. The spectators were nine men, including Dr. Paul W. Merrill, noted astronomer of the Mount Wilson Observatory, Pasadena, Cal., who flew in a night mail plane and watched the flow from Salt Lake City to Los Angeles.

The shower of flaming fragments appeared at one time with a frequency of more than one a minute for 39 minutes. In all nearly 150 were counted and there probably were more than from sight by the wing of the monoplane.

The most brilliant of these left a trail that was visible for nearly four minutes. It diverted from the straight line of its predecessors by turning at right angles from its course as it flew through the air, probably 50 miles above.

Trust a Girl

The school inspector was giving a test in general knowledge to the mixed class.

"I wrote on the board the Roman numerals LXXX.

"Now, then, my boy," he said, pointing to a smart-looking youth, "tell me what that stands for?"

"Before the boy could reply a little sprang to her feet.

"I know," she put in coyly. "Love kisses, sir."

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Hearts of Athletes Show Difference

From Study of Those of Nurmii and Hempel Doctor Says Action, Not Size, Counts

Berlin.—Dr. Victor Gottheiner, roentgenologist, who invented X-ray motion pictures, has made a special study of the organic constitution of athletes and recently filmed Finnish runner Nurmii's heart in action, holds that athletic prowess is not so much a matter of how bodily organs are made but how they work and that the latter depends largely on what goes on in the brain. He threw on the screen a reel showing the heart and lungs of the German champion runner, Paul Hempel, in contrast to Nurmii's, and pointed out that whereas Nurmii's heart is more than double the average size Hempel's is barely average.

"Nurmii is in physical constitution an ideal athlete," Dr. Gottheiner said. "But Hempel is so far from it—in fact, he is asthenic; his extraordinary performance shows what a man can do when he has the will for it."

Dr. Gottheiner said he had started as a pathological anatomist but on the basis of his X-ray researches had come to the conclusion that mere knowledge of the organic structure was almost meaningless.

"When a heart has been cut out of the body," he said, "it is just a chunk of meat. You must know it in action before you know anything useful about it. Take Nurmii's heart: from a static X-ray picture of it no doctor could tell whether it was not enlarged by severe heart disease. A sick heart works unevenly.

"Look at the film of Nurmii's heart and you will see in what perfect rhythm it functions. It shows, indeed, an anomaly in its action unobserved in ordinary hearts; in pumping it turns on its axis through about a quarter circle but that is only because it is so big it otherwise would not find room in his chest. Nurmii developed his heart—which is perfectly sound—to that extraordinary size much the same way as another athlete develops huge biceps. But unlike the latter Nurmii's huge heart demands constant exercise; if he stopped training very likely he would fall ill."

Armistice Day Silence

Oh, let us learn, we pray Thee God, today,
We who have lightly broken our brothers' hearts;
And when ho: passion starts
And would our oft-bewildered senses sway,
Oh, teach us, God, we pray.

Just for a moment will the world's pulse cease,
And as her clanging noises slak to rest,
Let, for that moment, peace
Drop, like a sudden bird upon her nest,
On earth at Thy behest!

So we in stillness, seeing what we are,
Thy children yet, may turn, and with our tears
Wash out the merciles years;
Wash out the clamors and the wrongs of war,
And man no longer mar.

—A Jacqueline Shaw.

The Imperial Conference

London Daily Telegraph (Ind. Cons.): Serious difficulties in Australia and New Zealand led to a postponement of the Imperial Conference to an unfixed date in 1932. These exist no longer, and in both those Dominions the Governments' desire for an early meeting has been made known. In this country the position has been magically changed; the strongest Government of modern times has been given what is asked for—a free hand for the reconstructing of our economic fabric by any means that shall be deemed effective; and that mandate has been sought and obtained with a specific insistence that a tariff policy is not to be excluded from the methods of adjusting our economic life to the altered conditions of world commerce. Thus, armed, the Government will take part in the Economic Conference completely untrammelled by the doctrinal commitments which have clogged its activities hitherto; and for the first time the policy of Empire economic unity will be placed in the way of realization.

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A financier says it is the hostility to corporations.
The farmer says it is the low price of wheat and cotton.
The silver man says it is the action of Wall Street.
The manufacturer says it is the fear of free trade.
The Wall Street men say it is the action of the silver men.
The consumer says it is the tariff.
The debtor says it is the creditor.
The creditor says it is the debtor.
The preacher says it is the devil.
Now what have you got to say about it?

Watt—"I thought you and Fozzello were acquainted."
How—"We are."
Watt—"You didn't seem to recognize each other when you met."
How—"Our acquaintance is purely telephonic."

Mr. Lee was entertaining his small daughter in his lumber yard. The phone rang while he was out of the office, so Betty answered it.
Caller—"Hello, is this Mr. Lee's lumber yard?"
Betty—"No, this is Mr. Lee's little girl."

A Scot, who had worn the same hat for fifteen years, decided with heavy heart to buy a new one.
Going into the only hat shop in his neighborhood, he said: "Well, here I am again."

She—"Say, it's past midnight. Do you think you can stay here all night?"
He—"Gosh, I'll have to telephone mother first."

Mistress—"Saturdays I shall go to market with you."
Bridget—"But who's going to carry the basket the other days, mum?"

Foreman—"Well, everything all right?"
Night Watchman—"Yes, I haven't done so bad for the first night. I've checked off everything and there's only one thing missing—the steam roller."

In the old days before mayonnaise became epidemic table scraps were hush instead of salad, and you could tell what the darned thing was. Grandmother's handbag may have contained a lot of foolish things, but it never contained a lipstick or cigarette case. Every boy asks for more than he expects to get. The woman who used to be ashamed of her past is now having it syndicated. An optimist is a guy who thinks his wife has quit smoking cigarettes when he finds cigar butts around his house. More than one girl has given a boy friend the bounce for rubbering at other girls. You can't tell good literature. The publishers give you a set of it free when you buy a set of trash. We'll credit Admiral Byrd with finding all that land down at the South Pole, but just the same how is he going to get it destroyed? Naturally some wom think better of their first husband after they have been hooked up a few years with their second.

Nurse—"Your wife has just given birth to triplets."
Brown—"Gosh, that's what comes of her working in the recorder's office. Everything is triplicate."

Hudson—"Don't you find it hard to meet expenses?"
Ramsey—"Hard? Man alive! I meet expenses every time I turn around."

Frank—"Why don't you and Helen get married. Are you afraid to pop the question?"
Peter—"No; afraid to question the pop."

Cooper (at the Southern Winter Resort)—"When did you discover that you loved me?"
Agnes—"When I found out that you were the only unmarried man in the place."

Boss—"A man is never older than he feels. Now this morning I feel as fresh as a two-year old."
Steno (sweetly)—"Horse or egg?"

"THESE HARD TIMES"

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