Anniversaries of Science

May 4, 1503—The Pope issued a bull granting to the Spanish sovereigns all the land west of the line drawn from pole to pole at the distance of 100 leagues west of the Azores, and to Portugal all the land to be discovered to the east.

So far as Spain and Portugal were concerned this arrangement was an equitable one. Roughly speaking, the line thus drawn passed north and south through mid-Atlantic, and gave to each Power the countries they had been concerned in discovering. Had it remained unaltered, the whole of America would have fallen to Spain, and Malaysia, and Papua, and even Australia to Portugal. But it did not, for from the moment of its publication the latter Power remonstrated, fearing—although at the time nothing was of course known—that no share of the riches of the New World would fall to her.

—Guillemard: *Life of Ferdinand Magellan.*

Science News-Letter, April 30, 1927

May 5, 1827—Death of Laplace, author of the Nebular Hypothesis.

In the primitive state in which we have supposed the sun to be, it resembles those substances which are termed nebulae, which, when seen through telescopes, appear to be composed of a nucleus, more or less brilliant, surrounded by a nebulosity, which, by condensing on its surface, transforms it into a star. If all the stars are conceived to be similarly formed, we can suppose their anterior state of nebulosity to be preceded by other states, in which the nebulous matter was more or less diffuse, the nucleus being at the same time more or less brilliant. By going back in this manner, we shall arrive at a state of nebulosity so diffuse that its existence can with difficulty be conceived. . . .

But in what manner has the solar atmosphere determined the motions of rotation and revolution of the planets and satellites? If these bodies had penetrated deeply into this atmosphere, its resistance would cause them to fall on the sun. We may therefore suppose that the planets were formed at its successive limits, by the condensation of zones of vapours, which it must, while it was cooling, have abandoned in the plane of its equator.

—Laplace: *The System of the World,* translated by Harte.

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May 6, 1856—Birth of Dr. Sigmund Freud, father of psychoanalysis.

Neuroses are foreign to you; since you are not doctors yourselves you have had access to them only through what I have told you. Of what use is the best judgment if it is not supported by familiarity with the material in question?

Do not, however, understand this as an announcement of dogmatic lectures which demand your unconditional belief. That would be a gross misunderstanding. I do not wish to convince you. I am out to stimulate your interest and shake your prejudices. If, in consequence of not knowing the facts, you are not in a position to judge, neither should you believe nor condemn. . . . .

We do not even demand that our patients should become convinced of and predisposed to psychoanalysis. When they do, they seem suspicious to us. The attitude we prefer in them is one of benevolent skepticism. Will you not try also to let the psychoanalytic conception develop in your mind beside the popular or "psychiatric"? They will influence each other, mutually measure their strength, and some day work themselves into a decision on your part.

On the other hand, you must not think for a moment that what I present to you as the psychoanalytic conception is a purely speculative system. Indeed, it is a sum total of experiences and observations, either their direct expression or their elaboration. Whether this elaboration is done adequately and whether the method is justifiable will be tested in the further progress of the science. After two and a half decades, now that I am fairly advanced in years, I may say that it was particularly difficult, intensive and all-absorbing work which yielded these observations.

—Freud: *Introduction to Psychoanalysis.*

Science News-Letter, April 30, 1927

PSYCHOLOGY—ZOOLOGY

Psychotherapy

This week's prize winning poem in the Science Service scientific poetry contest.

A lazy Sea Serpent was drifting
Down oceans of azure and gray,
When along swam a Shark, as dusk became dark,
Who lingered to bid him good day.

"Howdy-do?" asked the Shark of the Serpent;
"As usual," the Serpent replied,
"But news comes to me as I laze in the sea,
That casts a great gloom on my pride."

"It's sorry I am," said the Shark,
"For to hear that you're low in your mind;
Pray why, if you'll tell, is your spirit unwell?"
For even a Shark may be kind.

"Ah, grief's in my heart," sighed the Serpent,
"With sorrow, alas, it will break!
Mankind is misled, for rumor has said
That **I** am a mythical Snake!"

"How foolish," declared the Selachian,
"To feel so uncommonly sad;
Whatever they think, your pride needn't shrink;
You know you exist, so be glad."

The lazy Sea Serpent was drifting,
And smiled to himself as he swam,
"All folks may agree that there isn't a ME,
But I know very well that I AM!"

—*Richard Ashman.*

Science News-Letter, April 30, 1927

PHYSICS

Hydrogen Not Changed

The dream of the ancient alchemists, thought to have been realized by the transmutation of hydrogen into helium by Drs. Fritz Paneth and Peters, noted German chemists, has had to go back to the status of a dream once more, according to a report in the German scientific journal *Die Umschau.* Professor Paneth has himself retracted the claim that he changed one element into another, because of the discovery of two hitherto unsuspected sources of error in his apparatus. Ultra-minute quantities of helium were held adsorbed in a mass of asbestos, used in the apparatus, and a still smaller amount was dissolved in the glass tubing. These hidden traces of gas came out when heated, and infinitesimal in amount though they were, they registered their presence and thus led to the mistaken impression that helium had come into existence where none had been before.

Professor Paneth recently spent several months at Cornell University as non-resident lecturer in chemistry and much of his time was spent in research upon the problem of transmutation. His experiments were also repeated in the chemical laboratory at Princeton University with his cooperation. The Princeton chemists are understood to have been unable to bring about the transmutation of hydrogen into helium.

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GEOPHYSICS

Borings Yield Steam Power

Boring for live steam as men bore for oil, with the possibilities of running engines and turning dynamos without the burning of a pound of fuel, according to Dr. Arthur L. Day of the Carnegie Institution of Washington. The steam wells described by Dr. Day are in Sonoma County, Calif., where operations have been going on for some time to exploit a field of hot springs and steam vents similar to those of Yellowstone National Park but on a smaller scale.

So far, Dr. Day states, five borings have been sunk. They reach depths of from 300 to 600 feet, yielding a total of nearly 5,000 horsepower of live steam. The temperatures at the bottoms of the wells vary from 160 to 185 degrees, and the pressures attain a maximum of 276 pounds per square inch. Besides steam, various gases come out of the wells.

Science News-Letter, April 30, 1927