

# Industrialism and Idealism

Engineering

PROFESSOR MICHAEL PUPIN in *Scribner's*, June, 1928:

Just think of the thrills which I experienced during the earliest days after my landing at Castle Garden! There was the awe-inspiring elevated railroad and the embryo of the Brooklyn Bridge spinning out its span of slender wires like a spider's web high up in the air and across the East River.

Two years after my landing I saw the first telephone exhibited at the Centennial Exposition in Philadelphia. It repeated speech with perfect articulation. This was a great

thrill to everybody and particularly to an untutored immigrant like me, but it nearly persuaded me to go back to my native village. "No chance for me," said I, "in this country of magic, where men can make a simple steel disc speak the English language better than a Serbian greenhorn can speak it in spite of all the efforts of his clumsy vocal organs."

Two years later I experienced a similar thrill when I first listened to a phonograph. Edison's incandescent electrical lighting of 1882 mystified me and filled me with awe when

I compared it with the tallow candles of my native village. I shall never forget my emotions when I first gazed at the blazing flames of the roaring furnaces in the Pittsburgh steel district where millions of tons of steel were preparing the foundation of a new civilization. These and many other apparently miraculous workings of science and invention, witnessed by my untutored and impressionable mind, consoled me for what I had lost when I deserted the lovely animals of my native village and ran away to the land of machines.

*Science News-Letter*, June 23, 1928

## The Church Organ

Music-Physics

JOHN REDFIELD, in *Music* (Knopf).

Of all the musical instruments which man employs there is no other he plays so badly as the organ. It is often almost impossible for a discriminating musician to listen to the playing of an organ, especially a church organ. The organists in some of the larger movie theaters are less offensive in their playing, but church organists as a rule are most exasperating. Their feet usually drag along a measure or two behind their hands, they do not scruple to hold any convenient note as long as they please while they poke stops or hunt a new piece of music, and in general they conduct themselves as if there were no such thing as rhythm, either measured or unmeasured, in the music they play. It will not avail the church organist to contend that his music is quasi-unmeasured; his complete lack of comprehension of unmeasured music is convincingly proved whenever his choir attempts to produce a polyphonic composition. If a church organist has the good fortune to hold a part-time job in some movie house he will usually be able to pick up the rudiments of rhythm sooner or later from the jazz band employed there. Otherwise the church organist remains the sorriest example of the professional musician anywhere to be found.

It is entirely possible that the organ has become too complicated a musical machine to be managed by one player. I am not at all certain that this is not the case. It might perhaps be advisable to relieve the organist of the duty of managing stops, turning music, etc., by allowing

J. B. S. HALDANE in *Possible Worlds* (Harpers):

To the mouse and any smaller animal gravity presents practically no dangers. You can drop a mouse down a thousand-yard mine shaft; and, on arriving at the bottom, it gets a slight shock and walks away, provided that the ground is fairly soft. A rat is killed, a man is broken, a horse splashes. For the resistance presented to movement by the air is proportional to the surface of the moving object. Divide an animal's length, breadth, and height each by ten; its weight is reduced to a thousandth, but its surface only to a hundredth. So the resistance to falling in the case of the small animal is relatively ten times greater than the driving force.

An insect, therefore, is not afraid of gravity; it can fall without danger, and can cling to the ceiling with remarkably little trouble. It can go in for elegant and fantastic forms of

him an assistant. Even better, in my opinion, is the plan of producing the notes of the score mechanically, as on the reproducing piano, leaving the organist entirely free to give his undivided attention to stops, tempo, dynamics, and nuance in general.

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Next year will be the 250th anniversary of the discovery of coal in America.

The United States has nearly 1,000 museums, most of them along the east coast.

## On Being the Right Size

Anatomy

support like that of the daddy-long-legs. But there is a force which is as formidable to an insect as gravitation to a mammal. This is surface tension. A man coming out of a bath carries with him a film of water of about one-fiftieth of an inch in thickness. This weighs roughly a pound. A wet mouse has to carry about its own weight of water. A wet fly has to lift many times its own weight and, as every one knows, a fly once wetted by water or any other liquid is in a very serious position indeed. An insect going for a drink is in as great danger as a man leaning out over a precipice in search of food. If it once falls into the grip of the surface tension of the water—that is to say, gets wet—it is likely to remain so until it drowns. A few insects, such as water-beetles, contrive to be unwettable; the majority keep well away from their drink by means of a long proboscis.

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A tortoise in the London Zoo is known to be more than 100 years old.

Two million crows was the estimated population of one crow roost in Pennsylvania.

Children in remote districts of Australia can take their school work by correspondence.

A Colorado firm is marketing Jerusalem artichokes in flakes like potato chips, artichoke jam, artichoke syrup, and relish, especially for diabetic patients who cannot eat sugar and starch.