

to be made up of globuls; and where they lay thick upon one another, they had a green colour.

The 26th, having been eight days out of Town, and kept my Study shut up close, when I was come home and did view the said water, I perceived several *animalcula*, that were very small. And herewith I desisted from making at this time any further Observations of Rain-water.

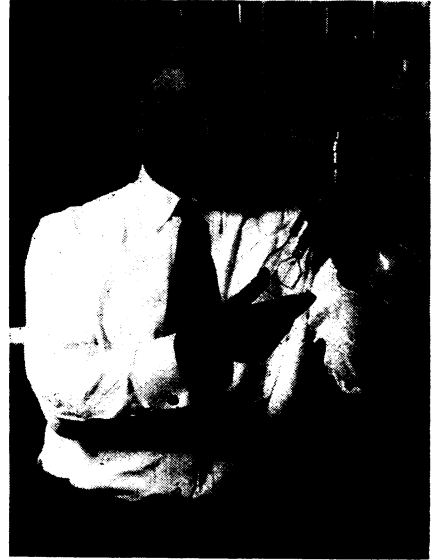
Mean time, this Town of *Delft* being very rich in water, and we receiving from the River of *Maase* fresh water, which maketh our water very good; I viewed this water divers times, and saw extream small creatures in it, of different kinds and colours; and even so small, that I could very hardly discern their figures: But some were much bigger, the describing of whose motion and shape would be too tedious: This only I must mention here, that the number of them in this water was far less than that of those, found in Rain-water; for if I saw a matter of 25 of them in one drop of this Town water, that was much.

In the open Court of my house I have a well, which is about 15 foot deep,

before one comes to the water. It is encompassed with high walls, so that the Sun, though in *Cancer*, yet can hardly shine much upon it. This water comes out of the ground, which is sandy, with such a power, that when I have laboured to empty the well, I could not so do it but there remained ever a foote depth of water in it. This water is in Summer time so cold, that you cannot possibly endure your hand in it for any reasonable time. Not thinking at all to meet with any living creatures in it, (it being of a good taste and clear) looking upon it in *Sept.* of the last year, I discover'd in it a great number of living animals very small, that were exceeding clear, and a little bigger than the smallest of all that I ever saw; and I think, that in a grain weight of this water there was above 500 of these creatures, which were very quiet and without motion.

In the Winter I perceived none of these little animals, nor have I seen any of them this year before the month of *July*, and then they appear'd not very numerous, but in the month of *August* I saw them in great plenty.

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DR. J. W. MARDEN

And his new sun lamp developed in the laboratories of the Westinghouse Company. It can be adapted for use in an ordinary electric light socket.

ENGINEERING

New Sun Lamp Resembles Ordinary Electric Light

SUNLIGHT has become almost as easy to reproduce as the artificial illumination of the electric lamp. This is made possible by a new type of lamp which, although it closely resembles the common lamp and is almost as readily used, gives light as beneficial as that from a midsummer sun. It was described in Richmond, Va., by Dr. J. W. Marden, research engineer of the Westinghouse Company, before the annual meeting of the Illuminating Engineering Society.

"This new lamp," Dr. Marden said, "is designed to send out small quantities of healthful ultraviolet rays when it is burned in conjunction with an ordinary electric lamp or a small resistance. Consuming only 25 watts, it produces a very mild sunburn or redness of the skin on one's arm held about five inches from the lamp for a period of about 15 or 20 minutes."

The lamp is of the low pressure mercury glow discharge type and will soon burn out if full house voltage, usually 110 volts in the United States, is applied to it. Hence a transformer, a special resistance or another lamp must be used with it. It is thought that its most convenient application in the home will be in a double socket with an ordinary illuminating lamp.

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ANTHROPOLOGY

If Elected, You Must Serve Old Tzapotec Democracy

AN INDIAN democracy, in which officials serve without pay and are deprived of their citizenship if they refuse political office, has been discovered among an isolated tribe, the Tzapotecs of Mexico, by Dr. Oscar Schmieder, of the University of California.

The Tzapotec system of government by and for the people appears to be one of the oldest democracies in the world. Magnificent stone buildings erected by early generations of Tzapotecs were falling into ruins when Columbus discovered America. Yet the customs of the tribe have changed very little, owing to their secluded home in the high valley of Tlacolula.

Mitla, chief town of the Tzapotecs, holds elections January first and chooses its officials for one year. To refuse to serve is literally to become a man without a country. Married men over 18 may vote, but bachelors cannot vote until they are 21.

The young men take turns serving on

the police force, for two weeks at a stretch. All contribute labor for building schools and other public works. A man arrested for drunkenness must work out his fine.

When a young Tzapotec decides which of the village maidens he wishes to marry, he goes, not to the girl or to her parents, but to a professional match-maker who arranges the marriage to the satisfaction of all concerned.

Each family has a plot of arable land. The communities also own isolated patches of ground in the mountains which any one may farm.

While farming is the chief occupation and corn and beans the staple crops, the men weave woolen blankets or serapes on ancient looms and make long trips to the cities to sell their products.

The women may help their husbands in the fields but their chief work is in the house, or its small garden and orchard.

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