walls. Covering the water pipes with insulating material and providing better ventilation saved the contractor and proved that his masonry was of better quality than had been admitted.

The conflict between esthetics and practical planning will go on indefinitely but in the special case under consideration—the desire to design a house that will nestle close to the ground and at the same time have a full story under every part of the house—the solution comes from a recognition of the meteorological conditions and the separating of conflicting features in design.

If, in the bungalow type of dwelling, the living room, dining room and kitchen are set on the same level, with a cellar below them set only three feet into the ground, and if the bed rooms are set a half story above these rooms, there results a type of plan with a minimum of masonry and no condensation to dread from the deep cellar floor. Our cellars can be dry, well ventilated and well lighted if we will not insist upon placing our living rooms two feet above the ground with deep cellars below them, our entrance can be one step above the ground under the bed rooms. We can place back of our entrance such rooms as a garage, a plant room or a shop—all in the part of the cellar under the usual bungalow which goes to waste. An illustrated article in the *Woman's Home Companion* for October, 1921, will indicate the scheme in greater detail.

Furthermore, we gain the desirable effect of closeness to the ground characteristic of the English cottage.

The result indicated above owes its existence to a study of the physical conditions described by the meteorologist and it is with a feeling of gratitude and eagerness to learn all that science has to teach that the men who are studying better planning must turn for the solution of their problems and the foundation of better building methods.—*J. T. Tubby, Architect,* 143 Liberty St., New York City.

COMMENT.

Have colds disappeared from Africa since 1742?

In a note on page 53 of the April, 1921, BULLETIN, Mr. Marcosson after a tour of Africa is quoted as follows:

"It is one of the ironies of civilization that after passing unscathed through all the fever country I caught cold the moment I got back to steam heat and all the comforts of home."

In a book entitled, "Physical Observations on the Coast of Guinea," published by a naval surgeon in 1742, appears the following:

Sleepy Distemper gives no other previous notice than a want of appetite two or three days before; their sleeps are sound, and sense of feeling very little, for pulling, drubbing or whipping will scarce stir up sense and power enough to move; and the moment you cease beating the smart is forgot and down they fall again into a state of insensibility.

This is a description of the later stages of "sleeping sickness," but Surgeon Atkins goes on to ascribe the cause of the disease to "catching cold," "to diet and way of living," "to weakness of the brain; some or all of these causes cooperating to it." He is referring to the native savages. (Quoted from *Journal American Medical Association, 76–114,* April 2, 1921, p. 957.)

Again, from the *Journal of the American Medical Association,* Jan. 18, 1919, p. 204:

"Influenza Expedition.—A dog team expedition has left Dawson, Yukon, on a trip of 500 miles, with supplies, medicine, and masks for combating influenza among the Indians and Eskimos in that remote region. It was dispatched by the commissioner of Indian Affairs, Ottawa, Canada."

These items are submitted because explorers to the Arctic regions and wild countries are often quoted as "catching cold" on return to civilization, as though "colds" and inferentially other infectious diseases were a peculiarity of civilization.—*John R. Weeks.*

Effect of hot weather in California.

By way of comment upon Mr. A. H. Palmer's note on the effect of the "excessive heat" upon the Ohio University football team at Pasadena, Calif., on January 1, 1921 (April, 1921, BULLETIN, p. 54):

Is it not quite probable that the effect referred to was due more to the high moisture content of the air than to the high temperature? At Los Angeles, where the humidity cannot be greatly different from that at Pasadena, the normal absolute humidity in January, is nearly twice as high as at Columbus, Ohio. There would be, therefore, a correspondingly great difference in the amount of moisture expelled from the body through respiration—a difference that certainly would be keenly felt by unacclimated athletes undergoing strenuous physical exertion. They naturally would ascribe the resulting physical depression to the temperature, since the sensible effect would be the same as that produced by very high temperature.

I once (involuntarily) spent the late summer and early fall in that portion of California mentioned by Mr. Palmer, after having spent the major portion of the summer in the hot, semi-arid western plains; yet the physical discomfort and lassitude experienced in California greatly exceeded that felt in the hot plains, or, in fact, in any other part of the United States except the Gulf Coast. I might also mention that the only time in my life that I was overcome by the "heat" was when I was rowing a boat in Southern California: I had previously, and subsequently, enjoyed this form of exercise under the hot summer sun of the central and southern plains states, without any discomfort whatever.

I ascribed this to the high moisture content of the air, together with the fact that the air of the California coast seems to lack the stimulating, vivifying, tonic effect of the atmosphere in the interior districts of the United States. Others beside myself have noticed this, as I have heard different individuals characterize the atmosphere of the Pacific coast as "dead," "passive," "stale," etc. It would be interesting to know just what combination of temperature, humidity and wind movement produces this impression of atmospheric stagnation.

From the viewpoint of human comfort, air temperatures always have been, and still are, given a greatly exaggerated importance. We as yet know next to nothing concerning the effect of the different climatic elements upon the physical, mental and moral state of man, and it offers a big field for research work. —*Cleve Hallenbeck.*

"How did the earthworms get into the pan?" A. H. FELGER. BULLETIN, American Meteorological Society, April, 1921.

For years I have encouraged our native birds to make their homes with me—on my lawn. For drinking and bathing purposes they are furnished a pan of water, about two inches deep and four feet above ground. At times, particularly after rains, I would find earthworms, some mangled, in the pan. I wondered how the worms got into the pan. One morning I was shown.

During dry weather earthworms stay relatively deep. They then are scarce. Whenever it rains, especially warm rains, they come to the top of the ground for migratory purposes. Earthworms can not travel about when it is dry, because the clinging dry earth prevents free movements. When they do come to the surface, then indeed the robins have a feast.

One morning, with my then small son, watching the robins gather worms, my son remarked, "Dad, look at that robin. Its bill is just chockfull of good fish bait." Just then the bird flew, with bill full of worms, toward its nest of young. The watering pan was on the line of flight. The bird lit on the rim of the pan, seemingly to better control its load of worms. To still a wriggling worm, the bird rapped its bill sharply against the rim of the pan. It missed its calculation in some manner, and lost its precious load. The bird eyed the worms at the bottom of the pan for a bit, and then seemed to conclude, "Why worry, there are lots of worms this morning." But the problem, "How do the earthworms get into the pan?" was solved. Birds also drop the worms on roofs. The rain carries the worms down the rainspout into the barrel.—*George Reeder*.

U. S. Weather Bureau, University of Missouri.

April 20, 1921.

"ARTIFICIAL WAVES" IN THE OHIO RIVER.

During the last four years the United States Engineers have used a unique and interesting method of supplying sufficient water in the Ohio River during low water periods for river transportation. The method used has become known, at least locally, as the production of artificial waves, and involves the work of the United States Engineer Department and the Weather Bureau.

Previous to the last four years water has occasionally been let out of the dams in the tributaries either to run logs down the tributaries or help stranded boats down the Ohio, but in those cases the water "runs wild" and washes property down the river, while in the artificial wave a rise to a definite stage is produced, this stage is maintained for about twenty four hours, giving a wave 30 to 40 miles in length, and after the fall, holding the stage at its former height for low water navigation. A small surplus of water above the minimum need for low water use is stored each day in the pools for a week or 10 days and the accumulated amount used to make the wave.

The dams in the Ohio River have been completed nearly to the mouth of the Kanawha River, a distance of 265 miles, but from the mouth of the Kanawha to Cincinnati, a distance of 203 miles, only part of the dams have been completed. It is down this last stretch of the river where large shipments of coal are made from the West Virginia coal fields to Cincinnati for local use and for re-shipment by rail. Under natural conditions there is not sufficient water in the river to make the shipments for a period of several months during the summer and fall.

The artificial wave is started at either Dam No. 11 or No. 12 about 180 miles above the mouth of the Kanawha. The first dam is partly opened and the water is allowed to pass until the stage above is from 1 to 2 feet below the normal pool level. The bear traps at each of the following dams from No. 11 or 12 down to No. 24, just above the mouth of the Kanawha, are opened about 1 hour later than at the dam immediately above, the last dam being opened about 15 hours after the first one, and the pool level being drawn down 3 .0 feet. The bear traps at the first dam will be open only 2 or 3 hours but the last dam will be open from 16 to 24 hours. An interesting phase of the changes at the dams is that within a few minutes after one dam is opened the water begins to rise above the next dam below, which is from 10 to 20 miles farther down the river. As the water cannot possibly run through the pool in such a short time the rise at first must be due to some pressure effects.