

Maxwell indeed suggested ("Electricity," vol. i. p. 56) that a layer of extra dense air equivalent to an extra layer of ordinary air about 1/200th inch thick surrounding solids would account for Sir Wm. Thomson's remarkable and puzzling results; and this is a dimension of the same order of magnitude as the thickness of the dust-free coat on bodies at an ordinary temperature. I by no means intend to imply that the dust-free layer is not composed of extra dense air—I have no evidence on the subject—but the dust-freeness may possibly account for its greater strength without the hypothesis of extra density.

The dust-freeness itself remains to be accounted for. Numberless experiments suggest themselves. We have not yet tried other gases even, though that is an obvious thing to do.

It struck me some time ago that the motes in a sunbeam would be convenient weightless bodies for many purposes, to exhibit statical lines of force for instance, but the particles of the smoke we have hitherto used have not been sufficiently elongated for this purpose. But I anticipate that the examination of all kinds of electrical phenomena in the strongest possible light, instead of in the dark as usual, may lead to various fresh observations.

The rapidity with which an electrified point clears the box of smoke is so noticeable as to suggest several practical ideas. It is somewhat surprising considering the perfection to which electrostatic machines have been brought that they have not yet received any practical application. The electrical clearing of the air of smoke-rooms, or of tunnels, is perhaps not an impracticable notion. The close relationship between fogs, epidemics, &c., and the suspension of solid particles in the air, suggests the use of electrical means for sanitation, and for weather improvement. It has long been known that lightning clears the air, and though ozone may be credited with a portion of the beneficial influence, I fancy the sudden driving away of all solid particles and nuclei must have a great deal to do with it.

If the germs driven out of the air are condensed on the earth's surface, a partial explanation is suggested of the way in which "thunder turns milk sour," a fact which has always puzzled me, and which appears to be well established.

I cannot help thinking that the human race will ultimately acquire some means of artificially affecting the weather in a less injurious manner than that which they have hitherto attempted with only too great success, namely, the manufacture of solid nuclei in prodigious numbers for moisture to condense round, and of oily matter to cover the surface of such moisture with, in order to prevent its evaporation. As soon as this artificial pollution of the atmosphere has been decisively checked, it will be time to consider whether it may not be possible to keep off even natural mists and rain when they are not wanted, and to assume some sort of control over the weather at critical seasons, instead of halting between superstitious appeals to Providence on the one hand, and a helpless resignation to fate on the other, which are our attitudes at present.

Meanwhile is it not possible that a periodic optical examination of the atmosphere by a strong beam of light might convey useful meteorological information? OLIVER J. LODGE

University College, Liverpool, July 11

Antihelios

By means of a current of air passed through an ice closet or a closet otherwise reduced in temperature the air of living-rooms might be gauged to any temperature, but say 60° or 70° F. if we pleased. If the air were driven through a preliminary water chamber arranged on the principle of the hubble-bubble pipe, mosquitoes and other flying pests would be excluded absolutely. Imagine the comfort of sitting down to a meal whereat one's food should not be hidden by flying vermin, of reposing in a cool chamber wherein these intruders should be excluded absolutely. When I lay ill of fever in West Africa the atmosphere about me felt simply like the blast from a furnace. What an element of recovery, of possible health and physical well-being, would it not prove in hospitals when poor fellows languishing in disease should be surrounded by pure, cool, insectless air instead of air at a hundred degrees or even higher. People—some people—say doctors do not feel, but I say that a doctor's heart is rent with anguish when he enters a chamber wherein the air is pestilential, where the sores of wounded men are maggot-infested and the men themselves are eaten up with vermin. All this cooler air would prevent or tend to prevent. The festive hall, the school-room, the living-room, the barrack, the church,

would all experience, the occupants regarded, commensurate relief. It would be just as available in ships as on shore. The Red Sea transit and the blazing oceans of the tropics need no longer be things of terror. In steamships a small percentage of steam power would suffice for driving the cool air current. Wind, water, hand, and steam power could also be rendered available. The vans employed to supply blast-furnaces should suffice for anything, but there is the winnowing van which horse or mule, indeed any animal, could work. Even the simple circular bellows would keep an apartment cool. In towns or in a contonment, a stationary engine with air-ducts leading to the different dwellings would satisfactorily replace apparatus adjusted to each separate house.

HENRY MACCORMAC
Belfast, July 21

Disease of Potatoes

THE paragraph in NATURE, vol. xxviii. p. 281, regarding a "hitherto unknown" disease of potatoes near Stavanger, appears to be identical in every way with the disease which destroyed the "champion" potatoes in the West of Ireland in August, 1880, described and illustrated by me in the *Gardener's Chronicle* for August 28, 1880. The bodies described by Herr Anda, as about the size of a small black bean, are *Sclerotia*, or masses of highly condensed mycelium, and they have nothing to do with the potato fungus proper, *Peronospora infestans*.

It is a remarkable fact that neither horticulturists or botanists had ever noticed these large black *Sclerotia* in potatoes in Britain before 1880, and as far as I know no one has ever seen them since. There was a prodigious and destructive growth in 1880, and several botanists as well as myself tried to make the *Sclerotia* germinate, but a failure resulted in every instance. It appears that Herr Anda has seen the *Sclerotia* germinating; it is therefore to be regretted that he has not identified, or got some one else to identify, the perfect fungus.

WORTHINGTON G. SMITH

"Waking Impressions"

I HAVE before me now a record, written the following morning, of a waking impression of the same order as that told by Mrs. Maclear in NATURE, vol. xxviii. p. 270, but which I think shows more clearly the sort of duplicity of brain action that one sometimes detects in dreams.

I awoke with a clear vision of a pamphlet I was holding. The subject was cookery, and about four-fifths of the cover was occupied by an engraving of pots and pans, trussed chickens, and other culinary matters. Below this, in one line, printed in capitals all of the same size, was the title which I was reading at the moment of awaking, "FOOD, OR THE ASTROLOGY OF EVERY DAY."

My first waking impression was of the utter irrelevance of the alternative title; but on locking at it with closed eyes more carefully I saw that the paper in one place had been rubbed, and that a little bit was curled up, leaving a wider space between "the" and "astrology" than between the other words. The conviction then came to me that a letter was missing, and that the word in full must have been "Gastrology." This of course made sense of the title; but it is curious that one's waking intelligence should be needed to interpret the inventions of one's dreams.

E. HUBBARD

1, Ladbroke Terrace, July 21

A Remarkable Form of Cloud

WHILE preparing to observe the moon on Sunday, the 22nd inst., at 10h. 20m. p.m., my attention was attracted to a peculiar patch of grayish white light a few degrees from the moon, which upon closer examination I found extended right across the heavens, from the north-north-west to the south-south-east point of the horizon, passing through the zenith. It had a breadth of about 2°, and was sharply defined on both sides, more especially the northern, excepting near the zenith, where it was broken up into three or four detached cloudlike masses. All other parts of the sky were perfectly free from clouds, so that this one appeared like a gigantic arch spanning the heavens; so much so that a person to whom I pointed it out compared it to a rainbow, which it very much resembled in form. At 10h. 45m. it was reduced about one-half in width and had shifted 20° from the zenith