DUST ! WHAT IS IT—WHERE MOST ABUNDANT—ITS EFFECTS AND HOW TO GET RID OF IT ?

WHAT are the myriads of particles we see dancing in the sun-beam that penetrates a darkened room, and which we necessarily draw into our lungs at every breath? They are bits of almost everything, living or dead, that is found on the surface of the earth, thrown off by the functions of life or rubbed or worn off by friction; —bits of mineral, and of the vegetable and animal kingdoms, including man himself. Besides these, dust often contains living forms, animal and vegetable—animalculæ and bacteria. From the human body—from ourselves and our neighbours—and from the domestic animals are continually given off particles of cuticle and of epithelium from the surface of the air passages, sometimes bearing infections, with bits of hair from the body and from the clothing.

An important communication was made to the Royal Society of Edinburgh at its fifth ordinary meeting, on February 3rd last, by Mr. John Aitken, F.R.S., (from the British Medical Journal February 8th) on the number of dust particles in the atmosphere, with remarks on the relation between the amount of dust and meteorological phenomena. With his special apparatus, the air had been tested at various places on the Continent last summer. He found that at Hyères the number of particles per cubic centimètre varied from 3,000 up to 24,000 ; at Cannes the number varied from 1,500 particles, when the wind was blowing from the mountains, to 140,000 when the wind was blowing from the town ; at Hyères the sea air contained 1,800 particles, and at Mentone 5,000. Observations on the Righi were striking, the number of particles falling, in places, as low as 240, and varying from that up to 2,300, and doubtless on this fact depended the peculiar brilliancy and transparency of the atmosphere in this locality. Observations made in Scotland and elsewhere indicated how extraordinary was the pollution in the air due to human agency. In regions clear of human habitations, the number of particles fell as low as 200, while in and around villages the

particles amounted to thousands, and in town to hundreds of thousands. His lowest observation was 200 particles per cubic centimètre. It was still a problem whether that was the lowest limit attainable, and how much of that was of cosmic origin and how much was due to natural pollution. The presence of clouds at great elevations proved that dust existed in the upper atmosphere, but there must always be a considerable quantity of cosmic dust present from the the millions of meteors which fell daily. He had reason to believe that dust condensed moisture before the air was saturated, and this led to a loss of transparency, because the dust particles, by condensing the moisture in the air, increased in size. There was no doubt that haze was often largely due to dust. The condition of the air during fog had been tested, and in all cases a large quantity of dust was found. The explanation of fogs probably was that calms increased the quantity of dust in the air ; the dust increased the radiating power of the air, which soon got chilled to the condensing point, when fog was formed. Fogs were more frequent in towns on account of the greater amount of dust in the air.

The effect of inhaling dust of different kinds in the air, as Parkes says, " is a far more potent cause of respiratory diseases than is usually admitted." It is well known that diseases of the lungs cause vastly more deaths than diseases of any other organ. Doubtless the breathing of dust has much to do with this. It causes irritation of the delicate lining of the lungs which gradually increases until disease becomes established ; and it may be that it gives rise not unfrequently to that condition by which the bacillus of tubercular consumption is enabled to take root and develop in the lungs.

The importance therefore of making provision for the destruction, so far as possible, of all dust from manufacturies, of well paved, cleanly kept streets and lanes, of grassy yards and of living rooms free from dust is obvious. The efforts of health boards might be profitably directed more