

to see the varied conditions interposed by human dwelling-places, and how these conditions are magnified by the multiplication of buildings and the crowding of inmates. The great sanitation of nature is suspended, and factors of insalubrity introduced to a degree that arrests our most careful attention. If cities are ulcers on the body politic, they are not less anti-health combinations against the body physical. It is no small or unimportant thing to have removed the grass that sucks up the miasm, shaded the ground from sunlight, changed the laws of its moisture, altered its water-courses, and interfered directly with the forces which elaborated health. It is as easy to make destructive sanitary changes as to make destructive physical or chemical changes. The one or the other may depend upon only slight variations of atomic proportions. In chemistry, the equivalents of calomel and corrosive sublimate differ but little; so a single interrupted change may determine whether we shall have prophylactic or destructive agencies. * * *

When we remember how much moisture and evaporation depend upon relative temperature, and how much all these bear on health, we get some idea of the hygienic condition of the ground. The house may stand over it, the pavement may cover it, and stone and concrete seem to make it a basis for travel; but from it is evolving an influence on temperature, which penetrates and affects all the animals that dwell upon it. Since the warmth of the earth, radiating and being extracted at night into the colder atmosphere, causes the dew, this is but one of the registers of the relation between the ground and the air above. The heat and moisture of the ground, and the temperature of atmosphere above it, are unavoidably relative; and it is just as sensible to talk of changing ground, as of changing air for health. * * *

Next, the ground is largely made up of air. We are familiar with the fact that into a pail of soil we may pour part of a pail of water and yet not have an overflow. But we forget that all this space between particles of soil when not displaced by water in the ground is occupied by underground atmosphere. In its circulation it is meant to oxidize and hydrocarbonate animal and vegetable decay so as to make it innocuous, and great volumes of carbonic acid are handed over to vegetable life. *Questions of ventilation are not all above-ground.* It is in constant interchange with the surface air or else confined and fouled in its impeded underground circulation. Bad air stagnated in the ground is hurtful in all that constitutes insalubrity by interfering with normal and healthful affinities. Even the rain as it passes through the atmosphere becomes aerated and