

ART. LXIII.—*Skeleton revealed by Dew.*

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THE cold nights and fine days which we have experienced lately, with clear skies, and a consequent very copious deposition of dew, have produced a phenomenon which, probably, many may have remarked under varying conditions, and which at first was somewhat puzzling to me. A blank wall of a wooden house is visible from my window. The wall faces west, and is therefore in shade in the morning, and I have observed in it every morning, marked out in clear lines of moisture, the skeleton of the framing of the house—the vertical studs, diagonal braces, and floor-line. The effect was evidently due to inequalities of temperature caused by the contact of the various parts of the framework with the outer planks: where these planks were in contact with a part of the framing they were practically thicker, and therefore the surface lost, or acquired, heat more slowly than the unsupported and thinner parts. As the outer surface cooled down at night by radiation, the heat lost would be supplied again from the mass of the framework where the plank was in contact with it; and so these parts would remain warmer than the intervening portions, and on them the dew would therefore not be deposited so soon or so freely as on the intermediate parts. This seemed to me the natural course of events; and yet the effect observed in the morning was just the contrary. The portions attached to the framework were wet, and the intermediate parts dry. Reflection, however, showed that this was quite in accordance with the first impression that inequalities of temperature caused the inequalities of moisture. There can be no doubt that the deposition of dew takes place first on the thin unsupported portions of the wall, but soon the whole surface cools down by radiation below the temperature of the surrounding air, and dew is deposited all over the surface during the night. In the morning, as the air is warmed by the sun, it expands, and its capacity for holding vapour of water increases; it communicates its increased heat to the surface of the wall, and the thin unsupported parts are the soonest to take up the increased temperature, and the dew on those parts is dried off first. The thicker supported parts require a longer time to assimilate their temperature to that of the warmer air, and so continue for some time to retain their deposit of dew, which remains until the whole surface of the wall has taken up the day-temperature of the air.