circumstances connected with coal measures points to such conditions.—*Chamber's Miscellany.*

AN IRREVERENT SPARROW.

Amongst other experiments going on some time ago in the Observatory enclosure, were some by which Mr. Glaisher sought to discover how much warmth the earth lost during the hours of night, and how much moisture the air would take up in the day from a given surface. Upon the long grass within the dwarf fence were placed all sorts of odd substances in little distinct quantities. Ashes, wood, leather, linen, cotton, glass, lead, copper, and stone, amongst other things, were there to show how each affected the question of radiation. Close by, upon a post, was a dish, six inches across, in which every day there was punctually poured one ounce of water, and at the same hour next day as punctually was this fluid re-measured to see what had been lost by evaporation. For three years this latter experiment had been going on, and the results were posted up in a book; but the figures gave most contradictory results. There was either something very irregular in the air, or something very wrong in the apparatus. It was watched for leakage, but none was found, when one day Mr. Glaisher stepped out of the magnet-house, and, looking toward the stand, the mystery was revealed. The evaporating dish of the philosopher was being used as a bath by an irreverent bird!—a sparrow was scattering from his wings the water left to be drunk by the winds of heaven. Only one thing remained to be done; and the next minute saw a pen run across the tables that it had taken three years to compile. The labor was lost—the work had to be begun again.

GAUDALUPE MINE.—The California *Courier* gives the following description of a quick-silver mine. If reliable—of which it would seem there can be but little doubt—the owners have certainly "struck a vein:"—"A gentleman who has recently made an examination of this mine, has placed upon our desk a specimen of the ore now obtained there, which is fully equal to the richest and best cinnabar we have ever seen. From him we learn that the vein is daily increasing, and is found to extend in all directions, presenting on every side a nearly solid mass of ore, yielding from 60 to 85 per cent of pure mercury. The mine is reached by a beautiful road, good at all seasons of the year. It is in the same hill as the New Almaden mine, four miles distant from it, and only about eight miles from the city of San Jose. The company are now erecting extensive smelting apparatus, and in a short time will be able to run out some thousands of pounds of quicksilver per day. The value of the quicksilver obtained from this and the New Almaden mines this year, will amount to several millions of dollars. Our readers may not be aware that it requires two pounds of quicksilver to produce one pound of silver; and that hundreds of silver mines, in Mexico and South America, cannot now be worked in consequence of the impossibility of obtaining this supply. The demand for quicksilver in this country, will, as the rich placers fail, and the quartz becomes more worked, and silver mines are opened, be very great; and, except for these cinnabar mines in our midst, impossible to be supplied. But those mines will not only fully supply us, but have a surplus to be sent abroad. Thus California not only yields to the world the richest treasures of gold, but in her quicksilver she holds in her hands the key to unlock the silver deposits of our own and other States, and the means to extract the finest particles of gold from our auriferous soil and gold-bearing rocks."

It is a vulgar notion that politeness is only required towards superiors. But the truth is, that every man ought to regard his fellow man, or friend, as his superior, and treat him accordingly. Such feeling the real gentleman always has.—"Let each esteem others better than himself," says an Apostle. This is the very soul of good manners.

It is reported in the scientific world, that a very beautiful, and, if we consider it, a very wonderful, experiment has been tried, or discovery made in Europe, and verified, by the *savons* of Berlin and Paris. It is this:—The needle of a galvanometer, or machinery to measure galvanism, has been moved, many degrees, by the mere action of the human will! For example, the operator, standing near the instrument, wills the needle to move one way or the other, and it obeys, moving a greater or a less number of degrees, according to the strength of his will.

HOW RUMINANTS CHEW THEIR CUD.—When these animals (ruminants) feed they swallow their aliments at first without having chewed them. These substances then enter into the paunch, and there accumulate; thence they pass into the second stomach, (reticulum); but after having remained there for a certain time, they are carried back into the mouth to be chewed, and afterwards swallowed again; and when they descend again into the stomach, they no more enter the paunch or reticulum, but go directly to the *manyplies*, (third stomach) from which they pass into the fourth stomach or *rennet bag*, where they are digested.

At first one is astonished to see food pass at one time into the paunch and reticulum, at another into the *manyplies*, (third stomach.) according as it had been swallowed for the first time, or after it has been regurgiated; and one is tempted to attribute this phenomenon to a sort of tact with which the openings of these different digestive pouches seem to be endowed. But there is nothing of the kind; this result being the necessary consequence of the anatomical arrangement of the parts. The œsophagus terminates below in a species of gutter, or longitudinal slit, which occupies the upper part of the reticulum (second stomach) and the paunch, and is continued to the *manyplies*. Ordinarily, the edges of the slit of which we have just spoken lie close together, and then this gutter constitutes a perfect tube, which leads from the œsophagus into the *manyplies* (third stomach;) but if the alimentary ball swallowed by the animal is solid, and somewhat large, it distends this tube, and separates the edges of the opening through which the œsophagus communicates with the two first stomachs; the food falls into these pouches; but if the alimentary ball be soft and pulpy, as is the case when mastication has been completed, the matter swallowed enters into this same tube without separating the edges of the slit, and reaches the third stomach.

It is by this mechanism that unchewed food, which the animal swallows for the first time, stops in the paunch and reticulum; while after it has been chewed