

against one of antimony excites the distant needle. He has tested the method for tolerably long distances.

"ON THE BARON DE BODE'S INSULATED COMPASS," BY J. Y. OLIVER.
—The object was to insulate the compass from the action of the iron of the ship. The contrivance was this: a double glass bowl, the intermediate space being filled with mercury, was made to act as the bowl of the ordinary compass. It was hung in gymbals, and protected with lead. This rendered it very heavy and cumbrous.

Mr. Dent objected, that if this insulation would protect the needle from the action of the ship's iron, it would also shield it from the directive force of the earth, and therefore render it useless: but upon placing a poker near the compass, it was distinctly affected through the insulating mercury.

"ON M. KREIL'S SELF-REGISTERING METEOROLOGICAL INSTRUMENTS," BY BARON VON SENFTENBERG.—The self-registering instruments of M. Kreil register at intervals of 5' continually the state of the barometer, of the thermometer and of the hygrometer. The instruments are placed at Prague and at Senftenberg, which is nearly due east of Prague, about 100 English miles distant. It is situated on the Adler, 1281 Paris feet above the level of the sea, in latitude $50^{\circ} 8' 8''$, and longitude east of Greenwich $1\text{h. } 5' 46'' .98$; situated on lias and mica slate, and near higher grounds of granite, gneiss and old red sandstone, and considerable forests. Prague is in a more level country, with the river Moldau flowing through it in a breadth of about 200 fathoms: it is only 524 feet above the level of the sea, without much wood land in its neighborhood; the surrounding hills being lias, sandstone, and argillaceous schist. The Baron then exhibited the dotted curves produced by the instruments, and the curves and mean curves and tables deduced from them; and showed their use, by comparing the curves of Senftenberg with those of Prague, in informing us at which the changes began to occur first; this was readily inferred from the coincidences of the curves after having arrived at maxima and minima;—and concluded by pointing out, as an exemplification of their utility, the curious relations at each place during some remarkable thunder-storms.

"ON THE STRENGTH OF STONE COLUMNS," BY MR. E. HODGKINSON.
—The columns were of different heights, varying from one inch to forty inches; they were square uniform prisms, the sides of the bases of which were one inch and one and three quarters inch, and the crushing weight was applied in the direction of the strata. From the experiments on the two series of pillars it appears that there is a falling off in strength in all columns from the shortest to the longest; but that the diminution is so small, when the height of the column is not greater than about 12 times the side of its square, that the strength may be considered as uniform, the mean being 10,000 lbs. per square inch, or upwards. From the experiments on the columns one inch