The Chinese Magic Mirror.

TO THE COMMITTEE ON PUBLICATIONS OF THE JOURNAL OF THE FRANKLIN INSTITUTE.

I notice, in your last number, an attempt to solve the mysterious phenomenon of the Chinese magic mirror: as that explanation seems to me erroneous, I am induced to offer another solution, which, if I am correct, can easily be verified by some of your ingenious readers. My attention was called to this curious piece of Chinese ingenuity by the intelligent proprietor of the Chinese Museum, in Boston, some time since. I examined it with attention, and found that the mirror consisted of a thin, flat plate of copper, with Chinese characters and figures on the back, projecting nearly the eighth of an inch from its surface; the face of the plate was silvered, and highly polished, and, on the closest inspection, no difference appeared on any part of the surface; the plate seemed to be of one casting, and the silver plating put on in the ordinary way, and equally polished. If this mirror was placed in the sun-light, so as to cast its reflexion on the wall, the characters that were raised on the back of the plate appeared in a brighter reflexion than the other parts of the mirror, which would seem to prove that those parts could not be made of a coarser metal. I therefore came to the conclusion that, in consequence of those parts over the characters being rigid, and the other parts elastic, a slight inequality of polish was produced on the different parts of the surface; so small, indeed, as not to be detected in any way but by testing its powers of reflexion.

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*Washington City, D. C., Nov. 30, 1847.**On the Theory of Dew.*

We find, in the "*Annales de Chimie et de Physique*," for October, 1847, two letters from M. Melloni to M. Arago, containing an account of some interesting experiments made by the former upon the production of dew, and the opinions and conclusions resulting from his researches relative to the subject. Not being able to afford space for the whole, we translate such portions as appear to us sufficient to explain the views of the author.

After the experiments of Wells, he thinks it might have been surely admitted, that dew neither rises from the earth nor falls from the sky, but is formed from an invisible and elastic fluid diffused throughout the space which surrounds bodies, and that the precipitation of this aqueous vapor should be attributed to the cold resulting from the calorific radiation of bodies towards the clear sky. According to this view, the leaves of vegetables, wood, glass, varnish, lampblack, &c., will be covered with dew, because they easily part with their heat and are considerably cooled when exposed to the sky: while the metals will remain dry, on account of their feeble power of radiation towards the upper regions of the atmosphere. If a polished metallic