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In England, Mr. Wilkinson has employed several years, for fusing iron ore by coke, furnaces of less height than those which he used before, and he supplies wind by three tuyeres placed at equal distances in the circumference of the furnace.

XIII. *On a metallic Solution, which forms a Yellow Ink, that appears and disappears like that of Hellot. Read before the French National Institute, by C. GILLET-LAUMONT, Associate*.*

SOME time ago, having thrown into the fire a solution of a mixture of sulphate of copper and muriate of ammonia, where it produced very agreeable colours, some of it fell upon a piece of paper placed in the chimney, which became of a bright yellow colour. Having taken the paper from the chimney, I was much astonished, some moments after, to find that it was no longer coloured: on again exposing it to heat the colour reappeared, and disappeared in like manner on cooling.

I tried lately to repeat this experiment; and I obtained from these two salts, mixed nearly in equal parts, a solution of a bright yellow colour when warm, and of a beautiful emerald green when cold, which at first gave crystals in oblique prisms with rhomboidal bases, and then blue crystals in flat octaedra.

This liquor and the solution of the crystals gave a yellow ink, which appeared yellow with heat, and disappeared with cold, but still better with moisture.

I observed that these solutions are indebted for this property only to the muriate of copper, which when employed alone does not produce the same effect.

On comparing this ink with that given by the muriate of cobalt, known under the name of the sympathetic ink of Hellot, it is seen that all these kinds of ink are indebted for the property which they have of disappearing, only to metallic muriates, which powerfully attract the moisture of surrounding bodies.

The yellow ink produced by the muriate of copper and the solutions which contain it (very different from those which, being at first invisible, remain fixed after they have appeared) gives by its colour a variety very distinct from that of Hellot, which is of a sea green: with the latter it forms varied tints of an emerald green.

* From the *Journal des Mines*, No. 58.

They may be made to appear at pleasure by the aid of heat, and to disappear very speedily by putting the writing between the folds of paper somewhat moist: but I must here observe, that it requires much care to make the experiment succeed completely, and that a certain degree of heat must not be exceeded; otherwise, the paper being scorched, the writing can no longer disappear.

XIV. *A Short View of the Craniognomic System of Dr. GALL, of Vienna.* By L. BOJANUS, M. D. *Member of the Medical Societies of Jena and Paris, and of the Society of the Observers of Man* *.

AT all periods, a desire to find in the exterior of man certain marks indicative of his interior faculties, his passions, his morals, &c., has induced the learned to establish systems of physiognomy more or less satisfactory. The most striking of these systems are those of Baptista Porta and Lavater, the theory of the facial angle, and the system of Dr. Gall.

In regard to the first, who employed himself in comparing the contours of the human figure with those of beasts, observers have determined its value, and consider his principles as the fruit of a disordered imagination, as too bold, too little founded on rational observation, and absolutely uncertain in its application.

The system of Lavater has had more success; but while we revere the genius of that celebrated man, who was truly a great observer, we cannot help acknowledging the instability of the basis on which all the opinions he advances rest; and the mind is not satisfied with truths which can be appreciated only by an imagination equally exalted, and a touch so delicate as that of the author.

The theory of the facial angle, which embraces a wider field than the system of Lavater, leaves us in uncertainty respecting the detail of the faculties, and gives us only general points of view; but it presents us with this truth, of the greatest importance—that the facial angle increases in size in proportion to the faculties of animals: and in this it coincides

* From the *Magazin Encyclopédique*, No. 4, Messidor, an. 10. Dr. Bojanus in a note says: "As this historical explanation is by no means intended to prove the truth of Dr. Gall's system, it can lead to no decisive opinion on this system, which will be established by its author on solid reasoning and convincing testimony. It is necessary also (says he) to observe, that the passages marked with inverted commas do not rest on the authority of Dr. Gall."