



## LVII. On the iodide of mercury

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LVII. *On the Iodide of Mercury.* By H. F. TALBOT, Esq.,  
F.R.S.

*To the Editors of the Philosophical Magazine and Journal.*

GENTLEMEN,

YOUR Number for last September contains a paper by Mr. Warington "On the Change of Colour in the Binioidide of Mercury." Permit me to observe, that the facts contained in the first part of that paper were long ago discovered and published by myself, in your Journal (S. 3, vol. ix. p. 2\*).

As I do not wish to be deprived of the discovery of one of the most curious phænomena in optics, I beg leave to draw Mr. Warington's attention to that paper, and briefly to recapitulate its contents.

In that memoir I have shown,—

1. That when iodide of mercury is sublimed between two plates of glass nearly in contact with each other, it cools in the form of thin rhombic plates of a pale yellow colour.

2. These often retain their colour when cold, if left undisturbed.

3. But if such a crystal is disturbed, as for example, by touching it with a needle at any point of its surface, it instantly turns scarlet at the point touched, and the scarlet colour is rapidly propagated over the whole crystal. I showed this experiment to Sir David Brewster in the year 1836, and I have no doubt he remembers it well, as he expressed great admiration of the beauty of the phænomenon. The crystal was touched with the needle while under examination with a powerful microscope.

4. The crystal moves and is spontaneously agitated during the time it is changing colour.

5. During the progress of this change, the scarlet portion remains bounded by straight lines, very well defined, and parallel to the edges of the rhombic crystal.

6. I thence drew the conclusion, that the change of colour was caused by the displacement of the rows of molecules or laminae of the crystal. This I think will be admitted to be the true explanation; and it was one which had not been previously suggested. I added, that I thought this phænomenon "*the most evident proof we yet possessed of the dependency of colour upon internal molecular arrangement.*"

7. I also remarked that these little rhombic crystals were very fine objects for the polarizing microscope. The expressions of Mr. Warington, that the crystals "*in the dark field had the appearance of the most splendid gems,*" have recalled

[\* On inserting Mr. Warington's paper we referred to Mr. Talbot's previous experiments, as stated by him in Phil. Mag.—EDIT.]

to my memory the very similar words which I used when I first announced the invention of the polarizing microscope in your Journal (vol. v. p. 324), viz.

“The field of view appears scattered with the most brilliant assemblage of highly coloured gems, affording one of the most pleasing sights that can be imagined. The darkness of the ground on which they display themselves greatly enhances the effect.”

With regard to the above points, then, I consider that they were sufficiently established by me in 1836.

The second part of Mr. Warington's paper, however, contains a fact both new and important; I mean the solution of the yellow crystals in the liquid and the formation of the red ones, of a different form, in their places. But this observation is most strictly analogous to the phenomenon which I discovered in the *iodide of lead*, and published in your Journal (vol. ix. p. 405), viz. the sudden change of a crystal of that salt from the form of a white needle to that of a row of thin yellow regular hexagons lying in a straight line. Such a metamorphosis was previously unexampled; Mr. Warington has now furnished us with a second example (also the iodide of a metal): I have myself observed something similar in the iodide of tin; and I recommend the whole subject of the crystalline form of the metallic iodides to the renewed and careful consideration of chemists.

I am glad of the opportunity afforded me by Mr. Warington's paper of again calling attention to these very curious facts, which appear to me to open a path that promises to lead far into those arcana of Nature, the mysteries of molecular action.

I remain, Gentlemen, yours, &c.,

London, Oct. 1, 1842.

H. F. TALBOT.

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LVIII. *On the Progress of Embryology in the Year 1840\**.

“SOME interesting discoveries rendered the past year a highly productive one for embryology. Two main problems which engaged the various physiologists here occupy the foreground, namely, the earliest development of the Mammalia, and the metamorphoses of the germinal membrane in its transformation into the embryo\*\*\*\*\*. So long as the metamorphoses of the germinal vesicle following fecundation could be considered only hypothetically, it was assumed that the Purkinjean [germinal] vesicle either burst and poured out its contents, or became flattened; and now contributed to the forma-

\* From Professor Valentin's Report in the *Repertorium für Anatomie und Physiologie*, Jahrgang 1841.