



XVIII. Notice of lost manuscript of the seventh book of the Mathematical Collections of Pappus Alexandrinus

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In order to see whether this property of complete polarization was proper to mercury, or common to all metals in a state of fusion, I caused two currents, one proceeding from a voltaic pair consisting of zinc and a fused globule of Darcet's alloy, the other from zinc and mercury kept at the same temperature, to pass in contrary directions through the wire of a galvanometer; the current proceeding from the first pair was much more energetic than that from the second, and kept the needle constantly at 85 degrees. I could not repeat the experiment with other metals, from the impossibility of keeping them fused without volatilizing the electrolyte. As far as this case goes, it would seem that metals possess different polarizing capacities. I have before remarked a difference in the proportionate diminution of the current by polarization with solid metals, and think the subject merits an experimental examination: it is of some importance to the arts, as likely to lead to effectual means of preserving metals from oxidation.

July 1, 1839.

XVIII. *Notice of a lost Manuscript of the Seventh Book of the Mathematical Collections of Pappus Alexandrinus.* By J. O. HALLIWELL, Esq., F.R.S., F.S.A., &c.*

IN the Advocates' Library at Edinburgh is preserved a very valuable and beautiful manuscript of five books of the *Mathematical Collections of Pappus*, viz. the 3rd, 4th, 5th, 6th, and 8th. To supply the deficiency of the seventh book, the most valuable one in the series, Dr. Moor, of Glasgow, procured a transcript of that part to be made from one of the Paris manuscripts by the celebrated Greek scholar Caperonier, at the commencement of the last century. This transcript was for some time in the hands of Dr. Robert Simson, who enriched it with MS. notes. In the dispersion of Dr. Moor's library the transcript was lost, and Dr. Trail in his *Life of Simson* regrets not having been able to discover its situation. About a year ago I accidentally found this identical MS. in a bundle of waste paper at a bookseller's shop in London, and, though unbound, quite perfect: my late lamented friend Professor Rigaud, who had it for some time, thus writes concerning it: "There cannot be the slightest doubt of its being Dr. Moor's transcript, for I have compared the hand-writing with Caperonier's other transcript in the Savilian Library, and find them agree. I congratulate you on having obtained a curious relic of Dr. Simson's favourite

* Communicated by the Author.

studies." These particulars may interest those readers of your Magazine who have ever paid any attention to the history of the ancient geometry.

XIX. *Note of an Analysis of Colophonite.* By Mr. T. RICHARDSON.*

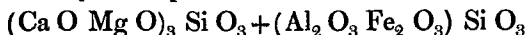
THE specimen subjected to analysis appeared remarkably pure, and was sent from Norway to my friend Mr. Hutton. It possessed the following characters:

It consisted of small round particles which could easily be detached from each other; spec. grav. 3·610; colour yellow, with a shade of brown; semitransparent; fracture uneven; lustre resinous.

20 grs. of the mineral analysed with every care in the usual way afforded the following result:

Silica.....	37·60	containing	19·54 oxygen.
Alumina.....	14·40 6·72	
Perox. iron and } manganese... }	13·35 4·09	10·81
Magnesia	6·55 2·53	
Lime	27·80 7·81	10·34
Water	1·00		
<hr/>			
100·70			

which evidently corresponds with the formula



and also agrees with Trollé Wachtmeister's fundamental formula for the garnet, viz. $3 \text{ Re, Si O}_3 + \text{R}_2 \text{ O}_3 \text{ Si O}_3$; but differs from his analysis in containing alumina, which has replaced a certain quantity of peroxide of iron, hereby adding one more to the many already existing proofs of the isomorphism of these two bodies.

XX. *On Pyroxylic Spirit and its Compounds.* By THOMAS THOMSON, M.D., F.R.S., &c. and Regius Professor of Chemistry in the University of Glasgow.

[Continued from p. 51.]

1. *Sulphate of methylene.*

NO compound made from alcohol corresponding to this is known. The simplest method of obtaining it is to distil one part of pyroxylic spirit with eight or ten parts of concen-

* Communicated by the Author.