



## Formation of a stalactite by vapour

J. Brown

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Gas.	$\sqrt{D}$ . Boltzmann.	$\sqrt{D}$ . Ayrton and Perry.	$\sqrt{D}$ .	$n$ .
Air .....	1·000295	1·00075	1·000293	1·0002927
Hydrogen .....	1·000132	1·00065	1·000132	1·0001387
Carbonic acid .....	1·000473	1·00115	1·000492	1·0004544
Carbonic oxide .....	1·000345	.....	1·000347	1·0003350
Nitric protoxide .....	1·000497	.....	1·000579	1·0005159
Olefiant gas .....	1·000656	.....	1·000728	1·000720
Marsh-gas .....	1·000472	.....	1·000476	1·000442
Vapour of carbon disulphide .....	} .....	.....	1·00145	1·001478
Vapour of sulphurous acid .....			1·00477	1·000704
Vapour of ether .....	.....	.....	1·00372	1·001537
Vapour of ethyl chloride .....	.....	.....	1·00766	1·001174
Vapour of ethyl bromide .....	.....	.....	1·00773	1·001218

*K. Akad. der Wissenschaften in Wien, March 19, 1885.*

#### FORMATION OF A STALACTITE BY VAPOUR. BY J. BROWN\*.

The following curious phenomenon occurred during the electrolysis of the double chloride of aluminium and sodium fused in a small porcelain crucible provided with a porous partition. The anode was of carbon, and the cathode platinum-foil.

A considerable quantity of vapour was given off, especially from about the anode, forming a white smoke and depositing a white substance, doubtless mainly hydrated aluminium chloride, on the carbon rod, and about the mouth of the crucible, ultimately closing up the latter all but a small hole, through which the vapour poured rapidly. From this hole there grew out a beautifully delicate little tube about  $1\frac{1}{2}$  inch long, and tapering from about  $\frac{1}{8}$  inch at the base to  $\frac{1}{10}$  inch in the middle of its length, after which it increased in diameter, and also flattened out owing to the vapour-jet coming close over the bend of the platinum-foil cathode, which seemed to cause, by some kind of eddy current, a flattening of the stream of vapour.

Soon afterwards the supply of vapour slackened, and there was a corresponding diminution in the size of the tube in the last quarter-inch of its length till the end became almost closed. The formation of this tube seems quite analogous to that of the ordinary tubular lime-carbonate stalactite deposited from dropping water by contact with the atmosphere; only we have here a tubular deposit of hydrated aluminium chloride by the combination, at the edge of the growing tube, of the water-vapour in the air with the anhydrous chloride contained in the vapour-stream.

Belfast, March 1885.

\* Abstract of a paper read before the Belfast Natural History and Philosophical Society. Communicated by the Author.