



LXXI. On artificial cold

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hyperbole. The climate, too, has disagreed with me and all the gentlemen of my mission, so that I have been obliged to solicit H. R. H. the Prince Regent's gracious permission to allow me to return to England in the spring of 1814.

GORE OUSELEY.

LXXI. *On artificial Cold.* By RD. WALKER, Esq.

To Mr. Tilloch.

SIR,—PERCEIVING that the experiments on *artificial cold*, as prosecuting by several philosophical gentlemen, at this time, excite a considerable degree of interest, and as the most favourable season of the year for pursuing such investigation is approaching, viz. *January*; I beg leave to present a brief description of the means I should adopt, were I at leisure, and possessed of a proper apparatus for the purpose.

I should attempt to *combine* all the known powers of producing *artificial cold*, thus: Procuring an apparatus, which I suppose might be constructed, in which the power of *condensing* the air, and likewise of *rarefying* it, were combined in the *same glass vessel*, or *receiver* as it is called, I should proceed thus:

The subject, *alcohol*, or any thing else, to be submitted to the experiment, being contained in a convenient glass-tube, or bulb, *covered with a single stratum of fine lint*, and this placed, in an appropriate cup, containing a portion of *sulphuret of carbon*, within the glass receiver—This glass receiver is then to be cooled as much as possible, or as much as is convenient, in a freezing mixture, contained in a vessel adapted to the purpose.

When the freezing mixture has produced its full effect—removing this, the tube, or bulb with a tube to it, immersed in the *sulphuret of carbon*, is to be raised out, and immediately, and as expeditiously as possible, the *condensed air* first let out, and then the air, still remaining in the vessel or receiver, rarefied as much and as expeditiously as possible, by means of the rarefying power attached to it—Thus changing the air in the receiver, as quickly as possible, from a state of *extreme condensation* to that of *extreme rarefaction*. I am, sir,

Your obedient servant,

Oxford, Dec, 13, 1813.

RD. WALKER.

LXXII. *On*