

An Account

Of an Experiment made by Mr. Hook, of Preserving Animals alive by Blowing through their Lungs with Bellows.

This Noble Experiment came not to the Publisher's hands, till all the preceding Particulars were already sent to the Press, and almost all Printed off, (for which cause also it could not be mentioned among the Contents: (And it might have been reserved for the next opportunity, had not the considerableness thereof been a motive to hasten its Publication. It shall be here annexed in the Ingenious Author his own words, as he presented it to the Royal Society, October. 24. 1667. the Experiment it self having been both repeated (after a former successful trial of it, made by the same hand a good while agoe) and improved the week before, at their publick Assembly. The Relation it self followes;

I Did heretofore give this *Illustrious Society* an account of an Experiment I formerly tryed of keeping a Dog alive after his *Thorax* was all display'd by the cutting away of the *Ribs* and *Diaphragme*; and after the *Pericardium* of the Heart also was taken off. But divers persons seeming to doubt of the certainty of the Experiment (by reason that some Tryals of this matter, made by some other hands, failed of success) I caus'd at the last Meeting the same Experiment to be shewn in the presence of this *Noble Company*, and that with the same success, as it had been made by me at first; the Dog being kept alive by the Reciprocal blowing up of his Lungs with *Bellows*, and they suffered to subside, for the space of an hour or more, after his *Thorax* had been so display'd, and his *Aspera arteria* cut off just below the *Epigolois*, and bound on upon the nose of the Bellows.

And because some Eminent Physicians had affirm'd, that the *Motion of the Lungs* was necessary to Life upon the account of promoting the Circulation of the Blood, and that it was conceiv'd, the Animal would immediately be suffocated as soon as the Lungs should cease to be moved, I did (the better to fortifie my own *Hypothesis* of this matter, and to be the better able to Judge of several others) make the following additional Experiment; *viz.*

The Dog having been kept alive, (as I have now mentioned) for above an hour, in which time the Tryal hath often been repeated, in suffering the dog to fall into *Convulsive* motions by ceasing to blow the Bellows, and permitting the Lungs to subside and lye still, and of suddenly reviving him again by renewing the blast, and consequently the motion of the Lungs: This I say, having been done, and the Judicious Spectators fully satisfied of the reality of the former Experiment; I caused another pair of Bellows to be immediately joyn'd to the first, by a contrivance, I had prepar'd, and pricking all the out-coat of the Lungs with the slender point of a very sharp pen-knife, this second pair

pair of Bellows was mov'd very quick, whereby the first pair was always kept full and always blowing into the Lungs; by which means the Lungs also were always kept very full, and without any motion, there being a continual blast of Air forc'd into the Lungs by the first pair of Bellows, supplying it as fast, as it could find its way quite through the Coat of the Lungs by the small holes pricked in it, as was said before. This being continued for a pretty while, the dog, as I expected, lay still, as before, his eyes being all the time very quick, and his Heart beating very regularly: But, upon ceasing this blast, and suffering the Lungs to fall and lye still, the Dog would immediately fall into Dying convulsive fits; but he as soon reviv'd again by the renewing the fulness of his Lungs with the constant blast of fresh Air.

Towards the latter end of this Experiment a piece of the Lungs was cut quite off; where 'twas observable, that the Blood did freely circulate, and pass thorow the Lungs, not only when the Lungs were kept thus constantly extended, but also when they were suffered to subside and ly still. Which seem to be Arguments, that as the *bare Motion* of the Lungs *without fresh Air* contributes nothing to the life of the Animal, he being found to survive as well when they were not mov'd, as when they were; so it was not the subsiding or movelesness of the Lungs that was the immediate cause of Death, or the stopping the Circulation of the Blood through the Lungs, but the *want* of a sufficient *supply of fresh Air*. I

I shall shortly further try, whether the suffering the Blood to circulate through a vessel, so as it may be openly exposed to the fresh Air, will not suffice for the life of an Animal; and make some other Experiments, which, I hope, will thoroughly discover the *Genuine use of Respiration*; and afterwards consider of what benefit this may be to Mandkind

F I N I S.

In the SAVOY,

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