

PHILOSOPHICAL
TRANSACTIONS:

**I. An extract of a letter from Leghorn to Dr
Martin Lister, November 24. 1698.
Concerning Seignior Redi's manuscripts,
and the generation of fleas.**

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Fell. Coll. Phys. and R. S. IX. An Account of two Books, 1. Museo di Fisica & di Esperienze, &c. by Signior Boccone. 2. Paradisus Batavus, continens plus centum plantas, &c. with additional Remarks by Mr. John Ray, F.R. S. X. Books lately Printed beyond Sea.

I. *An Extract of a Letter from Leghorn to Dr. Martin Lister, November 24. 1698. concerning Seignior Redi's Manuscripts, and the Generation of Fleas.*

FOR any thing that Redi hath left behind him in Manuscript, although I have enquir'd of a young Physician his Domestick, yet nothing appears: and that second part of *Animali Dentro gli animali* we are like to be without.

We have an ingenious Naturalist here, whose Observations about the Generation of Fleas, I send you, and are as follows.

A New Discovery of, the Original of Fleas, made by the Signior D'iacinto Cestone of Leghorn.

AT last is discovered, by the indefatigable Industry of Signior D'iacinto Cestone, the true way of the Generation of Fleas, their Worms, and entire Metamorphoses which have been hitherto obscure, though sought after. The Fleas bring forth Eggs (or a sort of Nits) from these Eggs are hatched Worms; these Worms make to themselves Bags like Silk-Worms, and from out of these Bags come Fleas.

Fleas therefore deposite their Eggs on Dogs, Cats, Men or other Animals infested with them, or in the Places where they sleep, which for being round, smooth, slip ordinarily streight to the Ground, or fix themselves in the Plyes or other Inequalities of the Coverlets and Cloaths. From these are brought forth white Worms, of a shining Pearl Colour, which feed themselves on the Brann-like Substance which sticks in the Combs when Puppies are combed to take out the Fleas; or with certain Downy Substance that is found in the Plyes of Linnen Drawers, or other such like Excrement. They
come

come in a Fortnight to the Bigness of Fig. 5. and are very lively and active, and if they have any Fear, or if they be touched, they suddenly roul themselves up, and make as it were a Ball. A little after they come to creep after the manner of the Silk-Worms that have no Legs, with a brisk and very swift Motion. When they are come to their usual Bigness they hide themselves the most they can, and bringing out of their Mouths the Silk, they make round themselves a small Bag, white within as Paper, but without always dirty and foul'd with Dust. The Bags are to the Natural Eye of the Bigness of Fig. 6. without magnifying. In other Two Weeks in the Summer-time, the Flea is perfectly form'd, without that the Worm quits its *Exuviae* in its Bag, as do the Silk worms, and as do all Caterpillars; which leave in the same their *Exuviae*. The Flea, so long as it is inclosed in the Bag, is Milk white, although it has its Legs, but Two Days before it comes out, it becomes coloured, grows hard, and gets Strength, so that coming speedily out, it streight leaps away.

Hereunto annexed are the Figures of the Eggs, Fig. 1. the Worm Fig. 2. the Bag Fig. 3. and the Flea Fig. 4. but all of them magnified by the Microscopé.

II. *A Way to make Two clear Spirituous Inflammable Liquors, which differ very little in Taste and Smell, and being mixed together, do give a fine Carnation Colour, without either sensible Fermentation or Alteration. Communicated by Monsieur Geoffroy, F. R. S.*

TO make the first of these Liquors, put a small Handful of dryed red Roses into a Glass Bottle, pour on them rectified Spirit of Wine till it cover them an Inch. Let them infuse in the Cold all together in the Bottle for Four or Five Hours, then pour off the Spirit of Wine, which will be clear and have no Colour.

The Second Liquor is made by putting into some good Spirit of Wine some Drops of good Spirit of Vitriol, or Oyl of Sulphur, so that scarce can the Acid or Sour be discovered by the Tongue.

If