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A Specimen of some Observations made by a Microscope, contrived by M. Leewenhoeck in Holland, lately communicated by Dr. Regnerus de Graaf.

THE person communicating these Observations, by and by to be delivered, mentions in a Letter of his, written from *Delph* April, 28. 1673. that one Mr. *Leewenhoeck* hath lately contrived Microscopes excelling those that have been hitherto made by *Eustachio Divini* and others; adding, that he hath given a *specimen* of their excellency by divers Observations, and is ready to receive difficult tasks for more, if the Curious here shall please to send him such: Which they are not like to be wanting in.

The Observations themselves.

1. The *Mould* upon skin, flesh, or other things, hath been by some represented to be shoot out in the form of the stalks of Vegetables, so as that some of those stalks appeared with round knobs at the end, some with blossom-like leaves. But I do observe such Mould to shoot up first with a straight transparent stalk, in which stalk is driven up a globous substance, which for the most part places it self at the top of the stalk, and is follow'd by another globul, driving out the first either side-ways, or at the top, and that is succeeded by a third and more such globuls; all which make up at last one great knob on the stalk, an hundred times thicker than the stalk it self. And this knob indeed consists of nothing else than of many small roundish knobs, which being multiplied, the big knob begins to burst asunder, and then represents a kind of Blossoms with Leaves.

2. The *Sting* of a *Bee* I find to be of another make than it hath been described by others. For I have observed in it two other stings, that are lodged within the thicknes of the first sting, each having its peculiar sheath.

3. Further

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3. Further I observe, on the Head of a Bee before, two *artus* or limbs with *teeth*, which I call *Scrapers*, conceiving them to be the organs wherewith the Bee scrapes the Waxy substance from the Plant. Besides, I find two other limbs, each having two Joints, which I call *Arms*, wherewith I believe this Insect performs its work and maketh the Combs. Moreover, there is also a little Body, which I call the *Wiper*, being rough and exceeding the other Limbs in thickness and length, by which I am apt to believe the Bee wipes the Hony-substance from the Plant. All which *five* Limbs the Bee, when she doth not work, knows curiously to lay by close under her head, in very good order.

4. As to the *Eye* of the Bee, which I have taken out of the Head, exposing its innermost part to the Microscope; I find, that the Bee receives her light Just with the same shadow as we see the Hony-combs: Whence I am prone to collect, that the Bee works not by art or knowledge, but only after the pattern of the light received in the Eye.

5. In a *Lowfe* I observe indeed, as others have done, a short tapering Nose with an hole in it, out of which that Insect, when it will draw food, thrusts its sting, which, to my Eye, was at least five and twenty times less than one single Hair. But I find the head every where else very close round about, and without any such sutures as some have represented it. The Skin of the head is rough, resembling a skin that hath many dints in it. In the two Horns I find *five* Joints; others having marked but *four*. One Claw of her foot is of the structure of that of an Eagle, but the other of the same foot stands out straight, and is very small; and between these two claws there is a raised part or knob, the better to clasp and hold fast the hair.

So far this Observer: who doubtless will proceed in making and imparting more Observations, the better to evince the goodness of these his Glasses.

Extract