

now. No: we must transport our bodies by the speed of the railway, and our thoughts by a flash of electricity. The question with the experimental apiarian is not, "Are my bees ready to swarm?" but "Am I ready to force a swarm? Nature is tardy—she must be incited to action—she must be helped. I care nothing for natural swarming: twenty minutes' drumming is more pleasant to my ears than the aerial music of a rushing swarm." Is it really so? Can I believe it to be so? Speak out, ye lovers of nature—ye who profess to feast your eyes with delight on the beautiful landscape, whose varied charms the artist's pencil can but faintly pourtray, and say if artificial swarming can ever compare for a moment in this respect with natural swarming. I need not "pause for a reply;" I know your verdict. Deprive the apiary of natural swarming, and you deprive the true apiarian of his principal delight. Take away from it this exciting pleasure, and the mystical spell which has so often charmed the lovers of the bee in all ages is broken, and our minds will be brought down from the bright regions of poetry and expectancy to the mere commonplace considerations of profit and pelf.

But I must away back again to the enigmatical and the experimentalist. Ready, or not ready, he drives his swarm, and a swarm he assuredly gets, and his successes are, of course, duly recorded. But pray, Mr. Experimentalist, what of your failures? Be candid for once. Oh! but the experimentalist "does not allow of many failures." "There should be no failures." Well, be it so; I do not choose to lift up the veil as I might, nor must I be too inquisitive. The driven hive is removed to a little distance aside, and the new artificial swarm is put down on the old stance. Splendid treatment this for the old stock, whose remaining bees, I fancy, are sadly thinned-out sometimes during the following day or two by desertion! But that is nothing. Bees we are told will hatch, and grubs mature, and eggs preserve their germinating powers for several weeks in a greenhouse at a temperature of 50°, and that the grubs may there be nursed with our own hands till they quit their cells. If these things take place in a greenhouse, why not in this well-nigh deserted hive? The experimentalist by-and-by, however, discovers foul brood has been introduced somehow or other into his hives, and he is told, that though the old-school apiarians are generally much behind the present age in knowledge, yet their views of foul brood—that it is a disease, a pestilence, which originates very much like the potato disease, nobody knows how—must be received as correct, and that all new theories by whomsoever broached must be ignored altogether as erroneous. Moreover, that it is a disease of so virulent a character, as to infect brood, comb, honey, bees, and domicile, and, therefore, that the combs must be all consigned to the melting-pot, the honey carefully kept away from other bees, the domicile itself burned or laid aside for four years (would not three years and a half do?) purifying, and the bees and queen subjected to a sort of penal discipline and inanity for several days, until they are thoroughly purged of all gross and infectious matter, all which, nevertheless, may not prove effectual in extirpating the malady, and then the bees must be put into a healthy driven hive (it matters not though it has been deprived of its bees the day previous), and all will be well. "The chilled and neglected brood in all stages in this hive will suffer little or no harm for a day or so, the actual mischief being very trifling. Neither the eggs, very young brood, nor that which is sealed over, is at all injured." Say, ye scientific apiarians of this the nineteenth century, with all your experience, is it even so? Are chilled and neglected brood so removed? Tell it not to the apiarians of Scotland, who dwell in the land of the mountain and flood. Publish it not in England amidst its comparatively warmer vales and milder clime. Repeat it not in the pages of THE JOURNAL OF HORTICULTURE, whose fame on apiarian subjects is known and appreciated from Land's End to John O'Groat's. No: Decayed and abortive brood in all stages are not removed by the bees, and, consequently, must remain a permanent evil, in whichever hive they are unfortunately found.

But I must draw this already-too-long paper to a close. The field, as I said at the commencement, is too full of material to be exhausted in a few columns; besides I cannot traverse it without trampling on peoples' toes, and this is not agreeable. I therefore must forbear. My "tone and

style" are already thought by some to be too severe; and it appears, though I must receive contradiction, I must not be given to "philippic," and to "giving pokes in the side." Nor have I done so. In opposition to the old theory of foul brood I have propounded my views on the subject. It is an evil with which I have been long familiar, and I have not found its eradication at all so formidable an affair as is represented. I have found that an excision of the affected parts is sufficient; but care must be taken that it is complete. Nay, since writing these articles I have, as an experiment, totally extirpated it from a hive by thoroughly cleansing (at a considerable tax upon my patience and time), each affected cell; while both in my own apiary and in that of a friend some sixty miles distant, I have seen the evil produced again and again by a few manipulations.

Let me in conclusion assure "B. & W.," whose uplifted mask has revealed to me a more familiar name, and all others who have entered the lists with me in this *quæstio vexata*, that I had no other object to serve, no other motive to gratify, no "other interests" at heart, but the elucidation of truth and the maintenance of such sound principles of apiculture as not a little observation and experience have taught me to value, and which I have been presumptuous enough to recommend to the consideration of others; who, no doubt, desire with myself, both on economical and scientific grounds, to see the natural history of the bee and its management freed from the errors and disencumbered of the prejudices which have so long encompassed them.—
J. LOWE.

PARTHENOGENESIS—DRONES—DRIVING.

THE letter from Mr. Alex. Shearer, in page 283, shows that your nautical cry of "no nearer" must be attended to by us all. If I am an unbeliever in parthenogenesis, I am one ready and willing to be convinced of the truth, and I take for granted "A DEVONSHIRE BEE-KEEPER" wishes only that the truth should prevail, and would rather be convicted of error in past opinion than continue to advance any theory that will not lead on to fact. My supposition with reference to the matter in question is, that eggs of queens or workers—if it be established that the latter lay eggs—can be rendered fertile by some other than the usual method. Eggs of fishes certainly are, and why not those of bees? I have seen drones clustering in such numbers on comb that I have imagined it possible they might deposit spawn in the bottom of certain cells, and hence a reason why eggs of virgin queens placed in those cells by workers might vivify. Has the microscope shown any difference in the eggs that produce queens, workers, or drones? I had drones hatched much earlier this year in a hive than I ever saw them hatched before, and I imagine the reason was clearly this—that I had during the year previous placed a small piece of drone-comb as a guide in a small box at the top of that hive. This small box was filled with drone-comb, and I observed that drones were always clustering in large quantities in that small box. (There were three other boxes alongside this one in which the case was different.) This year, being at the top of the hive, it was presently filled with brood, all drones, and hatched out its young much earlier than if it had been at the bottom of the hive, where drone-comb is usually made. This raises a question: Can the queen mother lay her eggs as she chooses?—queens, workers, or drones; workers, drones, queens; or drones, workers, queens, &c. The number of drones in comparison to the queen shows that Creative Wisdom must have had a reason for the disparity, so that I may be pardoned for my surmise that there must or may be some other way of accounting for their use than to suppose they all engage in fertilising the queen. If the "DEVONSHIRE BEE-KEEPER" would think this over and reply in any way I should feel obliged. I am not able to try experiments as he can and does. He may laugh at and despise me if he will; but I confess I have just tried my hand, moved thereto by the taunt of the "LANARKSHIRE BEE-KEEPER," at driving some bees for comb and honey that I desired for myself and friends; and so signally did I fail that, after half-an-hour's hammering and tapping, I was forced to give it up and fume the bees out.—A HAMPSHIRE BEE-KEEPER.

[Our Hampshire friend does me no more than justice in