bees on every occasion of their flight. They came out of many of the hives greatly distended but the discharges were nearly all water while the quantity of pollen was insignificant. We came to the conclusion at once that the man who would assign the cause to the eating of bee-bread must be highly visonary. If the consuming of much bee-bread is a cause of bee-diarrhœa then it would be reasonable to suppose that whenever considerable accumulations of pollen husks and "nitrogenous matter" had taken place, diarrhœa would invariably follow as the effect of "the cause." But I have just shown that we had the most inveterate cases here the past Winter and yet there was not enough pollen grains in the discharges to make the matter of note. Now, I can bring abundant proof that bees have been constipated with pollen husks &c., and so burdened as to be unable to fly before evacuating, and still there was not a sign of diarrhœa. How is this? Will these theorists say to us that there are exceptions, that bees may be sometimes overloaded with fecal matter without there being diarrhœa? If so, the sooner the pollen theory is patched up so as to point out the cause of the exception the better it will be for the theory.

Let me say here that bee-diarrhœa and bee constipation are as unlike as two distinct conditions can be. That the two have no relation to each other whatever by way of cause and effect I am well convinced. From what has been said by certain writers one would think that the diarrhœa of bees was little else than a discharge of bee bread. But it is not so in many cases at least. In all the cases I have ever seen of true bee diarrhœa the large proportion of water was the most marked feature. Often in a few days after a good flight and exposure to severe cold solitary bees would run out of the hive and discharge nothing but a dirty yellow colored water. I have often witnessed simple constipation and copious semi-solid evacuations after a long period of confinement, but in these cases there was not the remarkable loss of vitality nor the spring dwindling that is sure to follow (if the colony lives till Spring) as in the cases where the bees become bloated up with water, which fact I now look upon, occurring late in Winter, as the tell-tale evidence of a fearful struggle with cold.

Bees affected with diarrhœa soon become weak and sluggish, they come out of the hives slowly, often trembling, and many are unable to fly. Impaired vitality is one of the most striking features of the disorder. With every cold snap many fall dead from the combs. If the colony survives till Spring a single cold night will cause many to fall, but a week of moderate cold and confinement will cause handfuls to fall down. Often their wings and legs drop off in falling or soon afterwards, so that they appear to be almost decayed before they die. If the colony lives on into May they are soon unable to care for their brood, they continue to fall dead on the bottom board or fly out to return no more. About this time or shortly before, the queen dies when none are left but a few handfuls of young bees that appear every day on the alighting board *en masse* to enjoy the gorgeous sunshine. This is spring dwindling.

The cause of bee diarrhœa rests on far different grounds than those set forth by the pollen theorists. In fact we do not now regard pollen or bee-bread to be even a factor in the causation, unless it shall be established that its consumption by the bees affords a special nidus for the developement of putrifactive germs. We can understand how the germs may be developed, how that the bees having suffered a great loss of vitality from long struggling with cold, extensive germ development becomes possible. In this case cold is still the primary cause. Germ development in man or animal is invariably restrained by a vigorous vital organism. If bees can be protected so as to sustain their vitality there need be no fears from germs. But even here the successful prevention of diarrhœa must turn on other measures than the taking of their natural stores and substituting sugar syrup. So long as there are instances of the most perfect and satisfactory wintering on the natural stores in the very midst of those localities where many have fed sugar syrup and lost all or a part, we may feel sure that when we understand the matter fully, we shall be glad if we can always have sufficient of the natural stores to Winter upon Again, the results of the past Winter have set at rest finally that specious and alluring argument that the pollen of one locality is any more hurtful, either from quantity or quality, than that of any other.

We account for the watery accumulations on the humidity theory, and as many may not fully understand it we will present it here. (If we fail to present it in its true light, Mr. S. Corneil, who is the author of the theory, will please to correct us.) The animal heat of bees is developed almost wholly in the process of the oxygenation of the hydrocarbons (honey and sugar) in the blood. It is increased by exercise as in other animals. In winter confinement bees raise the temperature of the cluster, when necessary, by accelerating their respirations and in some instances it seems probable that they flit their wings and restlessly move over and