the honey bee, and if I spend more time on the difficulties than on the advantages it is because the favorable side is better known.

The work of others in the past makes it possible for us to begin where they left off, and this advantage applies particularly to work on bees, where so much has already been done. The interest which we have in the bee from a commercial standpoint makes the work easier, for a person working on bees is doing something of interest to many people, and but few of us have reached that height of scientific perfection where we do not care for at least some popular interest in our work. Lastly, the numerous modern appliances of apiculture make it possible for us to study bees under many varied con-Movable frames, observation ditions. hives, mating nuclei, and swarm boxes, are of inestimable value in the study of habits.

In discussing the habits of the bee it is hard to know where to begin. Perhaps there is no better way to arrange what is to be said than to follow a colony through a season, taking up the various phases of their activities in the order in which they occur in nature. We can thus avoid unnecessary repetition and still get in all the desired points.

In the spring of the year the colony consists of a queen, whose duties consist in laying the eggs in the cells of the comb, and many workers or undeveloped females. At this time there are no males or drones. During the winter the bees remain quiet, and the queen lays no eggs, so that in the spring there are no developing bees in the hive. The supply of honey is then also low, for they have eaten their stores all winter and none has been collected and placed in the cells. As soon as the days are warm enough the bees begin to fly from, the hive in search of the earliest spring flowers. From these flowers they collect nectar, which is transformed into honey, and pollen, which they carry to the hive on the pollen baskets on the third pair of legs. The nectar is

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taken into the bee's mouth and then passes to an enlargement of the alimentary canal, known as the honey stomach. where it is acted upon by certain juices secreted by the bee. On its arrival in the hive the bee places its head in one of the cells of the comb and deposits there the nectar which it has carried in. By this time the nectar has been partially transformed into honey, and the process is completed by the bees by fanning the cells to evaporate the excess of moisture which still remains. When a cell has been filled with the thick honey the workers cover it with a thin sheet of wax, unless it is to be eaten at once. The pollen is also deposited in cells, but is rarely mixed with honey. The little pellets which the bees carry in are packed tightly into cells, and if a cell of polle be dug out of the comb one can usual see the layers made by the different pe lets. This collecting of nectar and polle continues throughout the summer an ceases only with the death of the last flowers in the autumn.

Almost as soon as the honey and polle begin to come in, the queen of the colo begins to lay eggs in the cells in the ce tre combs. The title of queen has b given to the female bee which norma lays all the eggs of the colony, under supposition that she governs the cold and directs its activities. This we n know to be an error, but the name s remains. Her one duty in life is that egg-laying. She is most carefully watch over by the workers, and is constant surrounded by a circle of attendants w feed her and touch her with their a tennæ; but she in no way dictates w shall take place in the hive. The are laid in the bottom of the hexagon cells, being attached by one end to t centre of the base. The first eggs develop into workers, and are deposit in cells one-fifth of an inch across. the colony increases in size by the hate ing of these workers, and as the store honey and pollen increase, the queen gins to lay in larger cells, measuring @

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eggs laid in t The size of th the sex, as wi the queen al worker eggs in drone eggs in male eggs deve gin in the col first of May in The eggs do adult bees, as what has just 1 days there hate white worm-like the larvæ are the amount of remarkable. T until it fills th lives, and then with a cap of w spins a delicate The worker brow guished from the that the worker worker brood an drone brood; ar help to the bee-k determine at on any hive contains the time the egg bee emerges from through some w during the time stage being kno or drones the ti About the time ear, the inmate prepare for swarn vatching the hab nost interesting th he colony.

The workers no ells. In our pre evelopment of th othing was said here are some de rowth, which we As was stated the workers are all ald authority on b

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