

however, can be
y Pettit, Provincial
ntario Agricultural
that an increasing
women in Ontario
mes from bee-keep-
comes range from
num.

ney is not required
It is a mistake to
with a large num-
ith one or two hives
ber annually as ex-
erwise financial loss
agement surely fol-

ble, the prospective
the acquaintance of
per. This does not
employs antiquated
ng the bees in boxes
., but a bee-keeper
is best suited to the
and the welfare of
is the chief guide
ay be learned from
edge is gained only
for oneself.

COULDN'T VOTE IN FEMALE LD.

tav Fischer
y, Germany)

e should under no
a vote in a bee
proven by recent
ntation upon the
types of bees—the
nd the neutral, or
and ants have rec-
depriving the male
gical part in their

male bee is a trifle
he female, but it is
loped and lacks en-

tirely certain important features pres-
ent in the others. The same is true of
the ant.

The bees and ants carry on their
activities by instinct; the human being
by reason.

Here you see how the brains of the
three kinds of bees compare to each
other. Beneath them is a human brain.
No one, not even the keenest scientist,
could tell by looking at this brain, by
weighing it or measuring it or dissect-
ing it, whether it is the brain of a hu-
man male or a human female. He
might guess, because, as a rule, a man's
brain is slightly heavier than a wo-
man's and averages a few different
slight measurements. The differences
are not, however, either constant or
proven, and so, while the clever scien-
tist might say he thought this a man's
brain or a woman's brain, he couldn't
be sure which it really was.

On the other hand, the difference
between the brains of the three kinds
of bees is apparent at once.

It would seem, then, that for the
working of instinct developed to its
highest power, different kinds of brains
are needed. But for the working of
the higher faculty of reason, only one
kind of brain is necessary. Instinct is
only perhaps highly organized habit;
reason is volition. The brains of the
three kinds of ants are highly devel-
oped but rigid machines which can
only produce just the kind of activity
for which they are built. They are
like a stocking machine, say, which can
only produce a certain kind of stock-
ings, but not women's wraps. The brain
of man, on the other hand, is a machine
of great flexibility, which can create
anything. A male bee, therefore,
shouldn't vote because his brain clear-
ly shows it is not made for the activi-
ties carried on by the female and work-
ing bees who do have to look after the
good of the community.

But, on the other hand, the woman's

brain shows that it is able to do any
work the man's brain can do.

The difficulty of studying so very
small a structure and following each
nerve may be appreciated by any one
who will catch a bee and just look at
that little brain inside of the head.
I started by making a series of sections
of the brains of pupæ bees—just ready
to fly—and by making plaster casts of
their brains.

The three orders of individuals
among ants and bees have different
duties to perform, and because they
require the development of different
instincts for the performance of this
work, different parts of the brain
are more fully developed in each,
for its special work. The in-
stincts act through certain nerve
chords or bundles of chords running
up to the brain, and therefore, as these
chords and their centres are developed
for the activities required of male, fe-
male and worker, the brains differ con-
siderably.

The brain of the drone (male) has a
large seeing-flap, corresponding to the
large eye. The drones require good
sight to follow the flight of the queen.
The smelling-flap (*Lobus olfactorius*) is
not noticeably smaller in the drone
than in the worker, but is not so highly
developed within, for as the drone takes
no part in the gathering of food and
care of the young, it does not require
the smelling sense so much.

In the workers the seeing-flap is no-
ticeably smaller than in the drones, yet
somewhat larger than in the queen. The
workers direct their flight by vision, so
they require sight more than the queen,
which, as is well known, after breed-
ing remains in the hive until after the
swarm leaves, when she is guided by
the workers. The smelling-flap of the
workers is much larger than the
queen's, because the workers require a
highly developed sense of smell for
their multifarious labors, while the