1. of the little dit; it seemed so different from able prof. Howard's, that I tried it again for your assume serm, from the same source, and I the sund the same thing. I varied it a little id exposed these cover glasses with a and an exposed these cover glasses with a htic over over them, but so arranged that air bar sud pass in and out and, in fact, I put Hotms to that a draught of a window passed Iso and them, filtering previously the air from the window through a cotton cloth; there hid is the ordinary light of a room ; the room aslighted; part of the time the shutters are opened and the sunlight was in the ten it was a room with five or six large windows in it. I had the same results with that ; growth up to one month. Fur-

]0M

did

1; ]

ics

thi

t id

92i0

81

nd

nici

n.

10

18

Ľ

ed

łŝ

Finde these experiments over and over made these experiments over and over gain with germs from seven different inces from the Province of Ontario; from males of foul brood received from the i se ate of Florida, on the other side of the malso from the State of Michigan, from sin,Germany, and another from Prague, ustria; from all these I have obtained the me results.

I notice in the English works on the subthat they use naphthaline in the hive. have an experiment in which these same For glasses are put in a warm incubator about the temperature of ninety, with constantly going through it, and phthaline going through. I have done at up to 216 hours and I have got growth to that length of time. I shall go on ring the cover glasses. I have a one hund feet incubator and I shall go on till all with ceases. If it goes on for 100 days I

not intend to take it any further. Another method which I have tried was laking thin strips of filtering paper, that a substance very like ordinary blotting per, only very much thinner; I have ten small strips of that and dipped it a beef broth culture containing the pres and I have exposed these strips to cordinary atmosphere of a room without er or anything, without taking any preations whatever from germs from the air ging on these pieces of blotting paper. on these I have obtained cultures, accors to the usual methods of identification to six months The last culture that I ad was six months old. I kept on clipspices of blotting paper off from time ime; in the beginning I did it every thinking the germ would die, but afterdel did it at week's intervals. I have been at the investigation six months. I have the day before yesterday, when I tried Last pice of blotting paper I found that ferm was growing in great abundance; d not seem to heat all hurt by exposure as air. Of course, you might bring forward the objection that the germs might be in the of interior the blotting paper, but the blotting paper being of such a porous nature I think the air had plenty of access on all sides of the paper. The strips were threaded on wires and exposed so that the air could go right through in all directions.

One more experiment was as follows: I took one of these drops containing the spores of this germ and put it in a test tube, which is about six inches high and five eigths of an inch in diameter, and allowed it to evaporate at the body temperature, 98 degrees Fahrenheit; I took that and exposed it to the sunlight (these experiments were conducted in the month of June) for varying periods of time, and the rest of the time, they were, of course, in The total length of time they darkness. were exposed was 124 hours, 36 of those hours being exposed to direct sunlight; the thermometer which was hanging right near them indicated a temperature of from eighty to ninety-eight degrees Fahrenheit. They were in a window right close to the glass and the heat was considerable. At the expiration of twelve hours I took sterilized beef broth and poured it into the tubes to see if growth would occur; I made cultures from that again to be sure, to make my identification of the bacillus correct and in all cases I have found growth up to 124 hours.

To show my method of cultivation I Here is one took a few photographs. showing the characteristic growth of the germ on a substance called agar which is a Japanese plant, which is put into this beef broth to solidify it. We cannot tell the germs by looking at them through the microscope, we have to grow them on a number of different media in order that some of the conclusions may justify us in designating it as a different species. We use a plate just the actual size, which has been sterilized and the germ poured here [indicates] and the cover glass in with the bacillus side down was simply taken and smeared across the top and put I may say that when in the incubator the temperature goes above 68 this germ absolutely refuses to grow.

Mr. Harrison at this point passed the photographs around so that the members might have an opportunity to see them.

The second proposition (No. 6) that I marked was as follows : "That the vitality of the spores of the bacillus alvei is not always destroyed when exposed to a temperature approaching 212 degrees (bear in mind, the boiling point) for forty-five minutes." He does not say it was eath He does not say it was actually 212, but approaching; it might be one