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THE AUSTRALIAN BEE BULLETIN.

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

VOL. 5. No 9.

BER 28, 1896.

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QUEENS FROM QUEENSLAND.

ONE of the prime essentials in the successful production of honey is the possession of prolific queens, and the beekeeper who ignores this fact by allowing old and unprolific queens to do duty in any of his colonies will not be in it with the wide awake apiarist who sees that each colony is presided over by a vigorous queen only. If you require queens of this latter class (the fruits of thirteen years careful breeding from the best stock obtainable from the world's most noted breeders) kindly send along your orders, and whilst thus having an eye to your own interests, also afford me an opportunity of illustrating the degree of proficiency to which I have attained in the breeding and mailing of queens. My home yard is stocked exclusively with Italian bees, and I have now available as fine a lot of young queens as were ever raised. Carniolan Queens are bred in my out-apiary from imported mothers, and are mated to Italian drones. All queens are sent post free and safe arrival guaranteed to all parts of Australasia. We have no foul brood in Queensland, and my apiaries are entirely free from disease of any type.

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The Australian Bee Bulletin

A JOURNAL DEVOTED TO BEEKEEPING.

MAITLAND, N.S.W.—DEC. 28, 1896.

SEVERAL important matters occupy the attention of the beekeepers this month: Extracting honey, marketing it, increasing swarms, rendering wax.

Re extracting honey, it is well it should be capped before taken out of the hive. Unless capped there is no certainty of its being ripe. It may, however, be ripened after extracting by leaving it in a large vessel in a warm room, so that all moisture can evaporate. Marketing: Everyone should make the most of his own local market, and get the highest price obtainable. Here very much depends on the get up of the vessel in which it is contained, and cleanliness and good labels are worth all their trouble and cost. Should you have more than you can dispose of locally, there are several reliable large buyers advertising in our pages with whom you should communicate.

As to increasing swarms: In many districts of the colonies a good honey flow is now on, and the bees are giving more attention to that than swarming. To artificially swarm now, interferes with the honey returns. The plan we ourselves are adopting is, while giving the bees ample room by foundation for all their requirements, to artificially swarm only those who voluntarily start queen cells, waiting for the ceasing of the flow and the then increasing energy in breeding (never extracting honey from combs where brood is, to make sure they then have plenty of food), for increase.

Rendering wax is another trouble. The homely method: Putting into a cheese cloth bag, into a boiler, with a batten or a strip of something underneath so the wax will not burn at the bottom, and a weight on top of the bag,

filling with water. The wax rises at the top as the water boils; let it cool gradually. Scrape off sediment at bottom of cake.

There is also the Jones steam extractor and the Doolittle and Boardman solar extractors. In the Doolittle there are two glasses, also a reflector to conserve the solar force into a wooden box painted black, in which is a wire strainer, through which the melted wax passes into a trough. The Boardman solar extractor dispenses with the mirror. The solar extractor bleaches the wax. So if you wish yellow wax give it only sufficient time in the extractor to melt it. As there is a certain demand for wax every scrap should be saved, and the solar extractor is always handy to throw waste bits in as you are manipulating your hives.

A few words on queen-rearing: Careful and painstaking microscopists have proved that bees have four sets of salivary glands in the head and thorax. One of these is only to be found in young bees, gradually disappearing as they cease to become nurse bees. This No. 1 gland produces the pap or bee milk, for the feed of the larval bees, and with which the queen is abundantly fed while egg laying. It is a highly nitrogenous tissue-former, derived from pollen by digestion, and has, it is said, a singular power in developing the generative faculty. Now, a young larval queen receives far more of this bee milk than the ordinary worker larvæ. To raise good queens it is absolutely necessary there should be a big force of nursing bees possessing this No. 1 gland in full operation. The most successful queen-raisers therefore have built hives up specially strong in such, by giving frames of uncapping workers from several hives, depriving them for a time of larvæ, eggs, breaking down any queen-cells they may start; and then giving them a frame of eggs just emerging into larvæ from their very best queens; arranging them, if time and experience permit, in rows, mouth downwards, or the frame with eggs by itself will produce equally good queens. In the latter case, however, many cells will

be useless, being so close to each other they are apt to be destroyed by separating. In the former case take a frame with say two or three bars in the centre; then cut combs with eggs in strips, and fasten on lower sides of such bars with heated wax, and destroy each alternate egg with a lighted match.

It will also be seen by above the absolute necessity there is for keeping swarms strong. A queen when laying in full swing will in a day lay double her own weight in eggs. But her digestive organs are small, so that her food has to be digested for her, and supplied to her by the nurse bees. The more nurse bees therefore, the more eggs will the queen lay, and the better quality of the progeny.

Owing to the severity of last year on the bees, and consequent great losses, there are nothing like the number to gather the nectar this year that there were two years ago. As far as we can learn however what bees there are are doing very well, and beekeepers have that fact to add to the joy of their Xmas and New Year's festivities. But a little advice, is needed. There is a very great abundance of fruit just now. We are told the large markets are glutted, and prices are ridiculously small. This will certainly militate against the present sale of honey, and if beekeepers rush the market prices must certainly go down temporarily. We say temporarily only. Owing to last year's failure there has been a slight rise in prices, which every beekeeper should do his best to maintain. Fruit will not keep, and must be sold no matter at what price. It is not so with honey. Honey will keep for years and be as good as ever. Let those who can keep their honey, reserve it till the fruit season is past. It will pay them, and they will be doing a duty to their fellow beekeepers.

Mr. Munday's hint on bee paralysis was a real good one. The disease is caused by improper food, most likely some pollen or other. Close up the

hive till that supply has gone and the disease disappears.

Mr. J. T. Adams, Victoria, asks Mr. Beuhne if he will through these columns, give a description of a wax press, as he did, at the Victorian Convention. The thorough rendering of wax is a problem to a good many beekeepers. We are not satisfied ourselves over the matter, and shall be very glad to hear from Mr. Beuhne.

We would call especial attention to an article by Mr. Wm. McEvoy, on Foul Brood. Mr. McEvoy is the official Foul Brood Inspector for the Province of Ontario, Canada—they have a Foul Brood Act there—and his writings and methods of cure are too well known for us to make any comment. In a private letter to us, he says, "I have taken more pains to prepare the enclosed on the 'Cause and Cure of Foul Brood,' than I ever did before. I have put a lot of work in this article and will be pleased if you publish all in one journal."

We have had several visitors at our newly established apiary at Willow Tree. Mr. Flood, late of the Salvation Army apiary at Pakenham, Victoria, was one of them. He is now in charge of an apiary at Warrah Ridge. He is brimful of practical information that he has acquired, and an hour's chat with him is of some value. On Saturday morning, while amongst the hives working, a shout apprised us of the arrival of visitors. On looking up, the sight of a horseman, buggies, women, and children caused us to drop the frame we were taking off to extract from, lift the veil and hurry out to a general shaking of hands. Our visitors were two well-known beekeepers with their wives and families Mr. Goard of Murrumbidgee, Mr. Meiklejohn, of Ard Glen, and subsequently Mr. O'Mara, of Willow Tree. A most enjoyable day was spent, and Mr. Meiklejohn, being an amateur photographer availed himself of the opportunity of taking several views, one at least of which we purpose reproducing in our pages.

A Day with the Murrurundi Beekeepers.

Hearing that Mr. Angus Mackay, F.C.S., author of "The Honey Bee in Australia," was going to give a lecture on Fruit Growing at Murrurundi on Friday, the 18th, we made a point of being present. The lecture took place in the hall of the School of Arts, Dr. Bell (Mayor of Murrurundi) being in the chair, and was attended by a number of fruitgrowers, including several ladies, the bulk of whom we also find were beekeepers. The lecture was very instructive, delivered in a pleasant conversational style, stone fruits, such as apricots, nectarines, peaches being the subject. It was listened to with the greatest attention by those present. Next morning, at six o'clock, nearly the same audience gathered at the orchard of Mr. Horn, to hear Mr Mackay give some practical illustrations of what he had spoken of on the previous evening, describing the best way of budding, the faults and failings of the different fruit trees, and how to remedy such. During the day we called on several of the beekeepers. We had visited Mr. Teys on a previous occasion. He had been a great sufferer by the inclemency of last winter, but his hives are now filling up fast, and he has a good return both of comb and extracted honey. We came on Mr Horn as he was extracting. His little 3-year old son quite proud with the job of turning the extractor handle. Mr Goard was extracting in the afternoon, the honey being of splendid quality. We also visited the apiary of Mr Prince. Mr Prince is a born mechanic, and his hives, extractors, frames, uncapping knife, are all of his own making. He has decided that a frame larger than the Langstroth, and in a 14 or 16 frame hive, produces more honey than a smaller one. He showed us what he said he purchased for a Carniolan queen, saying it was the best he had, but the bees were bright 3-banders, unlike the progeny of a Carniolan we had, which differed very little from black bees. Mr Davis had had trouble with a hive, which for a time had refused to accept queens or make them from larvae. It had, however, now been overcome by the purchase of an Italian queen. He introduced her, as he thought, alright, to find her outside the hive next day with three or four bees only. He again introduced her carefully, and she was now laying away alright. A pleasant half day was passed in the little mountain township.

QUESTIONS.

85.—In the event of altering the size of a Langstroth hive, which would be most advisable, to lengthen the frame or shorten, and by how much?

86.—Is the peppermint eucalyptus that grows among the heath, some Banksia, and other shrubs that grow on poor sandy soil any good for honey producing? There is miles upon

miles of this sort of country in Gippsland of no use whatever.

87.—Have any of our beekeeping brethren had any experience with formic acid for foul brood, if so, with what results and what treatment?

88.—How much honey do you mix with peameal when making food for young bees, and when making syrup for feeding.

89.—There are thousands of small black ants about here. What is best to keep them off the bees?

90.—Have any beekeepers tried spraying combs and bees with Formic Acid for foul brood? (one ounce to a pint of water.)

91.—A quick, simple, and sure introducing cage?

92.—Having a number of section frames that are soiled with propolis and dirt, what is the best way to clean them?

W. CLEMESHA.

90. I have not tried formic acid, but I have been using naphthaline, two balls to a hive, with very good results as a preventative.

91. I hope that some bright beekeeper will discover one. I have tried a good many plans, but have come to the conclusion that the Miller cage is the only one for me in the future.

A. J. FLOOD

85. Would make no alteration.

86. Cannot say.

87. No experience.

88. No experience.

89. Terrible bad here. I had to get troughs to put my hives in to keep clear of them.

90. No experience.

91. I use Alley's nursery and introducing cage.

92. Could not say.

P. A. MAXWELL.

85. If I had to alter the length of the Langstroth frame I would shorten it to go across the hive. It seems to me this question would only be asked by one of two classes of beekeepers—the beginner or the manufacturer.

86. Do not know.

87. No experience.

88. I do not use peameal.

89. Tartar emetic and honey is very good, but don't let the bees at it.

90. Have no foul brood.

91. Do not know of any "sure."

92. Boil in strong solution of alkali—concentrated lye—and rinse in clean cold water immediately.

A. F. BURBANK.

85. If I had to alter the size of the L frame I would shorten the top bar to 14 inches, and make it a little deeper, more on the same principle as the Gallup frame, but at the present time the common L frame is all I would wish for.

91. Get perforated zinc, such as is used for kitchen safes, and cut pieces 4×4 inch square, and cut a piece $\frac{1}{8}$ inch (or more if deep walls are required) square out of each corner; then you will have a strip to bend up round the sides for walls. All you have to do now is to put your queen on the comb with unsealed honey, and put the cage over her and press it into the comb until it is in deep enough to stop bees boring under the walls.

92. Scrape the propolis off with a knife or chisel; then rub well with coarse sand paper.

W. NIVEN.

85. I cannot see that there would be any advantage gained by altering the size of the Langstroth frame.

88. Have had no experience with pea meal, but have fed wheaten flour, mixed in wheaten or other kind of chaff; as much as 600lbs. in one season to 120 colonies.

89. Get two pieces of scantling; place them 16 inches apart, nail a piece of board across at each end, place four posts in the ground, suspend those pieces of scantling with No. 8 fencing wire about 14 inches from the ground; place the hives on the scantling—allow nothing to touch—there is then no possibility of the ants getting to the bees, except down the wire, which can be prevented by rubbing a little castor oil down the wire with a small paint brush or other convenience. In different localities different kinds of material are available, which can be made use of in erecting the stands.

92. Place them in the hot sun for a few minutes, and then scrape them clean.

GEO. GASSON.

85. I see no reason at present for altering; if I did it would be shorter—top bar $17\frac{1}{2}$ inches.

86. Don't know.

87. Have never seen foul brood, and don't want to.

88. The only experience I have had is for artificial pollen. I have added enough honey to pea-meal to make it the consistency of dough, and laid it on the top of frames.

89. The only remedy I know is to stand the legs of hives in water, with kerosene added.

91. The McDowell Introducing Cage. Take a piece of board $3\frac{1}{2} \times 2\frac{1}{2} \times$ scant $\frac{3}{8}$. With a centrebite bore a $1\frac{1}{2}$ inch hole $1\frac{1}{2}$ inches from one end to centre of hole. From the opposite end run two saw cuts $\frac{3}{8}$ in. apart to meet the hole. This forms entrance, wire cloth each side. On the opposite end from the entrance place a strip of tin $2\frac{1}{4} \times \frac{3}{8}$; drive a small wire nail through centre of tin, then revolve tin at right angles, slip cage down between frames, and it will hang

suspended by tin. If you are in a hurry it can be shoved in entrance like the Miller.

W. S. PENDER.

85. I see no advantage to be gained by altering the length of the "Simplicity" frame. If any change is desirable I should say alter the depth of frame to $6\frac{1}{2}$ inches, and use two bodies to a brood chamber on the Heddon system, making frames on the Root-Hoffmann principle.

88. Don't mix any honey with pea-meal. Give pea-meal dry in an open box if pollen is scarce. Be careful when adding honey to sugar syrup for feeding, or robbing may be started; 2ozs. of honey to every 1lb. sugar used in syrup will cause the bees to take it sooner.

91. No cage can be a sure introducing cage. Safe introduction depends on the disposition of the new queen towards the bees and vice versa. Starve a queen for 30 minutes before giving her to a new colony and she will beg food from the bees; this will assist introduction in the case of a very lively queen.

92. If they do not contain honey don't bother cleaning; use them to light your fire, as honey in them will never lock attractive. If they are filled with honey scrape off dirt and sell as second quality.

E. H. JERVIS.

85. Langstroth size can't be beat.

86. Some shrubs that grow on poor, sandy soil are good honey producers.

87. Yes, no good; a waste of money and time.

88.—I suppose you mean when feeding pea meal when pollen is scarce, only a little to get the bees to start work on same.

89.—Won't hurt the bees, they are the scavengers, pick up old cappings, bits of wax, and dead bees.

91.—A sure way is to get a piece of perforated zinc, 4×4 . Turn down $\frac{1}{8}$ down all round, attach a tin tube on the side about $1\frac{1}{2}$ inches long, and a little thicker than a lead pencil and fill full of new comb and a little honey. I introduce all my valuable queens that way and have never lost one. Place cage over hatching brood Re Mr. W. Abrams dense honey, wire frames and get an up-to-date extractor.

E. TIPPER.

85. The Langstroth frames are not too unwieldy if wired. A smaller frame, both in extracting honey and handling frames in hives, adds so much additional labour. Say the same surface of comb distributed in small frames instead of large ones gives so many more frames to put in and take out of the extractor; so many more frames to lift in and out of a hive. I have made a point of visiting all the leading apiaries, and remember one (that has since nearly died out) where I was struck by this fact. There were 75 hives, with about 12 small frames in each hive (the narrow way of the box), eight larger ones the broad way would have been four

less to handle in each hive or extracting. The Heddon system certainly use smaller frames, but they are handled in a body, not one at a time, and two can be put in the extractor for one Langstroth when manipulating. The Quinby hive is nearly an inch wider and two inches deeper. The bulk of beekeepers have fixed on the frame they use. The manufacturers have their machinery set, and the question has been pretty well ventilated and resolved on in other countries.

J. T. ADAMS, VIC.

85. No idea; as it is suits me. Would not like the job of altering my lot now.

86. No knowledge.

87. Tried a 50 per cent. solution in syrup; tablespoonful to a pint of syrup poured into empty comb and placed in centre of brood. It acted alright in cases where it was used on very hot days, but discarded it as too uncertain. It must have a high temperature, or it is useless.

88. Never use it; always plenty natural pollen.

89. Never use anything but bees to keep them out of the hives, and there are whole nations of them here. Now and then a line get started into the honey house after extracting, but a little insecticide settles that for a few weeks or months, unless a drop is left near the door; when an enterprising ant discovers it, then in they troop again.

90. Have long ago given up chemical fads for the bees that have foul brood to the boiling and carbolic acid, unless a hive just taken of foul brood combs, when I mix a gill of salicylic acid solution, 2lbs. sugar and water, to fill a quart bottle, and give them that (and four or five starters) either all or in portions, and the first round I make in spring drop a lump of naphthaline into every hive as a prevention—or a fad, some tell me—but in it goes in spring only. Fad or no fad, it don't cost much—1lb. (2s. 6d.) does the 100 hives.

91. Always use the Benton now, with one hole bored through opposite end to candy. An inch of safe zinc covers it on the other side, with a tack in one end it will push on or off the hole, with your candy end filled with nice candy. To work honey and ground sugar is best in my estimation. It is always the one consistency. Slide the zinc back, pop in her majesty and six or seven strong young bees; close back slide (it holds itself over the hole) and she will be free for sure on the third day, allowing there are no sealed queen cells in the hive. This is my way, and it never failed me as yet. The quickness can be regulated by the amount of candy put in. If I think they will take her I just fill the cork hole to give them time to settle down before she is loose among them.

92. Boil in lye made with caustic soda. Or boil 6lbs. of washing soda and 6lbs. of lime in four gallons of water 40 minutes. Pour off the

clear and boil them in that. It will clean everything—paint, grease, wax, propolis clean off them. I boil zinc honey boards, frames, and often the tin rabbits. They come out new.

QUESTIONS NEXT MONTH.

GEO. GASSON.

93.—Can anyone using the plaster mould explain why sometimes good foundation comes off it; at other times 90 per cent are cracked? I have kept the wax from 165 to 170 degrees.

ALBERT A. CARTER.

94. How can I get my bees to work in the 1lb. sections. I have tried every way that is mentioned in the "A.B.C. of Bee Culture" and still I cannot get them to work. The bottom box is full of honey and brood.

J. WALLACE.

95. Does the white box show buds long before bursting into bloom?

MOLONG B.K.A.

96. Is the queen bee the ruler of the hive?

97. Is honey eaten in comb as wholesome as extracted honey?

MURRURNUDI.

98.—Does the inclination of the cells, when the comb is in the extractor make a difference in sending the honey out?

IF ONLY.

R. H. LONG.

We beemen are in a bad way

They say,
So mine is a sorrowful lay

To-day
For what with the 'possums

All night eating blossoms,
And ringbarkers ringing away

All day.
No wonder we're filled with dismay.

Of forests they've killed not a few,
This crew.

If only our little bees knew,
And flew

At their heads as they rung,
And vindictively stung,

Not very much ringing they'd do,
Says you,

And I wholly concur in your view.

PROVERBS FOR BEEMEN.

R. H. LONG.

There's many a slip
'Twixt the bee and its sip.

Bees will be bees, as boys will be boys,
If boys love to linger, why bees love to poise.

I saw one to-day—a bee, not a boy,
And it hung o'er a flower like a child o'er a toy.
It hummed and it hawed as it airily floated
As if clearing its throat the while as it gloated.
Now forward, then backward, it poised and it

Till losing all patience I said, "You be bothered,"
When, as if it had heard me it made a great dart,
Meaning to cling to the flowers sweet heart,
But e're on the bloom it could firmly alight
A sharp puff of wind blew it clean out of sight.

A CHRISTMAS TALE.

R. H. LONG.

'Twas Christmas Eve and little Fred
Had hung his stocking to the bed,
But er'e he slept he prayed "Oh please
Dear Santa Clause send me some bees."
His sister Nell the prayer heard,
But shy young puss said not a word.
It still was light, so down she crept,
And out into the garden stept
And in a bottle quickly pops
Some bees that poised o'er clover tops.

The room grew dark, Nell felt around,
And Freddie's little stocking found.
Thrust in the bees down to the to
Pulled out the cork, and let them go.

'Tis now the middle of the night
The room all bathed in silv'ry light
When suddenly young Fred and Nell
Are wakened by an awful yell,
And peeping out to see the cause
They saw old Father Santa Claus
Dressed all in white, his feet quite bare,
Fiercely punching empty air,
The toys around him battered flung,
For poor old Santa Claus is stung,
For when he went to fill Fred's hose
The bees flew up and stung his nose.

Next day to Nell and Fred's surprise
Their father's face was such a size—!

CHRISTMAS.

J. D. WARD.

They boast of Christmas in the North—
Christmas with ice and snow,
Of the old Yule log burning bright
Holly and Mistletoe.

But give me a hot Australian day
Out in the burning sun—
In the blistering air, and the furnace glare,
That's my idea of fun,

A burning, blistering, blazing day,
Is the day that's manufactured for me,
As long as it's hot I dont care a jot,
If I'm out on the plains or near the sea.

In a boat, on a horse, or a wheel.
The charm of the things just depends
On the heat of the air, or the strength of the
That over the country extends. [glare

No wonder the people worshipped the sun,
In days that are passed away, [seemed
When the orb bright beamed as a God he
And they worshipped him God of day.

O! the red hot summer sun is here
The sun of the summer days
And birds and bees in flowering trees
Are glad in the strength of his rays.

So let us get out to the bush
For enjoyment this Christmas day,
We'll forget all our toils as the billy boils
And our cares—they will vanish away.

BEE-KEEPING IN NEW SOUTH WALES.

The "Statistical Register," just received, gives the number of hives in New South Wales for the year ending March 31, 1896, as 27,392 productive, 10,350 unproductive; yield of honey, 1,123,209 lb.; average per hive, 41 lb.; yield of beeswax, 27,520 lb. The hives are distributed thus:--Northern division: Productive, 10,101; unproductive, 2,936. Central: Productive, 10,956; unproductive, 4,787. Southern: Productive, 6,324; unproductive 2,625. Western: Productive, 11; unproductive 2. The average market price per month in Sydney throughout the year has been uniform at 2 $\frac{3}{4}$ per lb.

QUEENSLAND NOTES.

A. F. BURBANK.

We have a lot of spider plant in bloom at the present time, and the bees work on it in swarms during the mornings and evenings; an ordinary sized plant grown on fairly rich soil will have from eight to twelve limbs. Each branch has a spike of bloom which keeps on flowering as it

rows. About five flowers open on each pike every evening, and if left unmolested till morning there will be a drop of nectar the size of a pea in each one. Under favourable conditions a spider plant will bloom over eight weeks, and it can be grown all the year round where there is no frost.

All beekeepers should keep a daily diary; it comes in very useful sometimes, especially in noting the seasons.

I have taken 8 cwt of extracted honey, and about ten pounds of wax from 36 hives this season; the supers are full again now, but the weather is too wet for extracting, Nov. 29. We have had no end of rain lately.

There is a fine lot of grey iron bark, weeping gum, and gum barked ti-tree in bloom about here at the present time.

Did anyone ever hear of bees gathering sulphur? Last season when I was sulphuring grape-vines, I saw them gathering great loads of it, as if they thought the sulphur was pollen, but whether they made any use of it after taking it to their hives, I don't know. A considerable quantity of honey candied in the hives last winter.

The Brisbane honey market is very dull just now, the prices are 1 $\frac{3}{4}$ d to 2d. per lb. wholesale.

Bee Paralysis must be caused by bad honey. I had some hives badly affected about two years ago, and I never got rid of the pest until I extracted every drop of honey from their combs, and in some cases had to do it twice; when the bees got new honey they were all-right.

Never melt wax in zinc buckets, or tins that have been burnt, because it will generally get a black or dark grey colour if you do.

I see by October number of A.B.B. that the wood-swallows only eat drones. If this bird eats drones, it will eat queens also.

Mrs. Atchley has been very successful during the past season in sending queens to Australia. Several have reported to us as having received them safe, and in addition speak highly of them.

DEATH OF MRS. J. E. TAYLOR.

We are exceedingly sorry to have to record the death of Mrs. J. E. Taylor, wife of one of (if not the largest producers of honey) in New South Wales. Having spent a brief and most enjoyable time at Mr. Taylors residence, we can fully understand the extent of the loss both he and his estimable family have sustained. From the *Cowra Guardian*, of Nov. 28, we take the following:—

"With deep regret we have to chronicle the death of Mrs. J. E. Taylor, who died at her residence Lachlan-St at 4 o'clock on Wednesday morning. The deceased lady was the beloved wife of our respected townsman, Mr. Josiah E. Taylor. She first developed symptoms of a serious internal disease several months ago, since which time she had been subject to periodical prostration and considerable suffering but it was not until the last few weeks that the malady became so alarming as to excite the serious apprehension of her husband and family for her ultimate recovery. Mrs. Taylor, who was in her 46th year, was a native of Cowra, a daughter of the late Mr. D. Middlemis, and a sister of Mrs. Thomas Walsh, of the Court House Hotel and Mr. A. Middlemis, J.P., of Tamangaroo. She was twice married, her first husband being the late Mr. Chas. Moore, by whom she leaves an issue of three grown up daughters, and by the second marriage one son and three daughters. One of the daughters by the first marriage was recently married to Mr. Arthur McLeod. The deceased lady was a fond and loving mother, a devoted wife, and of a kind and cheerful, but unobtrusive, disposition. The funeral took place on Thursday afternoon, and the large and representative character of the gathering that attended to pay the last tribute of respect to the memory of the deceased lady warmly testified to the esteem in which she had been held, and must have been a most gratifying consolation to her family in the hours of their trouble. The remains, which were encased in a handsome cedar coffin, were interred in the Presbyterian portion of the Cowra General Cemetery. The Rev. J. McAndrew conducted the burial service. The coffin was covered with wreaths and floral emblems from relatives and friends."

When writing for information kindly enclose a postage stamp for reply.

J. O'C., Moruya, Nov 25th.—In the enclosed match box you will find a fly, which I caught killing a bee, which I enclose with fly. The bee is an Italian, and I will put two or three blacks in for provision. The fly's tongue was in the thorax of the bee when I caught him. The bees are doing well so far. From 12 spring count I have now 27 and every prospect of a good season. Foul Brood is everywhere. I have given up trying to cure it, as it does not seem to check them in the least, although the smell from the hives is very bad. I never knew bees to build up so rapidly as they have done this spring. The honey is of A 1 quality.

(The sample enclosed is a small dragon fly. They breed most in still water).

A contemporary says:—"A most extraordinary occurrence happened to a horse belonging to Mr. H.L. Lovegrove, formerly of Maitland, but now of Berry, a few days ago, by which the animal died, or properly speaking was killed. It appears the animal went into the back yard and while there was stung by a bee. He kicked and upset a hive of the insects who at once attacked and stung him. The animal became maddened, rushed away, and after two hours of terrible agony, died.

According to the "Secolo" of Milan, "Lord Cecil (sic) a son of Lord Salisbury," is a great apiculturalist, and having heard of the existence in Italy of a famous queen bee, he wished to buy it. For this purpose he wrote to a well known firm of bee cultivators at Como through their agent in London. In due time a telegram from London reached Hatfield announcing that the Queen would arrive on Tuesday at three o'clock. Whereupon, according to the "Secola" this interesting fact becoming known in the place, the inhabitants turned out to greet Her Majesty, bands playing and flags flying. Imagine their disappointed amazement when they beheld the queen in her hive handed out of the luggage van!

J. E. W., Moruya, says: Splendid season, scarcely any bees to gather the honey. Foul Brood knocking about.

H. C., Pine Ridge, Leadville, Dec 2nd: Finished shearing, and have extracted 360 lbs of honey, and more in supers yet.

K. R. D., Red Hill, November 24th, 1896.—Just a few lines to let you know that I am amongst the living. I have shifted up near Grenfell since I wrote last, but there has been over two months drought up till last week, and very near an inch of rain has fallen, so it will freshen the flowers up again, I hope. My bees haven't done much yet on account of the dry weather. I started extracting on Saturday last, but I only got 250lbs from ten hives. I think if the weather is favourable I ought to get a good bit next extracting, as there are a lot of kurrajongs coming into bloom on the ranges around me, and the yellow box on the flats are just bursting into boom also. I have nineteen colonies, mostly Ligurian. Only one hive swarmed this year so far, but the most of them are very strong. Now, sir, I will give you the pedigree of the place I picked for my apiary. I have the bees on the east side of a range, and another range runs on the south, so I don't get any west winds, and I get the sun the first thing. I have all the hives facing south. Now for the scrub, which is the first to come into bloom. The silver wattle is the first to come into bloom this year and the bees worked well on it, the next is ti-tree, geebung, five-corner, and another low shrub which has a very sweet smell and appears to be a good honey yielder. Of the big timber there is iron bark in great abundance, stringy bark very plentiful, also red gum, white box, yellow box and kurragong, besides there is a about 60 acres of corn and pumpkins planted within a mile and a half of my apiary. So if I think if the year turns out any way well at all I ought to get a fair return for the trouble I have gone to in shifting. There are a good few people in and around Grenfell keeping a few hives

FOUL BROOD.

*Written for the Australian Bee Bulletin by
William McEvoy, Official Foul Brood
Inspector, Province of Ontario, Canada.*

Foul brood will almost be a thing of the past, when every beekeeper keeps dead brood out of every colony of bees, at all times. The careless and very filthy habit that so many have fallen into of putting combs with dead brood in, into colonies for the bees to clean out, is a bad one, and one of the ways of spreading foul brood. Many a beekeeper finding two or three of his colonies dead and not knowing that they died of foul brood has divided the combs up among his best colonies to get the bees to clean out the dead stuff in them, and instead of getting the combs cleaned out, spread foul brood through the apiary with a vengeance. The putting of combs with decayed brood in into the colonies for the bees to clean out is like placing a board from bank to bank high over a river, and then claiming that it is a safe bridge for all to travel over, because hundreds of men weighing 160 lbs. crossed over it many a time. After a while a man of unusual weight comes along weighing about 250 lbs., and when he gets out in the middle of the board it breaks and down goes the man to the River of Death. Then the board will be examined to see if it is this germ or that one that caused the breakdown; it was only a case of too much man for the board. In June, 1890, a cloud burst over Thorald, Ontario, Canada, and for a short time caused a great flood. Mr. Charles Urlocker had an apiary of 40 colonies there, with a top story and queen-excluder on each brood chamber at the time. The water rushed into Mr. Urlocker's apiary, and it rose up to within two inches of the top of the brood chambers, drowning all the brood, but the queens were saved by keeping above the water in the lower hive, while the bees went up into the top stories. The water soon went down, extreme heat set in, and the drowned brood went into a great mass of corruption, the queens being confined to the lower hives

with queen excluders; every colony was compelled to rear brood in the combs of decaying brood, which soon ended in foul brood (brown ropy matter). When I examined Mr. Urlocker's apiary one month after the flood he said "My colonies were all right before the flood, and had it not been for the drowning of all the brood at swarming time, and the very warm weather that set in right after I would not have had foul brood." Whole hives full of decaying matter left for Mr. Urlocker's bees to clean out was like the case of too much man for the board—it was too much for the bees to do and it ended in foul brood.

In the "Ontario Foul Brood Bulletin", page 14, Mr. D. A. Jones says "A man once had a hundred colonies in an isolated locality with no other apiary within miles of it, and no bees in the woods as far as known; there were no signs of foul brood in his apiary all summer, though the colonies were carefully examined once or twice each week. In August or September a flood came and drowned a large portion of the brood in some of the hives, 10 or 15 of them were so much injured by the flood that the bees did not remove the dead brood, and in most of these colonies nearly all the combs were full of brood. The weather after the flood was very warm and muggy—the atmosphere very oppressive for days with frequent showers. All the colonies from which the dead brood was removed came out alright, while the 10 or 15 from which it was not removed became very badly diseased. When all the dead brood was removed the disease continued to increase in spite of salicylic acid and other treatments then in vogue. It appeared in every respect like foul brood, and I feel satisfied that it was. Now if it did not emanate from the decaying brood, which was a mass of corruption, where did it come from?" In the spring of 1875 I had one colony that lost about two-thirds of its bees by their swarming out, and mixing in with another colony. Then this colony that lost so many bees so suddenly was left with more brood than the remaining

bees could cover or care for. The uncared for brood died, and the colony kept in a low state with a quantity of decaying brood which ended in foul brood. If I had promptly removed the most of the brood when the colony lost the most of its bees, I never would have had foul brood. This I firmly believe and will while I stay on this brown orb of ours.

The young bee destroyed by foul brood first turns yellow; as it decays further it becomes a brown ropy matter, and many of the capped cells will be sunken a little in the capping with a small hole in each. When the foul matter dries down it settles on the lower side and bottom of the cells and sticks there like glue. And when the bees are gathering honey they store it in the cells where the foul brood matter dries down, just the same as they do in sound cells, and often seal them; then as soon as the sound larvæ is fed any of the honey that has been stored in the diseased cells, it will die of foul brood. And when larvæ is fed in cells where foul matter dried down it will also die of foul brood.

Dr. Howard, who has been a practical beekeeper, wrote to me twice to send him combs of foul brood with honey in. On receiving the second letter from him I went to a diseased apiary and picked out two of the worst combs with a quantity of sealed and unsealed honey stored in cells that the foul brood matter had dried down in, and expressed them to him. In Dr. Howard's book on foul brood, page 19, he gives the following account of the combs, which he received from me and says: "He sent me two combs six by eight inches, containing brood of all ages, foul brood in all stages, and honey stored by the bees in the adjacent cells, some of which were capped or sealed. It was the foulest mess I ever saw, and emitted the foulest stench I ever smelled. The work of dissecting these combs revealed the same facts as before, in regard to the honey very few cells were sealed. In nearly all of these open cells were found the hard dark coffee

coloured masses of decayed foul brood. On microscopical examination of the masses found in the open or unsealed cells containing honey, the spores and bacilli were found. I carefully examined the cells, every one which were capped by the bees, and in nearly every instance was found these same hard masses of old foul brood. These were carefully dissected and examined, and found to contain the spores and bacilli from which cultures were made. My next trial was to take the honey dipped out of these sealed cells without disturbing the cell walls, and examine under the microscope, which revealed both spores and bacilli, suspended, from which pure cultures were obtained."

If Mr. Cheshire had ever received any combs as bad with foul brood as those I sent to Dr. Howard, and he had uncapped the sealed honey that was stored in cells where foul brood matter had dried down he certainly would have found the foul brood germs in the honey. Mr. Cheshire not being able to find the disease in the honey through not having the right sort of combs to examine caused him to believe that the honey in foul broody colonies was not diseased. Dr. Howard says on page 30 of his book on foul brood when speaking of Cheshire not finding the disease in the honey, "If he had obtained as foul combs for examination as those Mr. McEvoy sent me he could not have overlooked them, especially if he had endeavoured to make cultures from the honey with the same assiduity as I have."

I discovered twenty years ago last summer when curing my apiary of foul brood, that after I took all the foul brood combs out of the diseased colonies that I had to get the honey away from the bees which they took with them from the old combs, after they stored it in the new pieces of combs, or part of the diseased honey would be fed to the larvæ, after brood rearing was started, and then foul brood would break out again.

In the honey season when I took the

comb out of the colonies that were not very bad with foul brood and left the bees to build their own combs it ended in a cure in most cases. But where the colonies were very bad with foul brood, and had considerable unsealed honey in the brood combs, the bees would rush into the unsealed honey, which was so handy, and fill themselves, while I was removing the foul broody combs. Then as soon as they had little pieces of comb made they would store some of the diseased honey in them. When I removed these new pieces of combs made during the first four days it always ended in a perfect cure, but where I did not foul brood broke out again in several of them.

F. A. Gemmill of Stratford (one of our best beekeepers), wrote to me in September, 1889, that he was going to work until he got a Foul Brood Act passed, which he did. All of our beekeepers should feel thankful to Mr. Gemmill for getting the Act passed to rid the country of foul brood and also to the Government of Ontario for not only passing the Act, but paying for the work of ridding the Province of the disease. Six years ago when I set out to get all the diseased apiaries in the province of Ontario cured of foul brood, I soon learned that I had undertaken a tremendous job. No country could have been in a much worse state than Ontario was then. The disease was spreading at an alarming rate at that time and several theories were in hot dispute then, as to how the foul brood apiaries should be treated.

When on my rounds through the province getting the diseased apiaries cured of foul brood, I always had each apiary treated according to the condition I found it in, so as not to have anything wasted that could be turned to good account, and where the colonies were not too badly diseased I had the brood taken from the strongest colonies and tiered up on the weakest ones until the most of it was hatched, which soon made them very strong in bees.

HOW TO CURE THE APIARIES OF FOUL BROOD.

In the honey season, when the bees are gathering honey freely, remove the combs in the evening and shake the bees into their own hives; then give them frames with foundation starters on, and let them build comb for four days. The bees will make the starters into combs during the four days and store the diseased honey in them, which they took with them from the old combs. Then in the evening of the fourth day remove the new combs and give them foundation to work out, and then the cure will be complete. By this method of treatment all the diseased honey is removed from the bees before the full sheets of foundation are worked out. Burn all the old foul brood combs or make them into wax after they are removed from the hives, and all of the new combs made out of the starters during the four days must be burned or made into wax on account of the diseased honey that would be started in them. Where a large quantity of brood in an apiary is good, and there is only a little of the disease in the colonies, a very profitable cure can be made when the bees are gathering honey, by removing the combs in the evening and after shaking about three-fourths of the bees and the queen into their own hives and giving them foundation starters, then fill an empty two story hive with the combs of brood that have been removed with some bees from the diseased colonies. In the evening of the fourth day remove the combs made out of the starters and give full sheets of foundation, and when the most of the brood is hatched that was placed in the two-story hives, remove the combs and give the bees starters of foundation in a single hive and let them build comb for four days. Then in the evening of the fourth day take out those new combs and give them foundation to work out, and at the same time give them a queen cell ready to hatch out for a young queen, then everything will be alright. When the bees are not gathering honey any apiary

can be cured of foul brood by removing the diseased combs in the evening and giving the bees frames with comb foundation starters on. Then also in the evening feed the bees plenty of sugar syrup and they will make comb out of the starters, and store the diseased honey which they took with them from the old combs. In the fourth evening remove the new combs made out of the starters, and give the bees full sheets of comb foundation, and feed plenty of sugar syrup each evening until every colony is in first class order. Make the syrup out of granulated sugar and put one pound of water to every two pounds of sugar and then bring it to a boil. As previously stated all the old combs must be burned or made into wax, and so must all the new combs made during the four days. Foul brood apiaries are cured by wholesale every year in the Province of Ontario by my method of treatment, without getting a single hive disinfected in any way that foul brood had been in. There is no more reason for scalding empty hives that foul brood had been in than there would be to scald the feet of all the bees that travelled over the diseased combs.

I warned the beekeepers in every part of the Province that I went into, not to waste any time over boiling or scalding empty hives that foul brood had been in. Many of the beekeepers often said, well if I can cure these diseased colonies in the same old hives, without boiling or scalding the hives, it will save me a lot of work. I always replied that I would stake my life they could, and so they did in every apiary in Ontario. I have banished the disinfecting of hives out of the Province of Ontario, and I never hear it mentioned any more. It will set the bees robbing and spread the disease to work with foul brood colonies in warm days, when bees are not gathering honey, and for that reason all work must be done in the evenings, when no bees are flying. By doing all the work in the evenings it gives the bees a chance to settle down nicely before morning, and then there will be no confusion or trouble.

FOUL BROOD.

A. E. HOBBS, N.Z.

In a recent issue (May 24) you print an extract from *American Bee Journal*, in which Wm. T. Clarke claims to have cured foul brood by Cheshire cure. He fed a colony 20lbs of phenolate¹ syrup in the autumn, and says next season it was perfectly healthy. I think that if the colony had foul brood at all it was the mild type, which I have often seen go away of itself. I have had seven years' experience of foul brood, during the last six years in two and three apiaries, with an aggregate of 400 colonies. The Cheshire cure was one of the first we (Hobbs Bros.) tried, and we gave it a thorough trial. Mr Cheshire claimed that if phenolated syrup (strength, 1 phenol to 500 of syrup) was poured from a bottle with a quill in the cork into the empty cells around the brood that it would be sufficient to cure. I tried that and found no benefit—that was in 1889. In the spring of 1891 we were very short of stores in two of our three apiaries, and as we decided to feed sugar syrup we had to give Cheshire cure a thorough test, in the hope that if it did not cure outright it might do good and prevent the spread of the disease. We saw we would have to feed a lot, so got 6lbs. of Calvert's No. 1 absolutely pure phenol for internal use as recommended by Cheshire. We got the acid from an importing wholesale firm at the reduced rate of 12/- per lb. The bottles had not been opened since they left the manufacturers, and were $\frac{1}{2}$ lb. bottles.

We mixed the syrup as follows:—We put 500 lbs. of No. 2 sugar into a honey tank and added 250 lbs. of water and $1\frac{1}{2}$ lbs. of acid which had been previously dissolved in hot water. The syrup had quite a strong acid taste, and the whole honey house and apiary reeked with carbolic acid. "Now, we said, if there is any good in Cheshire's remedy this will give the bacteria a shock." The syrup tank was elevated, and we ran the syrup into a tub and filled it into combs and fed the bees, some 1, others 2, 3 and 4 combs each. That was a good test,

was it not ; well, we gave it even a better. At one of our apiaries, (home apiary), we transferred 4 colonies on to disinfected combs, (these combs were part of 700 which had been disinfected in a strong solution of corrosive sublimate, (then recommended), and filled with syrup. Two were filled with phenolated syrup and the other two with formic acid syrup (very expensive it was), of a strength then recommended. Each hive had 4 combs full of syrup and 2 empty combs to start breeding in, in the middle. We anxiously watched the development of the first batch of brood and were disgusted to find in all four that each contained a large proportion of diseased brood and in a short time were as bad as ever. The diseased bees had carried a sufficient quantity of infected honey into their new hives to badly disease the first batch of brood. As bad weather continued we fed the two apiaries in 5 weeks 2750 lbs. of phenolated syrup and used $5\frac{1}{2}$ lbs. of carbolic acid, the remaining $\frac{1}{2}$ lb. bottle we sold to a chemist at one half cost price, as we had no further use for carbolic acid for internal use, having fed so large a quantity without the least benefit. We have since cured those two apiaries by transferring on to sheets of foundation, but as this letter is long enough and I have not time now I will give our experiences of that in another letter.

BEEES.

From Lubbock's 'Bees, Ants and Wasps'.
(Continued.)

Since their extreme eagerness for honey may be attributed rather to their anxiety for the commonweal than to their desire for personal gratification, it cannot fairly be imputed as greediness; still the following scene, described by Dr. Langstroth, and one which most of us have witnessed, is incompatible surely with much intelligence. "No one can understand the extent of their infatuation until he has seen a confectioner's shop assailed by myriads of hungry bees. I have seen thousands strained out from

the syrup in which they had perished; thousands more alighting even upon the boiling sweets; the floor covered and windows darkened with bees, some crawling, others flying, and others still so completely besmeared as to be able neither to crawl nor fly—not one in ten able to carry home its ill-gotten spoils, and yet the air filled with new hosts of thoughtless comers."

If, however, bees are to be credited with any moral feelings at all, I fear the experience of all beekeepers shows that they have no conscientious scruples about robbing their weaker brethren. 'If the bees of a strong stock,' says Langstroth, once get a taste of forbidden sweets, they will seldom stop until they have tested the strength of every hive.' And again, 'Some beekeepers question whether a bee that once learns to steal ever returns to honest courses.' Siebold has mentioned similar facts in the case of certain wasps. (*Polistes*.)

Far, indeed, from having been able to discover any evidence of affection among them, they appear to be thoroughly callous and utterly indifferent to one another. As already mentioned, it was necessary for me occasionally to kill a bee; but I never found that the others took the slightest notice. Thus on October 11, I crushed a bee close to one which was feeding—in fact, so close that their wings touched; yet the survivor took no notice whatever of the death of her sister, but went on feeding with every appearance of composure and enjoyment, just as if nothing had happened. When the pressure was removed, she remained by the side of the corpse without the slightest appearance of apprehension, sorrow or recognition. She evidently did not feel the slightest emotion at her sister's death, nor did she show any alarm lest the same fate should befall her also. In a second case exactly the same occurred. Again, I have several times, while a bee has been feeding, held a second bee by the leg close to her; the prisoner, of course, struggled to escape, and buzzed as

loudly as she could; yet the bee which was feeding took no notice whatever. So far, therefore, from being at all affectionate, I doubt whether bees are in the least fond of one another.

Their devotion to their queen is generally quoted as an admirable trait; yet it is of the most limited character. For instance, I was anxious to change one of my black queens for a Ligurian; and accordingly on October 26, Mr. Hunter was good enough to bring me a Ligurian queen. We removed the old queen, and we placed her with some workers in a box containing some comb. I was obliged to leave home on the following day; but when I returned on the 30th I found that all the bees had deserted the poor queen, who seemed weak, helpless, and miserable. On the 31st the bees were coming to some honey at one of my windows, and I placed this poor queen close to them. In alighting, several of them even touched her; yet not one of her subjects took the slightest notice of her. The same queen when afterwards placed in the hive, immediately attracted a number of bees.

As regards the affection of bees for one another, it is no doubt true that when they have got any honey on them, they are always licked clean by the rest; but I am satisfied this is for the sake of the honey rather than the bee. On September 27, for instance, I tried with two bees: one had been drowned, the other was smeared with honey. The latter was soon licked clean; of the former they took no notice whatever. I have, moreover, repeatedly placed dead bees by honey on which live ones were feeding, but the latter never took the slightest notice of the corpses.

Dead bees are indeed usually carried out of the hive; but if one is placed on the alighting-stage, the others seem to take no notice of it, though it is in general soon pushed off accidentally by their movements. I have even seen the bees sucking the juices of a dead pupa.

As regards the senses of bees, it seems

clear that they possess a keen power of smell.

On October 5 I put a few drops of eau de Cologne in the entrance of one of my hives, and immediately a number of bees (about fifteen) came out to see what was the matter. Rose-water also had the same effect; and, as will be mentioned presently, in this manner I called the bees out several times; but after a few days they took hardly any notice of the scent.

These observations were made partly with the view of ascertaining whether the same bees act as sentinels. With this object, on October 5 I called out the bees by placing some eau de Cologne in the entrance, and marked the first three bees that come out. At 5 p.m. I called them out again; about twenty came, including the three marked ones. I marked three more.

October 6.—Called them out again. Out of the first twelve, five were marked ones. I marked three more.

October 7.—Called them out at 7.30 a.m. as before. Out of the first nine, seven were marked ones.

At 5.30 p.m. called them out again. Out of six, five were marked ones.

October 8.—Called them out at 7.15 Six came out, all marked ones.

October 9.—Called them out at 6.40. Out of the first ten, eight were marked ones.

Called them out at 11.30 a.m. Out of six, three were marked. I marked the other three.

Called them out at 1.30. Out of ten, six were marked.

Called them out at 4.30. Out of ten, seven were marked.

October 10.—Called them out at 6.5 a.m. Out of six, five were marked.

Shortly afterwards I did the same again, when out of eleven, seven were marked ones

5.30 p.m. Called them out again. Out of seven, five were marked.

October 11.—6.30 a.m. Called them out again. Out of nine, seven were marked.

5 p.m. Called them out again. Out of seven, five were marked.

After this day they took hardly any notice of the scents.

Thus in these nine experiments, out of the ninety-seven bees which came out first, no less than seventy-one were marked ones, though out of the whole number of bees in the hive there were only twelve marked for this purpose, and, indeed, even fewer in the earlier experiments. I ought, perhaps, to add that I generally fed the bees when I called them out.

THE SENSE OF HEARING.

The result of my experiments on the hearing of bees has surprised me very much. It is generally considered that to a certain extent the emotions of bees are expressed by the sounds they make, which seems to imply that they possess the power of hearing. I do not by any means intend to deny that this is the case. Nevertheless I never found them take any notice of any noise which I made, even when it was close to them. I tried one of my bees with a violin. I made all the noise I could, but to my surprise she took no notice. I could not even see a twitch of the antennæ. The next day I tried the same with another bee, but could not see the slightest sign that she was conscious of the noise. On August 31 I repeated the same experiment with another bee with the same result. On September 12 and 13 I tried several bees with a dog-whistle and a shrill pipe; but they took no notice whatever, nor did a set of tuning-forks which I tried on a subsequent day have any more effect. These tuning-forks extended over three octaves, beginning with *a* below the ledger line. I also tried with my voice, shouting, &c., close to the head of a bee; but in spite of my utmost efforts, the bees took no notice. I repeated these experiments at night when the bees were quiet; but no noise that I could make seemed to disturb them in the least.

In this respect the result of my obser-

vations on bees entirely agree with those on ants.

To be continued.

A.B., Nurrabeil, Victoria, Nov. 10,—
Re Mr. Bolton's on Extracting in your *A.B.B.* of last month, he wishes to know the grounds as to thinking $\frac{1}{3}$ a fair thing for extracting. (Every man should be able to give a reason of the hope that is in him.) Well, sir, I am thankful friend B. has drawn attention to the matter. I should be sorry, indeed, to say anything in your columns that would lead to an injustice, God forbid, in the matter above. I have the privilege to know the circumstances surrounding the question 74, and which leads up to its being asked, and it is this. Friend Davey has a deep interest in the bee business, and wishes to know the opinion of his further advanced brethren on different matters (quite right), and he having a friend who works and pretty nearly manages several of his neighbour's bees for them, such as curing foul brood, and introducing the bar-frame hive, they naturally turn and ask him if he would extract for them, hence the question 74, that he may do a fair and just thing. Under these conditions I am of opinion one-third is a fair thing. And another consideration, in my opinion, was this: The owner of the bees would get as much and more honey by having the extracting done after he gave 1-3 to the manipulator. I am sure Friend B. understands what a beeman's experience has cost him, and it is right that dear bought experience should be given away for nought or 10 or 15 per cent. If I had plenty of extracting to do for others, and made a business of it, then this would be quite different, and had nothing to do with the bees but extract. I trust this explanation will give satisfaction and least an injustice might be done. I feel indebted to Friend Bolton drawing attention to the matter.

J. P., Cooma, November 25th, 1896—This has the appearance of being the best season for bees we have had for two years, as white gum, blue thistle, sweet briar, white clover, and elderberry are all out in blossom and bees working on them well. I think we will have a good flow from Manna gum later on as they are loaded with buds. Wishing you every success.

W.B., Young, Nov 17th.—A few words about my bees. I came through the winter with the loss of about 25 colonies, but I am thankful that the survivors are all in good trim. I am prepared for a bad season. I started extracting before this last season, and I don't think I could get 20lb out of as many hives now, but however, they have commenced this last day or two to bring in a little, and we had a good shower to day which will probably make things better. Now, Mr. Editor, I must really make a comment in self-defence on the report of W.N., of Young, which appeared in your last issue. That gentleman has sent you a damaging lot of mistakes. In the first place he states that there are a lot of people who keep bees in in the old style boxes (there are I think about 2 or 3 frame boxes to every common one), from which he leads you to understand that his bees have caught the foul brood, which must be a mistake, as I have spoken to the owner of those bees. He says again that there is only one other besides himself that keeps bees systematically. Well that is wrong, as I know of 6 or 7 others besides himself, and they live within 6 miles of the town. Now for the last, but not least. Any sensible person after reading W.N.'s report, would naturally come to the conclusion that all the bees that died about here perished from foul brood, which is false, and I think I can honestly say that his bees were the only ones that had it. Now isn't that annoying to my fellow beekeepers of this district as well as myself, for people would say he has foul brood, don't buy his honey or queens. I spoke to W. N. about it and he said his brother wrote it

and signed his name. However, I told him I wanted it contradicted in your next.

CAPPINGS.

From American and other Bee Journals.

Gleanings says:—The statement that bees will not swarm without drones does not begin to be supported by recent reports; while we may set it down as an almost invariable rule that they will not leave the hive without a queen; the reports seem to indicate that drones have very little influence one way or the other.

J. L. Cruikshank catches swarms thus:—During the swarming season, I have used a small box, containing bees. The box is made with one of the sides covered with wire cloth. In the morning a half pint to a pint of bees are put in the box, and when a swarm issues, this box of bees is hung in a convenient place. The bees in this box attract the swarm and they cluster on it. The bees must be renewed each day.

Gleanings says:—In the province of Havana, Cuba, there are still 12 movable comb apiaries, containing in the neighbourhood of 2000 colonies. The annual product from these apiaries amounts to from 50 to 100 tons of extracted honey, with only a few pounds of section honey. The British Consul General's Report from Cuba, for 1892, was:—"Exported honey 2259 hogsheads (each holding about 100 gallons net), valued at about \$90,360. France bought 1146 hogsheads; Germany, 653; the United States, 254. The remainder found purchasers in Holland, Belgium, Spain and the Canary Islands. The wax product the year amounted to 13,057 arrobas (25 lbs per arrabo), valued at \$97,927.50, or more than \$7000 greater than the value of honey produced, Spain and the Canary Islands being by far the largest purchasers, as they bought 8967 arrobas; the United States was next in the list of purchasers, taking 2486 arrobas; France bought 1492 arrobas. The remaining 112 found purchasers in Puerto Rico and Central America.

20,000 queens are mailed yearly through the U. S. mails.

Dr. Gallup says he has never lost a queen when he has introduced her by tobacco smoke.

Professor Lawrence Bruner says in Nebraska there are 200 distinct kinds of bees.

L. A. Ressler, in *Gleanings* says:—Drawn Combs increase the crop of comb honey 100 per. cent.

E. J. Atchley says:—It has been demonstrated that an egg will remain in a hive 21 days and then hatch.

In the United States there are 1,001 patents in bee-culture. What a number of these must have been useless?

Some of Mr. Wm. McEvoy's trips as Foul Brood Inspector of Ontario, Canada, are over 300 miles from home.

A Mr. S. T. Pettitt, of Canada says:—“If for no other reason I would have the bees cap the honey for the wax; but it pays in the quality of honey.”

Editor Root in *Gleanings* calculates that during the year in the United States there are 25,000,000 lbs. of comb honey, and 50,000,000 lbs. extracted honey raised.

In Guadeloupe the bees make no comb but deposit their honey in ‘bladders’ of wax about the size of a hen's egg. These bees are small and black in color, and are remarkable in not having stings.

G. M. Doolittle says:—The whole of our beekeeping fabric has been built out of the suggestions coming from the many, far more than it has by the prominence of any one individual or any few individuals.

Mr. Richard Helms, who is now Biologist of the Bureau of Agriculture, Western Australia, has contributed several valuable articles on apiculture to the Journal of that Bureau. Want of space precludes a reprint of them in this issue.

At the Central Texas Beekeepers' Association Convention, to take place in February 1897, E. R. Jones will read a paper on “How can beginners be best

educated not to ruin a market for those of more experience.”

Dr. Miller has hit on the idea of little sticks instead of wire to strengthen foundation, and has suggested that the Weed foundation machinery should incorporate such sticks in making the foundation.

In our last issue we quoted from Dr. Gallup in saying that honey was a perfect food and passed directly into the stomach without any digestion. The Australian parrot lives almost entirely on honey. After shooting one we have seen quite a tablespoonful come from it. Recently when the good wife was preparing some for a stew, she looked up and said “Why these parrots have no gizzards like other birds?” [Draw your conclusions.]

Dr. Miller says: Somewhat contrary to my expectations, I have not made a success of running two stories throughout most of the season, with some twenty colonies, against the earnest pleadings of my assistant. But I have had good success by giving each colony a second story at the beginning of the year, reducing to one story at harvest, then at close of harvest giving a second story till time to take in cellar.

REMOVING BEES.—Mrs. Atchley says: I would move the bees when it was too cool for them to fly, and if the weather was not cool enough to keep them shut in for four or five days, I would close the entrance with wire cloth sufficient to keep them in that length of time. When bees have been kept from flying for a while, they always mark their location when they first fly after confinement, and then there will likely be less bees return to the old stands, and of course be less loss. The few that return may soon go back to the new location, and be comparatively no loss.

C. P. Dadant, some 25 years ago, had some hives with crooked combs built in such shape that it was impossible to remove any of the frames until the combs

had been transferred, the same as if the colony had been in a box hive. It was in the fall of the year, and so the transference was put off till the spring, and no honey taken from them. These colonies yielded the best crop. The same thing occurring in subsequent years led them to the conclusion that it was the greater amount of stores left in them for winter, which caused those bees to harvest the best crop. So instead of thinking 20 lbs. of honey sufficient to make them right for winter they give 40 lbs.

A writer in an English Bee Journal says:—The keeping properties of extracted honey are largely dependent on the beekeeper himself, so far as knowing what samples are likely to remain in good condition, and those in which fermentation is sure to be set up if kept beyond the season in which they are gathered. Thin honey—we mean thin extracted—never keeps well. Moreover, the watery portion which rises to the top of honey in bulk, should, never be mixed along with that intended for keeping. A small portion of such thin, watery stuff, instead of being itself ripened by blending with ripe honey of good consistency, will rather tend to spoil the lot by setting up fermentation.

J. A. Golden in the *Southland Queen* says:—In order to have good queens all the time, I keep a number of nuclei, and when I find a sorry queen, I pinch her head off and remove a frame that has no brood in it. The next day, I go to one of the nuclei, and select a frame that is well filled with brood and covered with bees, place the queen on this frame, if not already on it, and insert in the hive from which the old queen was removed the previous day. This plan I have tried thoroughly, and never yet lost a queen. The bees, though queenless one day, by having the frame of brood and bees given at the time the queen is introduced, is much stronger than before, and the young queen, if a good one, will show quite an increase in the amount of brood in the

hive in a few days. The nuclei can be made a source of profit, by keeping them employed building combs, and this keeps them from swarming, for if they become crowded they will swarm out.

At the Convention of the North American Beekeepers' Association, held in October in Nebraska, in the course of general conversation the following items were stated:—A discussion arose as to which is the best honey-producing plant—the alfalfa or the white clover. The majority agreed upon white clover. The Secretary said alfalfa honey is the lightest coloured honey there is, and others said the same. One man started with 40 colonies, and he took 6,000 lbs. of honey from them. A beekeeper in that State was asked what his average had been for ten years past, and he said 125 lbs. per colony. He usually intends to a little more than double. "Bees sell for \$10 a colony. I could sell every colony I have at that price. I can make more money from one colony of bees than I can from my best dairy cow" Dr. Miller said his average of comb honey this year has been about 600 lbs. per each 10 colonies. J. H. Masters, Nebraska City, Nebr.—"I am satisfied that the only reason that I have never been troubled with spring dwindling of bees is the fact that I have always kept my bees watered."

Mrs. Jennie Atchley says:—When I get a breeder that suits me, and I wish to keep her as long as possible, I keep her in a small colony, or do not allow her to occupy more than two or three frames at a time. If a good queen is allowed her own way, and given unlimited room, she will lay her eggs all out, and become exhausted much quicker than if kept in a contracted space. Three frames is a good number to use for a breeder, and then you can leave the two outside ones untouched, and use the middle one for your queen supply. If your breeder does not seem to have stimulation enough in the nucleus, you can place, or keep her in a strong colony, shut off by a queen-ex-

cluder division board, and the other part of the brood nest kept up with brood from other sources. I use such queens for breeders as long as they live, or as long as they lay, and the best, or the easiest way to get good cells is when the bees begin to supersede a breeder. We have an old imported Italian queen this year, that has past her fourth year, that has given us over a hundred fine cells by the bees trying to supersede her. We still have this queen, and we think we will be able to keep her over till another spring. It has been the theory of some that the progeny of these old queens are weak, but it has never shown itself to be such, in a practical way with us. The last queens we get have always proved to be just as good as the first ones.

CORRESPONDENCE.

A.A.C., Sutton Forest—We are having a tip-top season here this year, and honey is coming in very fast.

W. H. J., Warner's Bay.—My bees are doing first class and are fetching in a good quantity of good light coloured marketable honey.

A.T.J., Deniliquin, December 7th.—Bee business is very quiet in my district owing to last and this year's bad season. Wishing you a merry Christmas and trusting that the New Year will bring your admirable little paper many subscribers.

G. D., Raymond Terrace, asks:—Will you kindly let me know what is considered the best place to start a bee farm in New South Wales. As you are the editor of the *Bee Bulletin* I thought very likely you could give me some information. By doing so you will oblige.

(The Chairmen of the different Land Boards throughout the colony will be most happy to supply you with the information you require—what suitable land is available, and the kinds of timber on same.)

E. J. K., Kendall Dale, 15th December 1896. With reference to the letter of W. J. D., Marrickville, in your last The turpentine tree abounds in large

numbers in this district. It is not a eucalyptus, although it resembles them both in timber and manner of growth. They have had an extraordinary amount of bloom this year. I am sending by parcel post a sample of honey collected principally from this source.

G. G., Plumpton—Just a line or two of bee news. The season opened very promising; the best show for the past three seasons—plenty of fruit blossoms and a good sprinkle of ironbark, stringy, and scrub blossom. Honey came in freely till October, since when we have had a cold, wet spell, which put a sudden stop to it. However, during the fine intervals they are working well on wattle, wild flowers and a few ironbark. Am in hopes of getting a good fall flow, as things look promising. Trusting you may have a good season, and wishing success to the A.B.B.

C. C., Grassmere, Lindfield, December 15th, 1896.—Sir, I see in the last *A.B.B.* that Mr. Abram complains of the honey being so dense that it would not extract. I had some of that sort of fun myself. The way I got it to extract was—I got an oil drum and knocked holes in it with a pick till it was like a colander, then I put about four inches of dirt in the bottom and rammed it hard. I then lighted a good fire in it, and left it outside till I got a good coal fire, so that it would not smoke, then I placed it in the extracting room in a tub for fear of sparks setting fire. I left it in the extracting room for one hour. I can tell you, Mr. Editor, it was pretty warm then, it extracted all right then, and when the honey was put in bottles it sparkled like champagne; I never saw any honey like it before. Bees doing well yet. The white gum is out beautiful, like a field of snow.

G. V., Moonambel, Victoria, Dec. 16th. Just a few lines to let you know that I and my bees are alive and kicking. Bye the bye I may tell you that my bees are all of the despised black. There is hardly a *Bulletin* came out but that the poor black bee is run down as not worth keeping. Now, I can assure you that I

am a beekeeper of 20 years standing, and never had any but black bees, yet I don't know what foul brood is, never had it in my apiary. With regard to yield of honey, I can compare with any of your fancy bees. As for good temper it proves itself. I seldom use a smoker while extracting, simply lift the covering take out the frame, brush off the bees. Of course I am veiled while I am at work. I have 100 colonies including 17 swarms this season. They are all doing well and I am busy extracting. All sorts of gums are out in bloom, stringy bark, and iron bark are budding and will come later. I think it will be a good season for honey, like the year before last, when my 80 colonies averaged 210 lbs or 7 ntos of honey.

J. W., Binalong, Dec. 17—I would have sent you some bee news before, but I have been very busy hive-making and queen breeding, as things are a bit lively in this line—the beginning of the season having started splendidly, there being plenty of white clover and fruit blossom until the latter end of October. but since then there has been little or no honey coming in. There is a good deal of yellow box out, but the bees don't seem to work much on the flowers, as the weather is too dry for them to yield much honey, and they are also covered with a little black beetle, but I think we will get a good flow after Xmas, as the red gum is just bursting into bloom, and the apple tree showing splendidly, also the white box, there being some thousands of acres of box country around me. Well, Mr Editor, if there is any chance of breaking the world's record I think I stand a show. When you come to hear of three 60lb tins being taken out of a bush nest, and on another occasion 75 pickle bottles, it is enough to give a man the bee fever.

J.W.H.F., Casterton, Vic., Dec. 7—There are no beekeepers in my immediate district, and therefore no bee news. It is not for lack of honey, however, as hundreds of tons go to waste annually for want of gatherers. There is too much of the pioneer about this for me. I would like a few more to start here. My bees

are doing well, but will not swarm (only about 7 per cent.), and the few that have swarmed seemed disgusted with themselves for doing so; no trouble with after swarms. Never were like this before. My best hive has gathered, so far, 110 lbs, with the others all above 80lbs. With a four months flow in prospect, would it be too much to expect one ton to six hives? Would Italian bees improve on this?

W. R., Boloko, via Cooma, December 21st, 1896.—Honey coming in well at present time, for this district, which generally bears the name of being a poor place for honey. I always find a good demand for local honey, but honey from other districts don't meet with the general approval of local taste. I have taken honey to other districts which appears just as much out there. No wonder Londoners so disapprove of our sweets. I am of opinion that honey raised in a cold district is not likely to take well in a warm district, and honey raised in a warm district not likely to meet with the approval of cold. I would like to see honey from both hot and cold districts sent on to England, and see which meet with the most favour. I think each raiser should brand his honey with his name and district. When buying a pair of boots I like to see the maker's name and address plainly stamped thereon. Why not so with honey.

A. J. Brown, Parkville, December 16th, writes:—Last season beekeepers around here were jubilant when the apple trees bloomed so handsomely, but what a disappointment when the extractor revealed that very dark treacle looking honey. But now we have abundance of bloom in all directions and what different honey. White and yellow box, Mountain Ash, and Gum are all in bloom together and it is truly Christmas season with the bees. Colonies are three Langstroth boxes high, full of bees, honey rolling in, no swarms and don't want any, prefer honey, which is sold as soon as taken off. Wishing brother beekeepers the same merry season as my bees are having.

Don't forget the *Bee Bulletin* Office for Honey Labels.

J. T. Adams, Mooroopna, Victoria, December 15th, 1896.—I would like to ask or you to ask Mr. Beuhne to give through this journal an explanation of his wax press, how to make and use it, just as he did at the Convention. I was going to have one when I came home and going one better as I thought by getting a bottle screw jack, but lost my information and it stopped for awhile. Made one of my own idea. Yes, so I did and pressed the bottom out of a 10 gallon boiler and the wax. Oh! well! spare me that little—My bees gave me three barrels full for a Christmas box, the other day. It was not with a will in a couple of instances though, but I got it. Well as this will be the last you receive this year, I will draw it to a close but not before asking you to accept my best wishes and compliments of the season as they come in, and that your larder and purse are full to the clasp to tide you over them is my earnest wish.

ADDRESS.

The following splendid address was delivered by the Rev. J. Abbott at the Nebraska Conference in October last:—

Mr. President, Ladies & Gentlemen,—

Your chairman has put a "handle" to my name that would indicate speaking was my profession. It is not so at present, nor had it been for 15 years. I simply appear before you as an ordinary, every-day man, a common-place bee-keeper. If there were more students here, I had thought of some things that I might say. But notwithstanding there is only a small representation of young people, perhaps what I shall say to them will not be out of the place to older people. It is hard to tell what to say and what not to say under such circumstances. And when we have had such a flow of eloquence, and poetry, and music, and been carried so high above the ordinary things of life, it is very hard to come down to every-day, practical affairs. And after we have been up among the stars, it is very hard for us again to place our feet on the soil, and plod along in the mud and rain, the joys and mishaps and sorrows of life. But this is the lot of all of us; we sometimes see visions and dream dreams, and look beyond the practical realities of life, but the most of life is

made up of every-day affairs. Life is serious, earnest, practical. It means work, it means constant exertion, it means continual effort, if we would get the best out of it.

In a great University like this, where young men and women come to fill their minds with the practical wisdom of the ages, and sometimes to investigate new things, and give to the world new wisdom, there is one danger. These young men and women come mostly from the farms, and I apprehend that at least 90 per cent of them are very apt to get the idea that the attaining to success happens only in the professions or in commerce; that, in order to succeed in life, to make their mark and take their place among men of influence, they must lose their respect for rural surroundings; that they must get beyond their fathers and mothers, and launch out into new enterprises. If the country at large is making any serious mistake, it is the tendency away from the farm, away from rural surroundings; the tendency to concentrate itself in cities. In these great avenues, it is true men succeed and commerce goes on, but, at the same time, vice stalks abroad at noon-day, and the unwearied finds his feet slipping in the downward path, and he has gone the way of despair and lost hope, and his life is blighted.

What I would do, if possible, is to impress upon the mind of these young people that it is well to get an education; to learn all you can; to grasp every science, know every language, learn everything that is spread out before you in this University. And while you are learning all that, it is well to learn the character of the lives of these men who teach you day by day. You can learn something in the study of their lives, as well as from the books that you study.

Yet at the same time I would advise you to keep near to rural scenes. Don't forget the old oaken bucket, the orchard, the meadow; don't forget the home where mother uttered her last "God bless you," where she said, "Go, my boy and prepare yourself for life." Don't forget that sacred home, the glorious spot where your eyes first saw the light of day, and your feet first learned to tread the pathway of life. Don't forget the rural scenes. Don't get the idea that all the glory, all the wealth, all the fame and success of life is within the walls of a city. A citizen of your place said well upon one occasion—and I am saying nothing about the political principles which he advocates—he said well, "You may destroy your cities, and agriculture will raise prouder cities; but take away agriculture, and grass will grow in the streets of every city in this land." And that is true; all the wealth rests upon the success of the plain plodding, practical farmer that tills the soil day by day. (Applause.)

Because of the fact that a man is a farmer, it does not follow that he should be ignorant and uneducated. The theory is that any fool can

farm. It is true that any fool can stay on a farm, but any fool cannot make two blades of grass grow where there is one now. There was a time when the responsibility was all on the soil. Now you must go back and learn the first principles, and come in contact with the soil in an intelligent way. The farmer should have a knowledge of chemistry: should know something of entomology—what insects are helpful and what destructive to the products of his farm. Thus a great, wide field opens to the farmer.

It is a grand thing to study the science of astronomy. But there are just as many wonders under our feet when we tread the soil of our farm, with our grass, and spiders, and bees, as there are in the air with all the constellations that glisten and sparkle in the heavens.

In conclusion, keep near to rural scenes; keep in touch with the tiller of the soil. Don't be afraid that you will soil your hands or degrade your body by coming in contact with your native soil. Stand near to the Creator of all things; stand for right, justice, truth; stand for intelligent agriculture. (Applause.)

GERMANY

From *Rheinische Bienenzzeitung*, October 1896, Pages 169-176 contains:—A report of the General Convention of the Bee and Silk Culture Associations of the Rheine provinces, held at Reinagen, August 30th, 31st and Sept 1st.

Much of this report is merely the list of exhibits and prizes, and is not of interest to readers of the *Bee Bulletin*, but the last item on the business paper, namely: The establishing of "Honey Dépôts" was the subject of a long debate which is epitomised on page 176. "All the members were agreed as to the necessity for such dépôts for the following reason. "The smaller beekeepers have no facilities for presenting their honey to the public in a marketable form. By establishing these dépôts in different towns information could be obtained and arrangements made for sales, etc.

Several speakers announced their intention of establishing such dépôts in towns of from 3000 to 5000 inhabitants, in order to give beekeepers an opportunity of bringing their honey before the public. Notwithstanding that all agreed as to the need of such dépôt there was much diversity of opinion as to how they were to be worked.

The chairman in a long speech gave his opinion as to how it should be arranged, and said that he was so convinced of the certainty of his plan being successful that if they would trust him he would make an experiment which should not cost the Association anything, and the results should be published in a future number of the *Rheinische Bienenzzeitung*. Those present willingly consented to his proposal, and the meeting was closed."

Pages 177-178.—Advice on the care of bees in October, (Autumn) by Jacobs of Waldorf. This paper contains nothing that is new. Beekeepers are advised to keep their hives warm, yet well ventilated, and to beware of mice, also to make their preparations for winter early in Autumn.

Pages 178-179—Wintering of bees by B. Hündgen of Hochbrirchen (conclusion.) This is another paper on the same subject. Hündgen lays great stress on the necessity of supplying bees with a constant supply of pure water. For a cover to the hive he recommends a thick, well plaited straw mat, raised slightly above the tops of the frames to allow of the bees passing over them. This, he says, will keep them warm and dry, and at the same time allow the impure air to pass out of the hive. (This seems to apply to hives in a bee house, for he goes on to say.)—Those bees being comfortably settled in their winter quarters the beekeeper must attend to the out-door hives; if these are made with double walls they require nothing more, but if of thin walls they must be brought within a few inches of each other, and the spaces between filled with hay or sawdust, so that the cold outer air cannot penetrate the thin sides. Straw hives must be protected from mice by wire gauze.

Pages 180-181.—Scraps. Excursions into Beeland. A death from the sting of a bee has been lately reported. A teacher in Bohemia was stung by a bee on the 22nd of May, became faint, and died before the arrival of a doctor. This death followed the sting of the bee, but there is nothing to show that it was not caused by heart disease.

The Leipzig *Bienenzzeitung* advises beekeepers to insure against loss by fires, and gives a scale of premiums published by an Insurance Company in Stuttgart. The scale is considered too high, but the idea is a good one. The *Badische Biene* has a long article on the disputed question about bees injuring ripe fruit, and quotes Berlepsch who says that bees cannot pierce the skin of sound fruit, but that if it has already been attacked they will certainly take a share.

Question 12.—Are beehives made of straw without an inner lining of wood good for bees or injurious?

Answer.—Straw hives are excellent for bees both for summer and winter. In summer the great heat of the sun has less effect on the wax. In winter the straw retains the heat better, and at the same time allows the foul air to escape. The only advantage of the lining of wood is the smooth surface it presents.

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