The Australian bee bulletin. Vol. 18, no. 7 October 30, 1909

West Maitland, N.S.W.: E. Tipper, October 30, 1909

Registered at the General Post Office Sydney for transmission by post as a Newspaper

THE AUSTRALIAN Bee Bulletin.

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.
Published by E. TIPPER, West Maitland
Circulated in all the Australian Colonies, New Zealand, & Cape of Good Hope.

VOL. 18. No. 7. OCTOBER 30, 1909. PER COPY, 6D
Per Annum 5s, booked 6s 6d, in Australasia, outside N.S.W., add 6d. postage

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MAITLAND, N.S.W.—OCTOBER 30, 1909.

EDITORIAL.

Our first swarm issued on the 1st of October, and it has now eight frames almost built out, thus the swarm surpasses a number of stocks of last year which had combs and honey to go on with; therefore I like to see some of my stock swarming, as these usually produce more surplus than if prevented to swarm. This is my experience for more than thirty years. Where pure Italians are kept, there is no fear of too many swarms, so long as after swarms are prevented. It is not a matter of special wisdom of the beekeeper—it is the natural instinct of these bees to swarm little, but when they do, to send out a teeming swarm, worth having, and to prevent such would be unwise in my opinion.

This is so far about the most changeable season—from one extreme to the other—now hot, then cold; yet the bees seem to do well in spite of it, as there is an abundance of fruit blossom and native tree blossom, but they store no surplus worth mentioning. This will come later.

Paralysis or dwindling does not seem a thing of the past as yet, as I gather from correspondence from wide-apart districts, in some of which the losses are said to be very heavy. The very changeable weather is just an inducement to bring this about, no matter what others may say, and it needs exceptional care to prevent the trouble as much as possible. The spraying of fruit trees with poisonous compounds, I referred to in last issue, deserves every beekeepers' careful attention also. I am afraid that many bees lose their lives by this means. I have notified the Department of Agriculture to this effect. This is a problem to solve which is almost too much for a beekeeper, who makes his living by his labour, and the Government should make arrangements to test and experiment on behalf of beekeepers as well as on behalf of fruit growers. However, some ingenious beekeepers might make experiments on their own, and let the results be known.

The editor of A.B.K. states, page 83, that so far as he knows, not one move has been made to protect the beekeepers' interests—re forest reservation. He is behind the times. The Executive of the New South Wales and Commonwealth Beekeepers' Union are doing all they can to protect beekeepers' interests in this respect, and they have already achieved considerable results.

It is not to be expected that useful agricultural land should be preserved for the sake of bees, but otherwise poor land, suitable for honey-producing trees, is now being reserved for both bees and timber.

Mr. H. Lord presided at the lecture, and Mr. Branch moved a vote of thanks to the lecturer, who returned thanks, and

proposed a vote of thanks to the chairman. The chairman replied, and pointed out the advantage of joining the Beekeepers' Union.

PRIZE COMPETITION.

The Publisher of the "Australian Bee Bulletin" offers Prizes for competitive contributions on subjects appertaining to Beekeeping, under the following conditions:—

1. The prizes are:—1st, 7/6; 2nd, 5/0; 3rd, 2/6.

2. Competitive articles to be addressed to Mr. W. Abram, Editor A.B.B., Beecroft, headed "For Competition." Write full name and address, but also affix a sign or mark, as it is intended to omit full name on publication, but to publish name of all competitors first issue after judging.

3. Entries for each month close on the 20th. Any subject may be chosen.

4. One judge will be appointed by the Editor, to act as single judge, but each month there will be a different judge, and his name will be published together with the results. The judge's decision is final.

5. Postal notes will be sent to winners on receipt of the judge's decision.

Our aim is to encourage juniors and amateurs to exercise their skill in beekeeping and in writing, thereby assisting one another. (The editor's son does not compete.) The most efficient beekeepers will be selected to act as judges. A copy of the A.B.B. will be sent to the one selected each month, and the results published next issue. Competition starts now, and prizes will be offered for your work. Who will win?

N.B.—This is a money prize competition—not a disposal of queens.

THE N.S.W & C. BEEKEEPERS' UNION.

Executive Meeting.

The hon. sec., Mr. J. J. Branch, convened a meeting for the 11th of October. Present: Messrs. W. Abram (in the chair) J. J. Branch, H. Lord, W. D. Parker, and J. J. Parry.

After the minutes of last meeting were confirmed and signed, and some bills passed for payment, correspondence was read and dealt with.

The president then submitted the matter of forest reservation, and it was, after very considerable discussion, decided that a deputation be arranged to wait on the Minister for Lands on this very important subject to many beekeepers, and that the president ask Mr. J. C. Hunt, M.L.A., to introduce the deputation, and also try and arrange that the same deputation see the Minister of Agriculture.

The hon. sec. stated that he had failed to meet the previously proposed lecturer for a second lecture, and it was agreed that the matter remain in abeyance.

Regarding exhibits at the Bee and Honey Pavilion at the Sydney Show Ground, the executive desire to see country beekeepers largely represented, and the president was instructed to make arrangements as he deems best.

A circular to this effect is herewith enclosed, to be returned to the address given therein before three months hence.

QUESTIONS & ANSWERS.

Jas. Miller, Randwick: I have a few boxes which once had bees in, but they all died, and not understanding much about them. I wish you would kindly inform me how to melt the dry wax left behind.

Answer: If the combs are not moth-eaten, cut them out of the frames and put them in a vessel with water; bring to a boil, then strain it all through a thin bag —sugar bag will do—into another vessel;

let the strained liquid get cold, when the wax will float on top. Squeeze the bag as much as you can to get the wax through. It is a sticky job. Bury the remnants left in the bag.

W. Jones, Kembla Heigths: (A) Would you kindly answer me a few questions, which I would like to know very much, viz., How is it that bees get paralysis at this time. I have two boxes, which have it bad. Sometimes young bees come out of the box with it, and others fly straight out, and drop, and I have even seen bees with pollen on their legs drop. (B) Supposing there is a virgin queen and a cell in a hive, can you tell me why the queen does not pull the cell down? I have those two in a hive, and the queen never offers to touch the cell.

Answer: (A) This is the most likely time for paralysis to appear, if not earlier in the spring, but there is less danger of losing the lot now than if the complaint happens to appear earlier in the season. Should the two hives be badly affected the best way would be to sulphur them, and then burn the combs. It is better to be on the safe side. If they are not too weak remove the combs but one with brood, and let them build new combs; if no honey is coming in they must be fed to induce them to build. Luke-warm honey is best in this case. You have observed the case the same as I have, but no sure remedy is known to prevent it. (B) If there is a virgin queen in a hive and also one or more queens in the cell, the bees mean to swarm, and will not allow the free queen to pull the queen cells down. If the weather does not suit for swarming they might be for a week in that state. Usually the queens will make a sound, the free one in a high key, the celled ones in a low key, because of their confinement.

CORRESPONDENCE.

Mr. J. Gorham, Gunnary, writes: I am glad to see that the Union is taking steps for the preservation of forests, a step which will ultimately benefit every bee man. In the locality that my apiary is situated, there is a large tract of green timber, but of late it has all been taken up, and the selector's axe is now devastating the whole of the beautiful giants of the forest. If something is not very soon done to prevent the wholesale destruction of the timber it will be a complete ruin to the industry here. The portion of land that I speak of is situated in the land district of Burrowa, in Parishes of Ware and Rugby (Murrungul Shire.) I consider the idea of leaving ten trees to the acre a very good one, because those trees, when the surrounding timber has been killed, will bear twice as much (or more) blossom. Therefore ten trees to the acre is better than a dense scrub for honey production. I have not had a very good time with my bees, last year being my off year, and I lost a good few hives in the winter. Trusting you have had better luck.

Department of Lands,
Sydney, 28th September, 1909.

Sir,—Referring to my letter to you of the 5th August, 1909, and to your letter of the 9th August, respecting the special condition attached to offer of Improvement Lease, Block 706, Land District Tamworth, I have the honor to inform you that the Minister for Lands has approved that the conditions be amended to read as follows:—

"The lessee shall also carefully preserve all yellow box trees eight (8) inches or over in diameter at three (3) feet from the ground, and in those parts where well-grown timber does not exist shall preserve one (1) tree to every square

chain for shade and honey purposes, preference to be given in the following order in selecting which trees to leave, namely: white box, grey box, apple, stringy bark, peppermint and gum.—I have the honor to be, sir, your obedient servant,

ROBERT McDONALD,
Under-Secretary.

To W. Abram, Esq., Beecroft.

Mr. James Brogan, Attunga, writes: I have received notice from the Department of Lands about the lease on the same subject as your communication. With reference to same, it is a pity that all the yellow box was not preserved, but my experience with the officials of the Lands Department proves to me that they have a very imperfect knowledge pertaining to settlement and settlers generally, much less to understand how to proceed in fostering such an obscure industry as bee culture. In the present instance, measures have been taken to leave the lands of this lease nicely covered with all the other timbers that will of course help a beekeeper to keep his bees going from year to year, and allow the majority (as far as numbers go) of the real honey crop producer to be destroyed. I clearly pointed out in my letter that the scattered yellow box saplings would not interfere with the grass, and they would always be growing, and be of value at the termination of the lease. However, all the scattered saplings will be destroyed, as well as the small trees, where the timber is growing at its best, on this reserve. However, its no use, I suppose, of trying further to get anything done, as we will have to let stupidity prevail. I pity Mr. Sullivan, of Nangus. My idea would be for him to also put in an application for the land himself, and fight his case out with the Land Board, as well as what may be done in Sydney for him. This lease is too big a contract for me to undertake, as you suggested, besides I would be supposed to perform the conditions of the lease, and destroy the yellow box.

OUR FAILURES.

Many failures in beekeeping arise from ignorance or want of enegy, and from physical inaptitude, to which must often be added the disadvantage of small means. Of these it need here only be said that it is the duty of every experienced bee-keeper to discourage anyone from starting an apiary whom he recognises as lacking the necessary qualifications, and that experts especially should refrain from conveying the idea that anyone can handle a hive offhand with the ease that they themselves display in the bee-tent, or that dexterity alone is necessary to ensure success. All should remember that every failure is a discredit to the industry they profess to cherish, and that amongst the most fruitful sources of disease is a neglected, dwindling apiary.

Again, there is no one whose business or pleasure often leads him to visit apiaries, but must have noticed many that, for no apparently adequate reason, are practically non-remunerative. The owner seems to be no longer able or willing to do the bees justice; he will probably tell you that the labour is too great; he has no time to attend to them. Glancing round the garden, one can recognise the parent hives; the progeny, at first accommodated in skeps, has overflowed into makeshifts and queer commercial boxes. In full sympathy with a really busy man, it seems worth while to inquire into the causes of his failure, not without some hope of being able to suggest a remedy.

The two main causes of such a state of things are a faulty equipment and the want of a good system of management. Much depends on a fair start, and an odd lot of hives at the outset is a heavy handicap. For comfortable bee-keeping—and comfort means the saving of time and labour—a beginner should, if possible equip himself with two hives of the same size and by the same maker, one to be colonised, and the other for the time to remain empty. If this cannot be managed,

the second hive, when acquired, must be like the first. Practise economy in everything; let the hive be quite simple; eschew all new devices; but do not stint the number of hives. Some will at times be vacant, but if used on the system to be described, they will pay their cost over and over again; and a good hive, if frequently repainted, will last for many years. Second-hand hives, be they full or empty, are no bargain for a beginner; let him buy them if he likes when he has learned to judge of them properly.

A man should buy hives suitable to his physical powers. Broadly speaking, there are now, and probably always will be, only two kinds in use; the "W.B.C." type with loose outer case, a limited brood nest, and frames at right angles to the entrance; and the long, double-walled Combination hive, with frames parallel to the entrance. Each has its advantages, but the former is much less laborious to handle, and a man of moderate strength should choose it in preference, unless he can reckon on always having help at hand. Everything, from supers, frames, etc., down to the very entrance-doors of the hives should be interchangeale throughout the apiary. In this respect the "W.B.C." hive arrangement for working both shallow-frame and section supers at the same time is convenient. The writer, who although he constantly recommends this hive has but recently acquired one, secures the same advantages in long hives by shortening the ends of his shallow-frames, and making the super-boxes, which are double-walled, of exactly the same square outline for frames or sections.

He loses both time and labour who sets himself to produce first-rate comb-honey in an unsuitable district. His hives may be boiling over with bees in the spring, but unless there are broad acres of some special honey-plant, such as clover, sainfoin, or mustard, or great wealth of fruit blossom, or if the soil is such that a fortnight's hot sunshine parches it, his sections will be but second-rate, and his bees having little else to do, will turn to swarming; while, on the other hand, working throughout the year on woodland, moor, or meadow they might have filled his shallow frames with honey.

The question of swarming leads to the main cause of trouble, indiscriminate increase. The busy man, of all others, should decide how many stocks he is able to manage comfortably in the heat and stress of summer, and with little more than half that number he should always go into winter. Half would be safer, especially for the comb-honey producer; for, say what you will, bees will swarm, and the best course for the small apiarian is to keep his stocks strong, let them swarm if they will, and make the swarms do the work. The trouble and time spent are reduced to a minimum, and the only requisite is proper hives in which to accommodate the swarms. There is nothing new in this system, but it is much neglected. Its main principle, that of strengthening the swarm by the addition of the flying bees from the parent stock, was recognised and acted on more than 100 years ago by Schirach, and as elaborated by Mr. Heddon in America it was described by Cheshire in his "Bees and Bee-keeping" in 1886, since which time the present writer has constantly practised it with complete success, and he is convinced that there is no way in which a small apiary can so easily be kept in hand and worked with profit.

We will suppose that your hives are supered. When a swarm comes, take it as usual, and let it stay where it is while you place a fresh hive close alongside the parent, but turned aside at about half a right angle from the old line of flight. The same evening open the parent hive, setting the super on one side for the moment; take out two frames of brood (no queen cells) and one of honey, and place them in the new hive. Fill up each hive with foundation and empty combs. Set the super on the new hive, and run the

swarm in by the entrance. In a day or two, when the new colony is quite at home, turn its hive to face the same way as the parent. The two hives will now be practicly on the same stand.

In about eight days from the issue of the swarm another would be due, so two or three days in advance of this date, on a sunny morning, lift up the old hive very gently and remove it to quite a new stand. The flying bees will all join and strengthen the swarm, which should now be working hard in the super, while the old colony will be so far depopulated that it will not have the heart to swarm again. It will become strong enough under its new queen, as the brood hatches, to fill a super of its own, should the conditions be suitable. At any rate, it should store several combs in the body-box. In the unlikely event of a second swarm issuing from either hive let it stay in the skep till the following night, and then return it, removing the queen as the bees run in if as you think fit, otherwise the bees—or fate—will settle the succession.

In the autumn remove the older queen, and join the two stocks, leaving plenty of stores. No candy should be necessary. The superfluous stored combs are set aside carefully for feeding and stimulation next spring, and to serve again, empty or stored, when swarms come; the spare hive is overhauled and re-painted at leisure; and the beekeeper goes into winter with his proper number of hives containing strong colonies under young queens, and everything shipshape and in the best condition.

In the event of its being impossible to provide enough extra hives, the system could, to some extent, be carried out by using makeshifts. In this case the contents of the parent hive would be removed into the makeshift, which would take its place; there would be more trouble; the chance of the extra super must be foregone, and other advantages would be lost. In working as recommended, the busy man, may, if he pleases, spare himself the trouble of doing anything to the parent hive beyond removing the super. This was Mr. Heddon's procedure, but I have found it advantageous to transfer combs to the swarm in proportion to its strength and to the amount of brood in the parent hive. It is a matter of judgment; if made too strong there is more chance of a second swarm.

It will be noticed that to carry out this scheme all swarms must be identified, and as this in itself takes time, and is not always an easy matter if the issue has escaped attention, I hope our Editors will allow me to repeat the method of identification that I sent them many years ago; not my own device, for the flouring of bees for recognition dates from the days of Aristotle. When a swarm must be hived, unless you are quite certain whence it came, take a flour-dredger with you as well as a skep. There will generally be a few bees somewhere outside the skep after turning it over; if not, detach a few from the cluster, and give them a thorough dusting, repeating it if necessary. Forthwith remove the skep, and place it where the bees are not likely to find it; it need not be taken far if well concealed. The dusted bees, disheartened by the flour, and having lost their fellow-swarmers, will before long make their way to the apiary, where they will be seen roaming disconsolately, like belated bee-ghosts. In from five to thirty minutes from their dusting they will be fanning vigorously on their own alighting board, and all doubts as to the parent hive will be at an end.

Should the position of the apiary render the issue of swarms undesirable, one of the various non-swarming methods known to readers of this journal can be adopted. The best perhaps is that recommended by the late eminent beekeeper, Mr. Alexander. But none of them are infallible, and their success involves the occasional purchase and introduction of fresh

queens. The system here advocated is especially suited to the busy man. It is at once orderly and economical, with a minimum expenditure of time and trouble. —Lieut.-Col. H. J. O. Walker, Budleigh, Salterton, Devon, in British Bee Journal.

SELLING HONEY.

(By D. M. McDonald, Banff, in Irish Bee Journal.)

Nothing tests and tries the beekeeper like disposing his crop to the best advantage. He may be a successful manipulator of bees, may secure a good crop by the favour of the season and the industry of the diligent little workers, but if he fails to find a good market, he misses the full mark. It may be all very well to view the industry as an interesting hobby, to talk of apiculture as a fascinating pursuit, and dilate on its charms and the love of Nature it engenders in the heart of the true apiarian. All of these are delightful and soul-inspiring; they add a pleasure and charm, a zest and relish, to the prosecution of the industry. But for nine out of ten engaged in it actively, the question of profits will loom very large on the horizon. For the dilletante, the man with time hanging heavily on his hands, or the invalid who requires an interest to draw him out from the chimney corner, a balance on the wrong side may not count; but for the man or woman with a sound mind in a sound body, a credit balance carried forward is one of beekeeping's chief charms. I count it something more, and would set it down as a certificate of success. Where the industry fails to pay, the enthusiasm too frequently becomes a spent force; less care is given, intermittent attention follows, and spasmodic intervals of diligence and want of all interest end in neglect, indifference, and the inevitable conclusion and mourn of the inefficient —"Bees don't pay."

On the contrary, the man who is diligent in business, and fervent in spirit, apiculturally, makes the prosecution of the industry pay in a double or triple sense. Physically and mentally he is benefitted, while his purse is better lined.

One of the chief means of securing this is that the honey crop should be well sold. Men who embark in any other pursuit are not above making the most and the best of it. Why should beekeepers be ashamed of their business? Why should so many of them lock up in their own bosoms the fact that they have honey for sale? Why not advertise it? Why not intimate by circular or letter to friends, acquaintances, and likely purchasers, that they have so many sections or bottles to dispose of at a given price? Why should not the working man or his wife carry it to a likely market in town or village, call on the minister, doctor, laird, or lord, and offer it for sale? Why should they not peddle it in every location where sales are possible, or even probable? Why should they not display it for sale in places haunted by the summer and autumn tourist? Why not exhibit it at shows, horticultural, agricultural or others, and show to the world or that part of the world attending that show or fair, that they can benefit him, or her, by bestowing, at a price, one of nature's best and sweetest gifts. Many a wayside cottage window might be adorned by a tempting display, showing to passers-by that the owner can sell as healthy a food as can be obtained in all the wide world. Tourists' rests, cyclists' tea-rooms, wayside restaurants, can be made available to tell the tale that a food fit for gods and men is obtainable. When the mountain would not go to Mahomet, he sensibly went to the mountain. If the public will not go to you and ask for your honey (and they very seldom will go), then you go to them.

The man who supinely folds his hands when his honey is harvested has not learned his A.B.C. of beekeeping.

When marketing, sell only your best, sell always according to sample, nothing inferior, and be content with a reasonable price. Have your honey and everything about it scrupulously clean and sweet, use neat packages and attractive labels, if any; pack securely, fill orders promptly, be prepared to guarantee every pound sold. Then repeat orders will come back to you year after year. Have it of, what I may call, a special brand, and the purchasers will have confidence in you, and will buy it without even seeing or sampling it.

Nothing, I think, so retards the sale of really good honey as the unclean and untidy manner in which it is placed on the market. Sections are too frequently sent there unscraped, with thumb marks, propolis, and brace-combs still attached. Extracted honey is forwarded in all sorts and conditions of jars, tins, bottles, and cases, without any sense of uniformity, or any regard to taking the public eye. This is not business, and this is the point where many beekeepers err. Associations, show authorities, and bee newspapers should all join in showing them a more excellent way.

HATCHING CELLS.

(By John Silver, Croydon, in Irish Bee Journal.)

Every season complaints abound that some stocks will not take to sections. Bees have a natural repugnance to the narrow entrance, and the small area of sections, but they will take readily to shallow frames. Hundreds of beginners commence by trying to get their bees into sections, and fail; their bees either swarm without touching the sections, or place all their honey in the brood nest. The consequences are that an enthusiastic beginner is keenly disappointed, throws up beekeeping in disgust, and ever after swells the ranks of "apis mellifica" cynics.

I am more and more convinced that, as a general system, to advocate putting on a section rack early in the season is a mistake for two reasons—(1) because this method is one in which beginners can so easily make mistakes, and (2) with the average stock more section honey can be obtained by the more reliable and certain method of putting on fairly early a rack of two or three inch (not five-inch) shallow frames, and when the bees have well started storing above the top bar, and honey coming in, lift these and put the sections under. This plan will work every time, even with the beginner.

Swarms and Queen Cells.—Surely it must be an error to state that the tenth day after swarming is the proper time to break up the swarmed stock into two or three nuclei. Swarms are supposed to come off when the queen cells are sealed, but sometimes they are delayed by weather, while, on the other hand, occasionally they will swarm with all the cells only just commenced. I have seen the cells hatch out in four or five days after swarming, while an instance occurred one warm day this season where a queen cell was cut out on the day the swarm issued, the queen hatched in the beekeeper's pocket, flew out, got mated and returned to the apiarist's pocket hive. If we could carry out this pocket-mating idea to order, beekeepers, as well as bees, would be in clover. Perhaps, the appliance makers will fit us out with an enchanted mating costume of many colours and numerous pockets.

HOW HONEY PRODUCERS MAY BETTER PROTECT THEIR OWN MARKET.

An Interview with a Prominent Commission Man of New York City; Dr. Miller's Honey in New York.

We recently made a hurried business trip to New York city; and while there we took occasion to interview Mr. Segelken, of the firm of Hildreth and Segelken, the well-known honey merchants of that city. Fortunately we happened to find Mr. Segelken quite at leisure, standing in front of his place of business, on the corner of Murray and Greenwich streets.

"Is this Mr. Segelken?"

"It is."

"This is E. R. Root, of Medina."

"Come in, Mr. Root."

In less time than it takes to tell it we fell to discussing the honey business in general.

"How is the market?" we asked.

"A little slow."

"How do you think it is going to compare this season with last year?"

"We do not expect prices to be quite as good."

"Why?"

"Because there was a big crop last year, and a lot of it will be left over; and prospects for another big crop are very favorable. Unfortunately, also, bee keepers dumped their odds and ends on the market after the selling season was over, and we find it in a bad way as a consequence. "Look here," he said, pointing to a lot of discoloured and broken comb honey dripping and leaking. "The shipper of those goods sent them without any notice whatsoever; the market was glutted, with no demand for such stuff hardly at any time; and the producer expects us, of course, to give him quick returns at good prices at this off season. Of course we will do the best we can. "Now," he continued, directing our attention in another direction, "look at these goods over here. These will sell. They are first class. Do you recognise the product?"

"Why no," we replied.

With a look of satisfaction he said, "That is Dr. C. C. Miller's honey. While he shipped to us a little late, it will sell while this other stuff," pointing to the first mentioned lot, "will drag and drag and drag, and we shall have a dissatisfied customer. It is too bad that there are not more beekeepers like Dr. Miller who know how to grade and do it honestly. Let's take a look at his honey."

So saying, he opened up two or three cases, remarking, "These sections are all clean, well scraped, and you can pick out a box anywhere in the centre of the crate, and it will look just as nice as that immediately in front of the glass. That is what I call square dealing. I like to do business with men like that. Why, that fellow," pointing to the lot of bad honey—"well, I feel sorry for him. Say, Mr. Root, don't you know there are a good many more just like him? They will wait till the selling season is over, dump all their odds and ends on us, without first writing to see if we can handle them to advantage, and then complain because we cannot make an immediate return. Why, some of this stuff is candying now. Sell it? Yes, of course we can get some price; but that would not please the producer, and he would be likely to write to the editor of "Gleanings," complaining of the unfairness of Hildreth and Segelken."

As he said this his eyes travelled backward toward the Dr. Miller honey, remarking,

"What a contrast!"

We then strolled over to his desk, where Mr. Segelken explanied some of the deals he had been having with the beekeeping public, telling some of the difficulties of the business, where a commission man was unjustly censured for conditions that were beyond his control;

or where, again, he was simply pursuing ordinary business methods. For example, he referred to a case where a producer had shipped him a large amount of honey; and as it arrived out of the selling season he had to store it till the market opened up again. As his own warehouse was filled up he had to put it outside. Well, in the course of a few months he made his final returns, charging storage and insurance. Mr. Honeyman was very much dissatisfied. He had given Mr. Segelken no authority to charge storage and insurance.

"Now," said Mr. Segelken, "what could I do? I could not put the goods in our own warehouse, as we simply had not room for them. Somebody had to pay storage; and as Mr. Honeyman took the liberty of sending his honey at the wrong season of the year, it had to be held until the market rose. Suppose there had been a fire—wouldn't there have been a howl from Mr. Honeyman because I did not look after his interests by insuring the goods? But there was no fire, and Mr. Honeyman was very much put out because he had to pay a small insurance. This is the kind of thanks we get sometimes for trying to protect our clients' interests."

Mr. Segelken mentioned a good many cases of a similar nature. He had no complaint to make of bee-keepers in general, except that many of them are unbusinesslike, because of their unfamiliarity with business methods, often pursuing pollicies that tend to break down their own market. He told how a producer would divide his shipment of honey between two or three different merchants in the same city, and how all three of these merchants would, as a matter of course, put those same goods up in competition with themselves; whereas if the bee-keeper had consigned all to one reliable house the best price possible would have been secured.

Hildreth and Segelken no doubt do the largest honey business in New York, and perhaps in the whole East. While there have been occasional complaints, and while it is possibly true that they have erred at times in the matter of adjustment, yet when we take into consideration the immense volume of their business, their record is good. Indeed, we do not know how any house, however honest it may be, can fail to run against some of these unbusiness-like methods, and as a natural result, have some complaints filed against them.

The New Corrugated Strawboard Shipping Cases.

We asked Mr. Segelken if he had any experience in receiving or shipping comb honey in the new corrugated strawboard shipping-cases that have recently been figured in the columns of "Gleanings." He said he had not; but he saw no reason, fro mthe general construction of them, why they should not very materially reduce the breakage and leakage of combs in transit.

He explained that comb honey in ordinary wooden shipping-cases should be put up in carriers; that it is very risky to ship such cases in single lots, either by freight or express. We went on to explain to him that these new corrugated paper cases would cost only a trifle more than the wooden cases, and how, from some tests that have been made, honey would go through in them to destination without breakage or leakage. He seemed to be very much interested; and the result of our interview was that we agreed to ship him a 24-lb. case of comb honey in one of these new corrugated shipping-cases by express. As soon as the goods are received he is to examine them, put them back in the case, if not damaged, and express back to us. Our readers will get the result of the test later.—"Gleanings."

USEFUL HINTS IN BEE MANAGEMENT.

(By E. L. Pratt, in "Gleanings.")

To stop spring dwindling, and to save a colony in its last stages, proceed as follows: Capture the queen and introduce her, as explained in my book called "Increase" to a fair shake of fresh bees taken from one or more strong and healthy colonies. If the weather is yet quite cool, remove the swarm box to the house, where it is comfortable. The queen may be safely run into the box after an hour or two of confinement. .After two or three days' more confinement, either put the little swarm into the old hive, if clean, or set the box on the old stand and shake any remaining bees into the box. If one comb of mainly sealed brood is given to such colonies it will help them wonderfully in in strength and vigor just at the time they most need the assistance. With a division-board, crowd them down to the number of combs they can fairly well cover.

If a colony is found in weak condition after the winter's seige is really over, it is a very simple matter to change stands with some overpopulous stock near by, and thus bring the weak colony at once up to working strength. At this season of the year strange bees are admitted to a weak colony, and there is very little danger of the queen being balled by the aliens.

Good rules to follow at all times are are these: Don't place your bees in positions that would be intolerable to yourself. Too much disturbance to one's colonies is ruinous to their future prospects. If a colony is doing well, let it alone.

Bees are amost human in many things. They have the same tendency to pilfer, just as apt to "do" a neighbour eager for stores, etc.

Shape your daily work in the apiary so that, when you quit for the season, your bees will be ready for winter.

PRACTICAL INSTRUCTIONS FOR BEGINNERS.

How to handle Bees without being stung —The Use of Smokers.,

(By E. D. Townsend in "Gleanings.")

The beginner is likely to use too much smoke or else not enough, for the different dispositions of colonies are often confusing, and the amount of smoke needed to subdue one colony will often drive a more sensitive lot of bees out of the hive. More smoke is necessary during a honey-dearth than during a bountiful honey-flow; but this additional amount of smoke must be given in smaller though more frequent doses. After removing the cover from the hive, and smoking the bees so that most of them run down between the combs, the first frame may stick in the hive so that it is finally lifted out with a snap or jerk, causing some of the bees to fly at the hands as if they would sting. In this case a more experienced bee-keeper would have noticed that the bees were ready to sting before any of them had taken wing, and he would have given them just a little smoke. The smoke should never be blown clear down into the hive, causing the whole colony to stampede, for it is then much more inconvenient to do the necessary work. There should be just enough smoke to drive down those bees that are on top of the frames; then at any time when a bee is seen about ready to to take wing, as if to sting, a very little smoke is needed again. In time one learns to use the smoker just before there are any bees in the air.

The careless handling of bees causes many stings. There is rarely a season but that we have some inexperienced help in our yards; and the first advice that we give a beginner is that, if there should be an accident, such as the dropping of a frame of bees, or if in any way

the bees get the best of the situation, he should retreat until they are quieted down. Then with a smoker well going he is to go to the hive and subdue them.

In such cases, where there has been an accident, and bees killed or combs broken, the work becomes more complicated, for many of the bees are likely to take wing when smoked, and be in a stinging mood while in the air. Under these circumstances we alternate between smoking the bees in the air and those in the hive until most of the flying ones have settled down; then the work proceeds where it left off. It is a little humiliating to run from a colony of bees that one is handling; but beginners often have trouble, so that I am obliged to tell them to go into the honey-house until the colony becomes quiet.

One of the most serious accidents that ever occurred in our yards was when honey was being removed. Our new helper, not having had much experience, did not make sure that the frames in the lower story were cut loose from those in the super, so when he attempted to lift off the super two of the lower frames were lifted up with it. Not knowing what was the trouble, the super was lowered on the hive and a second attempt made to lift it off without giving any more smoke. By this time many bees had been killed, and there is nothing that will so enrage bees as this. We noticed the predicament and ordered a retreat, otherwise there would have been a case of hard stinging. An experienced bee-keeper, after lowering the super back on the hive, would have smoked the bees well and then have made sure that the two sets of frames were entirely separate before a second attempt was made.

A beekeeper who does not know how to use smoke, or who does not take the precaution to work carefully, will always have cross bees. I have been in yards where the bees were so cross that it was almost impossible to stay there a minute without having protection for the head and hands. In other yards of bees of the same strain, and under the same circumstances, one could work all day with no protection whatever, and still receive no stings. The difference is all in the intelligent use of smoke and in the careful handling of the bees.

EXTRACTED-HONEY PRODUCTION.

(F. H. Cyrenius, in "Gleanings.")

Spring management throughout the white-clover belt is about the same; viz., get the bees for the harvest as early as possible. During my forty years' experience in trying all plans of stimulation, I believe, all things considered, abundant stores of sealed honey or syrup give the best results.

I will say right here, no doubt we can increase their activity by daily feeding; but after all it is an activity in the wrong direction. The bees are induced to fly in unfavourable weather, and large numbers are lost. I should prefer a plan to keep them at home during the early breeding season rather than to encourage them to fly except for business.

In 1878 the season was considered very unfavourable, as the bees had only about one fly in a week; but at that time mine had plenty of honey, which was rapidly changed into brood. It proved to be a very favourable season for early breeding.

The bees that remained at home reared brood, and were not induced to fly out and die. Right in this connection allow me to call attention to old box hives unstimulated, undisturbed, but with a good queen and plenty of stores—they outstrip our stimulated colonies every time. Their ambition at this time is to convert as much honey into brood as possible; and any man who thinks he can help them at that time of the year by spreading their brood, etc., is making a great mistake.

But now to prepare for our fall honey. In this we must be governed by our locality, and work out our own system. I will speak only for northern New York, where my white honey fails July 15, and fall honey (buckwheat, goldenrod, aster) yields from August 15 to Sept. 20. This is my principal crop, and I use every effort to get my young queens to laying July 1, to build up for this harvest. I also keep my old queens laying until Aug. 15 to 20, when they are superseded or killed.

Right here I wish to digress a little, and outline the season's work. After the bees have a fly in the spring, an examination is made to know whether they have a good supply of honey, etc.

Any weak colonies needing help are united with the strongest that can take care of them, as it is poor policy to unite two weak ones at this time of year.

They will now take care of themselves until fruit bloom, at which time they may be equalised up a little, and from any colonies strong enough to anticipate preparations for swarming I draw half to two-thirds their brood, placing it in an upper story, and filling out both stories with empty comb or foundation, with excluder between and queen below. This gives so much room for the queen and for honey that swarming is not thought of if done in time. However, if the brood be placed in upper chamber in a cold spell, or in a scarcity of honey, some of the very young larvae and eggs may be destroyed by the bees themselves.

The raising of brood is one of my hobbies that I much enjoy. I will call attention to some advantages. If I have queens to introduce I plan to have these upper chambers well filled with brood from one to two weeks ahead of their arrival. I now set this chamber of brood on a new stand and introduce the queens.

There are no queens to look for—they are below. The old bees that would refuse the queen return to the old stand. We also have the advantage of a ten or twelve frame hive.

The plans for the rest of the season are as follows:—

June 1.—Fill at least ten per cent. of the chambers of all colonies with brood, as before described.

June 5 to 6.—Remove nearly all the brood from the breeders, and fill their place with empty combs in which to procure eggs for starting queen-cells. Three or four days later these eggs will be just right. Place these prepared chambers on the lower stand after removing the lower hive to one side. This will give rousing colonies in those hopelessly queenless hives.

Now cut out strips of eggs on the Henry Alley plan, and place them in the prepared hives, which should give us all the cells we need, and good ones too. When they are ripe, make a nucleus beside each old hive, and give a cell which should give us a laying queen July 1. Each of these nuclei may be built up or set back on an excluder over the old hive. With the coming of the fall crop the old queen is killed, and the new one takes her place by exchanging chambers, as before mentioned.

My bees have nothing to do from July 15 to Aug. 15, so far as gathering honey is concerned, but I keep up breeding by giving combs of honey from last year's fall honey.

I have said nothing about extracting, as it will be the same as any other plan. Should increase be desired, more nuclei may be formed, or the old queen may be carried over, but I am convinced that when young queens can be supplied so easily as above, it will pay to supersede every year.

I believe, also, that young active queens stimulate the whole swarm to active work as old queens do not.

AMONG THE BEES.

The Dominating Influence.

As the Queen Wills.—During the greater part of her life a queen will lay only worker-eggs—that is, fertilised eggs from which worker-grubs issue. And as into each of these she injects a spermatozoon while the egg is passing down the duct from the ovaries, controlling voluntarily the muscles which permit the fertilising matter from the spermatheca to accomplish this feat, it must be acknowledged that we have here an evidence of will power on the part of the queen beyond dispute. The motive agent beyond all this, however, lies deeper Early in the season a queen in normal condition seeks only worker-cells, and rigidly eschews the larger drone-cradles. Later she instinctively alters her plans under altered circumstances, and ovipositis in the larger cells, and from the fruits of that laying there result only male bees, the period when they attain perfect "manhood" synchronising exactly with the time when young virgins hatch out and seek each her mate in the great void of ether. It would all seem at first blush as if the old queen maturely and deliberately brought about the conjunction of circumstances, but we shall find the predisposing cause for her actions lying still deeper. While, as I have just said, a queen in normal condition acts as I have indicated above, in abnormal circumstances the case is altered. Unfertilised queen, as we all know, cannot fertilise their eggs, so the product is all drones. Old, worn-out queens, either from the fact that the muscles controling the spermatozoa are unable to act, or because the proper glands have ceased to secrete the necessary fertilizing matter, lay mainly only drone-eggs, at times even when they are deposited in worker-cells.

But the Worker Wills.—Teh prescient little worker is the mainspring which sets the clockwork of the hive agoing and regulates the mechanism. She "strokes" the queen, and, will she nill she, the eggs are manufactured. As spring advances the process of heavy feeding goes on, and the queen more and more becomes simply an egg-laying machine. Impelled by incoming nectar, this concatenation of circumstances produces a desire for supersedure of a failing queen or swarming, as the case may be, and the queen, under propulsion or compulsion, starts to deposit eggs in drone-cells. The workers, contemporaneously with the evolvement of these larvæ, proceed to consruct queen-cells, and they, or the queen, supply the necessary egg or larva from which they create a new being with new functions, duties, and powers The process we know darkly, the result we know patently. The treatment bestowed by the workers develops certain organs and atrophies certain others. The sting is practically eliminated, the wax-glands are made non-existent, the pollen-baskets disappear, and the ability to build, cap, and store the cells is not granted the queen. The powerful muscles, the sensitive hairs, and the collecting ducts on the tongue, so indispensable to the workers while prosecuting their industry in the fields, are unnecessary in the queen, and are therefore dispensed with. On the other hand, new organs are developed, all at the will of the worker, because in the ovaries all eggs are alike. When, however, the queen wills, they are fertilised, and the result is a worker; while on the contrary, if she simply lets them glide down the oviduct there is produced a male bee. At the will of the worker, what would have become a full sister becomes the mother of future generations of queens, workers, or drones.

Brains Rule.—Let us pursue the subject a little further. The labourers perceive that the ovipositing powers of the queen, from age, injury or natural causes, are failing, and forthwith take steps to right what is wrong. The queen

herself is not consulted over the question of supersedure, being, in fact, treated throughout by the wise workers during the process as a negligible quantity. One or more suitable larvæ are selected, large acorn-shaped cells constructed round them, a superfluity of royal jelly poured into the cells in which the young grubs is floated, sucking in the food at every pore of the body. In due time a young virgin hatches, takes her nuptial flight, gets fertilised, and assumes the post of egg-layer. So little are the feelings of the old queen consulted that she is kept at bay by her own daughters if she presumes to trespass on the domains of the young mother-bee; otherwise she is simply tolerated in the hive and allowed to live side by side with the other on sufferance. The will of the workers is thus seen to be paramount, and their decisions are final.

The Controlling Force.—Or, again, take the question of swarming. Queen-cells are again raised by the bees over larvæ specially selected by them. Drones have been reared and hatched as a preliminary. Then on a fine day, at an hour chosen by the bees, forth they sally on swarming bent, rushing out pell-mell, flying madly about, apparently a chaotic conglomeration of atoms, but centering round their queen, not at her will, but theirs, curbing her powers of flight and confining her to the centre of the throng, where she is safest. Note, however, that she does not lead them out of the hive; they lead the dance, and it is only when from one-half to about three-fourths of the rush are in the air that she issues, frequently under compulsion and apparently reluctantly. Should weather or other circumstances prove unacceptable, the bees return to the old domicile, she following in the wake of the crowd, being led in, not leading the throng.

The Predominating Partner.—Let an accident happen in the interior of the hive—say a breakdown of the works—and the drones are cyphers in the hive, while the queen is a nonentity. The conclave of workers which collects round the ruins of their palace, seriously discussing the situation in calm, conventional conversation, form the judge and jury to decide how the wrong may be made right; and they, too, are the hewers in wax, as well as the architects who plan and carry out the work. Their foreseeing wisdom superintends and carries out the storing of nectar in the cells, which alone can tide them over the period when nothing can be gleaned from the flowerless fields. Their foreknowledge provides, months before it is required, the reserves of pollen which allow the rearing of the first batches of brood in early spring; and their prescient "second sight" seals up every clink, crack, and cranny with propolis, to make all snug and comfortable when Boreas blows his stormy blasts. Look where we may, in or out of the hive, the dominating influence, the predominating partner, will be found in the worker-bee.—D. M. M., Banff, in B.B.J.

GRANULATION OF HONEY.

It is well known that pure honey granulates in course of time, even when it is in the comb, which in this case renders its extraction impossible. Some honeys remain fluid much longer than others, and never become perfectly solid, but have a buttery consistence. There are, again, others that partially granulate, dividing into two portions, the solid and the liquid being distinctly visible. M. F. Ducroquet treats of the subject in "L'Apiculteur," and explains that the chemical composition of honeys derived from different sources is the cause of this variation. The saccharose of nectar is converted in the honey stomach of the bee into dextrose and levulose, the former being chrystallisable and the latter remaining liquid. The varying propor-

tions of these in honey, depending on their source, determine the proportion and rate of granulation. M. Ducroquet says that analysis of honey should be directed towards determining (1) its contents of saccharose before inversion, (2) contents of dextrose and levulose after inversion, (3) comparative quantity of dextrose and levulose as determined by the polariscope. He mentions that in commerce saccharose is derived from sugar cane and beets. Other plants produce mixed sugars in variable proportions. Levulose, which has a pleasanter taste than dextrose, has hitherto been obtained principally from honey. Now it is extracted from dahlia and chicory roots. The first has from 9 to 13 per cent., and the last 7 to 11 per cent. of starch, called "inulin," which by saccharifying is transformed into levulose, just in the same way as other starches change to glucose. He therefore thinks a distinction must be made between plants favorable for the production of levulose and those producing dextrose. Sweet fruits contain principally dextrose and levulose is found in acid fruits. Nectar, he thinks, must have the same composition as the fruits, and plants yielding acid fruits would produce a levulose honey which would granulate with difficulty.—B.B.J.

DEGENERACY OF THE COMMON BLACK BEE.

M. E. Van Hay, in an article in the "Rucher Belge" on the degeneracy of the common bee and its selection, says that this degeneracy has been caused by the beekeeper himself. Selection consists of a series of rational breedings with a view to preserving the good points in the race, and at the same time eliminating the bad ones. Hygiene is an important help. Instead of observing these conditions with the common bee, just the contrary has been the practice. The best colonies have been destroyed in order to obtain their greater produce. The same has been done with late swarms which could not store sufficient provisions. In this way the best queens and the most active workers have disappeared, leaving only indifferent colonies of little value. Moreover, the hygiene of the hive has not been considered and nothing has been done to endow the bees with a healthy dwelling. M. Van Hay says, if modern methods of breeding by selection were generally adopted, he is quite sure that the results would not only be favorable, but beekeepers would have no reason to regret discarding the foreign races. He quotes M. Bertrand, who has said that "every country possesses the bee which suits it the best," and this is a wise natural law. M. Van Hay has cultivated bees and poultry for the last twenty-five years, and for experiment has had various races, with the result that he has now discarded all foreign races of both bees and poultry.—B.B.J.

BEEKEEPING IN ABYSSINIA.

We read in the "Bulletin de la Societe Romande d'Apiculture" that rich and poor practise beekeeping in Abyssinia. Isolated hives are to be seen there susupended in trees, and there are apiaries also containing as many as fifty colonies. The hives are trunks of trees, earthenware pipes, or baskets. There are a good many wild bees. The best produce comes from the plains of Waag, Laska, and Fedga. The honey in these regions is produced from a giant and very melliferous heath. Abyssinian bees wax is of good quality, and is exported principally from the port of Massowah. No honey is exported, all of it being consumed in the country.

APIARISTS' RISKY SEASON.

Victorian apiarists suffer a considerable check in the production of honey and beeswax, as well as in the number of hives they control, owing to heavy losses in the spring. These losses usually occur at two-year intervals, and the "dwindle" as it is called, is generally regarded as the outcome of a specific trouble, which differs in important respects from that which causes similar losses in other parts of the world about the same time, viz., dysentery. In dysentery, the bees bloat and die in or near the hive, with wings and legs in normal position, or, rather, closer to the body, as distinguished from bee paralysis, when the wings and legs are extended even before death. As a rule, in the case of dwindle, the bees leave the hive in quest of stores, and fail to return.

An authority well known to readers of "The Leader," Mr. R. Beuhne, president of the Victorian Apiarists' Association, ascribes the inability of the bees to return to the hives as due to exhaustion and chill—the consequence of impaired vitality. This latter, he thinks, is the result of malnutrition in the larval stage, caused by a deficiency of protein in the pollen used in the preparation of the larval food. On the other hand, the nitrogenous matter in the honey consumed by the adult bee during winter, if present in maximum quantities, is the cause of dysentery. Taking these as established facts, it should follow that both dysentery and dwindle should disappear in a spring succeeding a season of normal pollen supply. Both these inferences are held to have been proven by many apiarists both in New South Wales and Victoria as a result of observations extending over the last six years, in widely distributed localities. It is also now generally recognised that certain honeys are totally unsuitable for winter food for bees, except in the rare instances of a very mild winter allowing continuous activity of the bees. Honey gathered late in the season from ironbarks, and from grey box, under certain conditions, are classed as the most unsuitable in Victoria, while in Northern America 'honeydew,' and in Germany "heather honey," occupy the same position.

There still appears to be some doubt as to whether the nitrogenous matter in honey is of animal or vegetable origin, although the researches of Professor Langer Graz prove that the albumen in honey is a secretion of the bee, and the means of inverting the sugar of nectar and in this way, together with the elimination of surplus water by the bees, creating the honey as found in the combs of the hive. On the assumption that this secretion or ferment is of animal origin, it follows, in Mr. Beuhne,s opinion, that it is likely to be affected by variations in the health and vigour of the bees producing it. This would in turn alter the character of the honey stored, as well as that of the laval food, and thus influence the health of the adult bee during inactivity, in the first instance, and the vigor of the future generation in the second. At present Australian beekeepers have no suitable substitute for pollen to prevent losses from dwindling and no practical means of forestalling dysentery. A thorough investigation, scientific as well as practical, would, Mr. Beuhne says discover a remedy in one or both, and might possibly establish an inter-relation between "dwindling" and dysentery.

In the heather country in the north of Germany bees are still kept in what as skeps, which have been reverted to even by those who changed to frame hives. It is the practice there to sulphur swarms for the new comb honey they contain, which is heather honey, and retain for stock the skep from which the swarms have come, and which contain clover and Linden honey. With bar-frame hives the latter went into the supers from which it was extracted, while the brood chamber was filled by the bees with heather honey

for winter stores, and bad wintering, if not total loss, followed. The bar-frame hive got the blame, which was really due to the method adopted.—"Australasian."

CONTROL OF APIARIES.

PROGRESS IN NEW ZEALAND.

Mr. I. Hopkins, who was the New Zealand Government expert apiarist until a few months ago, but who is now engaged in a private business, recently submitted a proposition that was not adopted by the Canterbury Beekeepers' Association. Mr. Hopkins has brought up the subject again and as the questions raised are of general intrest to the apiarists we reproduce his statement, which is as follows:—

The first suggestion was the annual registration of all apiaries in the Dominion. The chief object of such registration would be to ascertain from year to year a knowledge of the progress of the industry. At present we can only ascertain the rate of progress once in five years, when the census is taken. Had it been possible to obtain a list of all beekeepers through the agricultural statistics there would have been no necessity to make use of the census papers, or to have suggested registration, as the knowledge would have been available annually as a matter of course. The reason the agricultural statistics were not made use of was because the majority of beekeepers, or at least a very large number of them, do not occupy the area of land recognised by the statistics, consequently the information gleaned by that means would have been of no service. As the New Zealand Department of Agriculture is spending a considerable amount of money annually to promote the industry, it is but rigth that the department should be able to learn annually what progress it is making, if any. Then, again, beekeepers themselves should not be content to work in the dark. The more they know, and the oftener they can learn of the progress of their industry, the better for themselves. If it is an advantage to get reliable statistics every five years, surely it would be better to have the information every year. I could name other benefits that would accrue from annual registration, but I am afraid of taking up too much space. From the secretary's letter I gather that the association is afraid that registration annually, though free at present, would probably in the years to come be an extra tax on the industry. This seems to be a very far fetched excuse, and what is meant by "extra" I cannot conceive.

The other suggestion with regards to the department supervising all imported bees, with the view, as I put it, of guarding against the introduction of bee diseases, and especially of "black brood," was considered by the association as quite unnecessary. To say the least, this is extraordinary. The Canterbury Beekeepers' Association urged the Government to take steps to stamp bee diseases, out within the Dominion, and when such steps have been taken with a considerable amount of success the same association wishes to leave the door open for the introduction of similar and worse diseases from outside, and thus undo the good work already accomplished at the expense of much time and money. The department will have to step in and save the beekeepers from themselves. Other New Zealand Associations, I am pleased to say, have recognised the imporance of both suggestions, and have resolved to support them, and I am sorry the Canterbury Beekeepers' Association is working against the interests of the industry in this respect. Hawaii has legislated in that direction, and all importations of bees have been supervised. California is also moving for the same restriction.—Leader.

SIMPLE TALKS ON BEES.

SUPERING.

In the early eighties we had a rum way of working supers. It was a plan eminently suited to disgust beginners. You waited until your first crate was filled, or nearly so. Then you approached the hive with a smoker puffing like a locomotive engine, and you half choked the bees. You removed the quilts, and, with further quantities of smoke, endeavoured to drive the bees down from the sections into the hive. You could employ a boy by the hour to keep the smoker going while you picked out the finished sections. It was the next thing to the sulphur pit, so far as the happiness of the bees was concerned, and the next thing to a boiler explosion for you. The heat of it, the stings, the madness of the bees, the language indulged in! Then the turning of the half-finished sections upside down in the crate, and the putting in of fresh sections instead of those removed, and the bees boiling over and going for you like anything! It was worth living for in those days not to be a beekeeper.

Towards 1885 a new "dodge" was struck out, and was to simplify the operation exceedingly. You lifted off the crate, dropping a cloth on the frames, and ran for all you were worth to the nearest outhouse, where you set the crate on a box, closed the door to bee space, removed the sections one by one, and with a feather brushed the bees off, letting them fly away home (if they would) through the open door. Then you filled up the crate, and, approaching the hive with due caution, set it in its place again. The trouble about that "dodge" was that it enraged the bees, was very laborious, and led to the loss of multitudes of honey-gatherers, while if, by any chance, you had the queen in the crate (which you didn't oughter) she, ten chances to one, was sacrificed.

Methods have improved much since those days. Now the management of supers is simplicity itself, if you know how to do it.

But, as one moves about the country interviewing all sorts and conditions of beekeepers, one is astonished daily by the numbers to be met with who don't "know how to do it," and are relying on "kinks" and "dodges" which the wise discarded long ago. Here, a spade takes the place of vaseline, and supers are dug off by brute force; there, a create is discovered without separators, and not one marketable section in the lot; next door home-made appliances are in vogue, the crates are fastened to the frames, the frames to the hives, and the bees to the operator! Of course this sort of thing is very unfair to the bees, but, happily, it is also uncomfortable for the beekeeper, for whom few can indulge the sentiment of pity.

Nor is there here any exaggeration. All these outrages on bees and beekeeping may be witnessed by anyone who looks about him and this in spite of all the teaching which journals and itinerant instructors have been giving for years. The writer receives many letters which show that how-not-to-do-it is a more general rule than might be supposed. Here is an extract taken at random from one of more than a hundred letters which all tell the same tale:— "I started to take off a crate yesterday, and now am laid up for repairs. The crate remains with the bees. Is there no simple plan for this job? If not I am done with beekeeping for the rest of my days." This artist had made his own crate, with ½-inch carriers. Of course, it was duly fastened to the frames. He tried to lift it with a shovel! The crate remained with his bees, and for some days it was impossible for his nearest relatives to tell where exactly his head began and his neck ended.

Petroleum jelly is cheaper than, and will serve as well as, vaseline. If applied liberally to the undersides of supers and under the shoulders of frames, the bees will be slow to propolise those parts. and the moving of the frames and the lifting of supers will be correspondingly facilitated.

Then, when finished supers are to be removed, how simple it becomes to set them down upon a super-clearer, to put all back on the frames that the bees may clear down into the hive, and to come back next morning and carry off the vacated supers without the bees so much as knowing that they have been fooled and robbed.—J.G.D., in Irish Bee Journal.

LECTURE ON BEES AND HONEY.

(Delivered by W. Abram, Beecroft, at the St. James' Hall, Sydney, October 18th, 1909.

Before going into the subject proper, I have decided to tell you how I became a beekeeper. It is possible that my example may be followed by one or more of this audience. Being less than thirteen years of age, on June 3rd, 1867, coming home from school at about 11 a.m.—our school started at 6 a.m. and finished at 10.30 a.m.—I noticed in our yard an immense number of bees flying hither and thither, just as if they wanted to get in each other's road and could not. There were thousands—millions of them—all over the place. I had never seen anything like it, because my father had no bees, and the only two or three hives in the village were brought to our neighbour just previous to that time, and all I knew about them—bees in general—was, that when running barefooted on the grass of our garden, where flowers grow, I got several stings on my feet by treading on bees on the blossoms, and it was not very pleasant.

Now, father was a smart man, and so I looked for him for advice. Luckily I found him very close to the homestead, weeding seradelle, a very good cattle food, green or dry. I told him what I had seen in our yard.

"Oh, that is a swarm," he said.

"What is a swarm?" I asked.

"Oh, bees clearing out from somebody," he said.

"Well, let us catch them," I said.

"Catch them," he said, "how can we? We have nothing to put them into, for one thing, and another, we do not know how to catch them even."

"But just come and look at them," I said, and he followed me.

By that time a great number of bees had settled already on a thin branch of a young apple tree, of which we had two growing in our yard, and when father saw them he said, "That is a large swarm alright."

While we were looking, my two elder brothers came home from field work for dinner, and they enjoyed the novel sight of a swarm of bees as much as I did.

In the meantime mother called us for dinner.

Reluctantly I went away from the bees, and quite naturally the conversation centred on how to catch that swarm.

Somehow father made the suggestion that if we could get two sieves—one to go into the other exactly—we might catch them therein, and then call a beekeeper from a neighbouring village to do the rest.

No sooner said than done. My 3-year old brother gave me a dig in the ribs and said, "Come on we will find the sieves."

As I could not enjoy my meal anyhow whilst the swarm was on the tree, we left at once to get the two sieves from the store room, where we had about ten, of different sorts, for the various grains we grew. And what do you think? The first two we struck fitted together as if made for the purpose.

With the discovery of our success we rushed to the dining room to show father what we had found.

He had not yet finished his meal, but we gave him no time, and dragged him to catch the swarm there and then, before it was too late.

When we got there we found that the swarm had settled on two adjoining branches, because one seemed too weak to hold the lot, and might have broken, thus there were actually two clusters.

The question now arose, how to get the bees into the sieves. Father said, the best way would seem to saw the branches off with a pruning saw, and then cut the outer end off with a knife, and stick the lot into a sieve. And I had to fetch the saw.

Now, the branches were very thin and long, and when father began to saw, while my brother held the outer end, there was considerable shaking of the branch, and lots of bees dropped off by the shaking and fell to the ground.

However, at last the little branch was sawn through, and what bees were left on it were put in the sieve, and the other end of the branch cut off with a knife.

This suggested the idea that it would be better to cut the other branch off with a knife too, instead of with the saw. It was done, and presto, hardly a bee got shaken off.

Thus we got most of the bees into the sieve, and then put the other sieve on, and the flying bees all settled on the outside of the sieve wire.

Father said, "It is all right, we have got the queen in the sieve, because if we had not the bees would not come to the sieve, as they did."

Now, if any of us had only known a little of what I know now, how easy it would have been just to give those thin branches a little knock, and down would have dropped the lot into the sieve if held underneath them. But we didn't know.

However, we had them secure, as they could not get out anyway, nor could they suffocate.

What now? Father said to me to go to a friend of his, who kept bees in straw skeps, to tell him to take a skep and come to put the swarm in.

I went, about a mile away, and found the party just at home.

He, making straw skeps, took one and came along with me.

When he saw the swarm he said, "That is a fine swarm, and wants to be taken care of, and to me he said:

"My boy, go back to my place again, and ask my wife to give you two pieces of honey in the comb, and two pieces of empty comb, and ask for a piece of bread and honey for yourself."

Off I went, and delivered the message, except the part re bread and honey for me; but I got both, and returned.

Father's friend fixed the combs into the skep with splints, and—O glory!—he shook the swarm into the skep as easy as puff!

We prepared a stand for them, and put the swarm there.

Father and his friend then adjourned inside for refreshment. I went inside too, and the beeman prophesied that he believed I would make a good beekeeper.

When he had left, my oldest brother said, that it should be decided by ballot as to who is the owner of the swarm. I disagreed, but a vote was decided on. We were five in the family, and five tickets were made, from 1 to 5. I said "I will take the last," and lo! mine was No. 1.

Thus I became the lawful owner in any case of that swarm, and from thence forward I watched them during every spare hour I had.

Occasionally a bee would come and make my personal acquaintance—I suppose because they knew they were mine

But the fun started the next season in real earnest.

The skep, though a very large one—much larger than what they use in the Luneburgh Heat—was then practically

full of combs, and according to the then and there fashion, an empty box, bigger than the skep, was placed underneath, with a fairly big hole cut in the middle, through which the bees could get into the box and extend their combs.

So one fine morning my brother and I set to work to fix that box under. An easy job, we thought.

But it proved more than we expected.

In the first place, the skep proved too heavy for me to lift high enough off the bottom board to shove the empty box under easily, and thus the bees in the skep got roused, and resented the intrusion on our part in a very forcible and decided manner; secondly, there were hundreds of bees on the bottom board, and they had to be swept away, or else be crushed to death.

Well, between the two things, and both happening at the same time, the bees, though only a swarm from the year before, became practically masters of the situation, and all we could do was to just stick the box under the skep anyhow, and then make a quick return into a dark room, partly to pull the many stings out of our tender flesh, partly to show the bees that we were not beaten; but they beat us.

We were alright in the room we rushed into after closing the door on the following crowd of bees; but not so with our poor cat, and the dog on his chain. However, the cat went for a race, and we let the poor dog off the chain, and he would have won the Melbourne Cup, only this happened in Germany.

Not enough! A party was driving some cows to the grass fields into the bush, and my bees spotted them. That was nearly half an hour after the first act, but not far from where the bees were.

All of a sudden these cows lifted up their tails into the air, and, though they were led on ropes—not the tails, but the cows—and off they went at a rate that was equal to the N.S.W. express train speed. Youngster as I was, I could not help laughing at the sight of it. And what was more funny, the party in charge did not really know what had happened until my bees told him all about it. Then he followed the cows.

This experience gave me a lesson I shall never forget, and henceforth I treated my bees with more care, and they treated me with more respect.

The next experience I had was to make straw skeps.

Father had gone to town, about a mile away, so we were in full possession at home, and started to make a skep.

As luck would have it, my father brought the beekeeper who hived the swarm with him in the afternoon, as he wanted to see how the bees were getting on, and he spotted me and my brother at our work.

We thought it something praiseworthy, but he shook his head, and said, "Leave off, it is no good; but come with me, and I will give you some tools, and tell you how to make skeps."

I got the tools, and the way to go about the work, and the first attempt proved a decided success.

(To be continued.)

HONEY AS A FOOD.

(Its Purity and Digestibility.)

The majority of beekeepers do not understand many of the merits of honey. Choice honey is one of the most palatable of foods, and all of it can be digested, leaving no residue. A jar of honey, unlike fruit, may be opened, partially consumed, and, if kept in a warm and comparatively dry amosphere, it will not spoil. Science has recently demonstrated many things of which the beekeeper might well take note, and use to advantage in popularising honey.

Scientific investigation and close observation have determined that the bee, with its strong instinct for cleanliness, puts the cleanest housekeeper to shame. in the thoroughness with which it polishes and disinfects the comb cells, the

receptacles for honey; it gathers the aroma-laden nectar distilled by the blossoms, and, in all its purity, places it in the honey sac. After reaching the hive it is placed in the comb cell, where the bees blow a current of air warmed by the inmates of the hive continuously over the open cells. evaporating it to the consistency of ripe honey, and in its marvellous process making the various methods invented by syrup and sugar manufacturers appear crude and unclean.

But this is not all in this process of gathering, storing, and moving from cell to cell. The nectar undergoes a marvellous and valuable change, being largely "inverted," and thus saving the consumer of honey the digestive energy required in its preparation and assimilation. Many with weak stomachs know how expensive and valuable are food preparations containing pepsin. The beekeeper in his charge for honey has never yet taken this valuable feature into consideration, although, so far as is known, in this respect he has a monopoly in the carbohydrates.

Late investigations by Professor White (expert in animal bacteriology, department of agriculture, Washington) adds to the scientific evidence as to the value of honey as a food. No doubt, the fact that Professor White found the number of species of bacteria in a normal apiary to be very small will tend still more to give honey a prominent place on the table as a daily regular article of diet.

RULES.

(Subject to Alteration).

Styled: The New South Wales and Commonwealth Beekeepers' Union.

1. Objects and Aims: To aid and assist beekeeping in all its branches.
2. Members are beekeepers or have particular knowledge of bee-culture.
3. President, Secretary. Treasurer, and two other beekeepers form the executive to carry into effect, to the best of their knowledge, all matters submitted to them by members regarding Union business.
4. Vital questions or subjects shall be decided by members voting per post.
5. Subscription to Union, 5/o per annum, dating from 1st July each year, payable in advance.
6. All expenses, except time, incurred by any of the Executive on behalf of the Union's business to be paid them out of funds of the Union.
7. Members agree to abide by majority rule.
8. All correspondence to be addressed to the President for the time being until otherwise arranged, who shall publish in the "Australian Bee Bulletin," or send each member (not a reader of the A.B.B.) periodical reports of the Union's Executive works.
9. Members are requested to submit to the Executive matters which they desire to be decided on by vote or referendum.

EXECUTIVE.

ABRAM, W., Beecroft, President.
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COMMITTEE.

LORD, H., Technical College.
PARRY, J., Erina and Parliament House.
PARKER, D. W., Turramurra.

HONEY.—

There is not a great deal of choice on the market, but what there is of it is selling well at 3d. to 3¼d. per lb., while medium quality is worth 2¼d. to 2¾d. lb.

BEESWAX.—

Demand quiet. Best white is worth 1/2 to 1/3, and dark 1/0½d. to 1/1½d per lb.