The Australian bee bulletin. Vol. 13, no. 9 December 29, 1904

West Maitland, N.S.W.: E. Tipper, December 29, 1904

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THE AUSTRALIAN Bee Bulletin.

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.
Edited and Published by E. TIPPER, West Maitland; Apiary, Willow Tree, N.S.W.
Circulated in all the Australian Colonies, New Zealand, & Cape of Good Hope.

VOL. 13. No 9 DECEMBER 29, 1904 PER COPY, 6D.
Per Annum 5s, booked 6s 6d, in Australasia, outside N.S.W., add 6d. postage

N. S. W. BEE-FARMERS' ASSOCIATION.

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RULES & OBJECTS.

1. The careful watching of the interests of the industry.

2. To arrange for combined action in exporting honey to relieve local glut when necessary.

3. To advise members as to suitable localities for establishing apiaries.

4. Any beekeeper can become a member on approval of committee, subscription 2/6 per annum.

5. That every member with more than 50 hives shall be allowed an extra vote for every additional 50 effective hives.

6. No member be eligible for office who has less than 50 effective hives, or his subscription is in arrear.

7. The Association to consist of a central body and district branches affiliated with it.

8 The principal officers be such as will undertake to meet each other in committee at least once in twelve months.

9. The officers shall consist of President, Vice-President, Treasurer and Secretary, and Executive Committee.

10. After the first election of officers, arrangements to be made by the Secretary to call for nominations for office-bearers, and issue ballot papers prior to the next annual meeting.

11. Supply dealers or commission agents cannot become members.

12. Members unable to attend meetings or conventions can authorise or nominate any member they know will be present to vote for them on any subject brought forward. Such vote or votes to be in addition to the member's present own vote.

Printed and Published by E. TIPPER, Proprietor, High Street, West Maitland, N.S.W.

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THE AUSTRALIAN BEE BULLETIN.

EDITOR & PUBLISHER. WEST MAITLAND & WILLOW TREE.

A MONTHLY JOURNAL

Devoted to Beekeeping

Circulated throughout the Commonwealth of Australia — New Zealand & Cape of Good Hope

MAITLAND, N.S.W.—DECEMBER 29, 1904.

The following is a list of advertisers in our present issue:—

Supply Dealers.

C. J. Manning, Chuter-st., North Sydney.

A. Hordern & Sons, Haymarket, Sydney.

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W. L. Davey, Station-St., Fairfield, Vic.

THE New South Wales Bee Farmers' Association is in the interests of honey producers; of others as the producers prosper. The honey producers live long distances away from Sydney, and cannot attend meetings but very seldom. The proxy system enables them to be represented by persons, also producers, whom they know will attend, and whom they have confidence in, will use their votes as they wish. The plural voting gives a man who has gone into beekeeping on a large scale, has large sums of money spent in it, a preference over the talker with a few hives, little experience, and who would make you think he knows more than the man who has been at it for years, produces, and has to sell honey by tons. The subscription is small, only half-a-crown per annum. It has never paid expenses. If a shortage the secretary has always met it himself, and never asked to be recouped; has paid his own expenses to meetings at great loss and inconvenience on most occasions. As he is a honey producer of twelve years standing, he has a fair idea of the wants and troubles of his fellow beekeepers, and has always endeavoured to work conscientiously for them, and if he has had the confidence of his fellow producers to be entrusted with 38 proxies, has never voted contrary to the instructions received with such. The Secretary has also to find postage stamps and time to answer quite a number of

letters to country beekeepers on various matters of importance to them, that is part of the Association's work, yet such being of a confidential nature never appear in print The next annual meeting will be held in April. There will be cheap railway facilities all over the colony. Will honey producers try and attend. Attendance is better than proxies, however conscientiously they may be used.

Medina, N.S.W.
17th December, 1904.

Mr. E. Tipper,
Willow Tree.

Dear Sir.—Will you please alter my advertisement in the A.B.B. to the enclosed. You will no doubt have noticed by an editorial in this month's "Poultry Journal" that I am not going to publish any more bee news, as I have about come to the same conclusions in the matter as yourself. I think I owe you an apology for having written rather strongly against your views in the past, but I then believed you to be in error, but I am now forced to the conclusion that you were RIGHT and I WRONG, so let us shake hands and forget the past, Eh! I would like to see you make a strong reply to W. Ager, whose letter appeared in the "Beekeeper," as it was too strong. You may let your readers know that I have come over to your side of the fence. As I am never ashamed of changing my mind when I find that I have been in the wrong. Long may you be spared to stand up for the interests of the struggling beekeepers of our land. I am afraid that the Bee-Farmers' Association will never be a strong one while those who have less than 50 colonies are debarred from becoming members, as many good men cannot attend to so many, and others like myself are in a locality that will not profitably support so many. Wishing you every success.

I am yours faithfully,
G. COLBOURNE,

[Mr. Colbourne is in error. Any beekeeper can become a member of the N.S.W. Bee-Farmers' Association. If he has under 50 hives he has one vote. Every 50 hives above the first 50 entitles him to another vote. A man with 200 hives has 4 votes, 300 hives 6 votes.—Ed.]

A Mississippi beekeeper thus writes in the "American Beekeeper": The low prices of honey are so discouraging, I would be glad to be out of the business. Have 14 one-half barrels in St. Louis for almost a year and no demand for it.

Beekeeping Leases on Crown Lands.

In the April issue of 1904, after the report of the N.S.W. Beekeepers' Conference we stated we had seen Mr. R. A. Price, M.L.A., who informed us the law does permit settlement by beekeepers on forest reservations. He promised to write us particulars, but it was only a few days since we received the following particulars from him, viz. :—

114 King-street,
Sydney.
7th Dec. 1904.

Dear Mr. Tipper,

Your letter dated April last has only just reached me. I was out of town and it was forwarded on, as a result it has been travelling all over the country and just come to hand.

I did not contest a seat in Parliament at the last election as political life has become too hollow and putrid. Politicians are only "playing the game" and "fooling the public". They all appear "tarred with the one brush." No principle, no honesty, only make-believe and humbug.

It will be necessary to cut down the national expenses £3,000,000 per year if this unfortunate country is to prosper, yet no set of men have the moral courage to do so. It is all sham. That is my firm conviction after being closely associated with the political humbugs and charlatans for the past fourteen years.

Re your enquiry as to Beekeepers on Forest Reserves. Special leases not exceeding 320 acres, may be applied for

under Part IV. Section 90 of the 48 Victoria, No. 18 Crown Lands Act of 1884, for a period of 15 years. This has been extended by Section 46 Part V. of the 58 Victoria No. 18 the Crown Lands Act of 1895, this Section extends the period to 28 years. Section 90 of 48 Victoria No. 18, the Crown Lands Act of 1884, Part IV., sets out the various purposes for which Special Leases may be granted, and the Act says :—

"or for any other purpose declared
"by the Governor by proclamation
"in the Gazette to be a purpose
"within this Section."

I have asked the Minister for Lands to issue such a Proclamation and it will be issued in due course. The matter is one which, as you point out, will be a great benefit to the beekeepers of the State. I shall only be too happy to assist this deserving industry in every way.

Wishing you and the beekeepers the compliments of the season and many happy and prosperous new years.

We have since received the following :

114 King St., Sydney.
Dec. 14, 1904.

I have now fixed up the matter for the beekeepers as per previous letters and enclosures. Wishing you and the Association the compliments of the season and many prosperous years.—Yours, etc.

R. A. PRICE.

E. Tipper, Esq.

Department of Lands,
December 12th.

R. A. Price, Esq.

With reference to your letter of 7th December, 1904, suggesting, on behalf of beekeepers, that Section 90 of the Crown Lands Act of 1884 be extended to Reserves, Mr. Price is informed that "bee farm" is already a "purpose" under the section quoted, so that any reserve available for special lease may be applied for as a bee farm, each application being dealt with on its merits. Forms of application and copies of directions as to special leases forwarded herewith.

EDWARD MACFARLANE,
Under-Secretary.

QUEENSLAND BEEKEEPERS' ASSOCIATION.

Meeting of the Re-formed Association.

About fifty persons, interested in beekeeping and the honey industry, assembled in the council room of the National Association, Courier Building, on December 17. The object of the meeting was to form a Beekeepers' Association, but it was eventually decided to re-form the original association, formed nearly 20 years ago, but which lapsed after about six years of useful work. In furtherance of this decision, Mr. D. R. McConnell, M.A. (Director of the Brisbane Technical College) produced the original minute book and various documents used in the work of the old association, and handed them over to the hon. sec., pro. tem. of the movement. Among those present were : Dr. Hamlyn Harris, D.Sc. (Toowoomba), Messrs. Frank Burrt (secretary National Association), D. R. McConnell (Indooroopilly), J. C. Rundle (Hemmant), T. Lingard (Hemmant), A. Gambling (Booval), D. H. Collins (Kangaroo Point), M. Holzberber (Rocklea), P. F. Hofman (Norman Park), A. Woodcock, J. L. Morrissett (Clayfield), J. G. Cole (Paddington), M. Peake (Willow Apiaries, Ashgrove), J. M. Mitchell (Toowong), M. W. White (Indooroopilly), F. Rohan (Indooroopilly), A. T. Spry (Rocklea), C. T. Cowell, D. Lindsay (Mount Gravatt), S. R. Fuller (Taringa), W. R. Creast (Crovely, Enoggera), A. W. Thompson (Manly), John Wilkie (Glencosa-road), Robt. J. Cribb (Milton), A. Smith (Goodna), W. Hirst (South Brisbane), H. L. Jones (Goodna), T. J. Darker (Goodna), A. A. Roberts (Goodna), A. H. W. Clarkson (Sandgate), J. Grigg, E. J. Carroll, J. Bell; several ladies were also present.

The hon. sec. (pro. tem.), Mr. A. H. W. Clarkson, read the advertisement con-

vening the meeting, after which Mr. Frank Burrt was unanimously elected chairman. In acknowledging the compliment, he ventured the opinion that the good attendance augured well for the proposed association. There were many other societies in Brisbane for various purposes, and he thought the time had arrived when a beekeepers' Association should be started.

Mr. Clarkson read letters of apology and sympathy with the movement from the following beekeepers in various parts of the State: —Messrs. Schubert (Landsborough), E. Dean (Maryborough), Richards (Wolfden), J. S. Horne (Fairymeade), T. Mills (Nerang), Chippendale, Dunsdon (Toowoomba), J. Campbell (Harrisville), H. M. Holloway (Roma), and Captain Clatworthy (Virginia Works.)

Mr. H. L. Jones (Goodna) moved the following resolution: "That the Queensland Beekeepers' Association be re-formed." In speaking to the resolution, Mr. Jones thought it was quite unnecessary to ennumerate the benefits to be derived from the Association. He referred to the existence of the original association nearly 20 years ago, and the good work performed by it. He sincerely hoped the association which was about to be re-formed would meet with support and success. He expressed great pleasure at having present an expert from the British Beekeepers' Association, in the person of Dr. Hamlyn Harris. (Hear, hear.) He was very pleased to formally move the resolution. (Applause.)

Mr. A. Gambling (Booval) seconded the resolution, and expressed his pleasure at the gratifying result of the circulars issued calling the meeting. He believed in the old saying, "In union is strength," and was sure the re-forming of the Association would be productive of good. He referred to a remark made by Mr. Randall (late Queensland immigration agent) on one occasion, at a West Moreton show, where a quantity of honey was exhibited, that "if it were placed on the home market it would have a ready sale." The speaker touched on the bond of friendship which existed between beekeepers, and the interest created by the work in which they engaged. He had great pleasure in seconding the resolution. (Applause.)

Dr. Hamlyn Harris D.Sc. (Toowoomba), who has had a large experience in apiculture, and who is regarded as an expert authority on all matters connected therewith, met with a cordial reception on rising to support the resolution. To be able to speak before a congregation of beekeepers, he said, was to him a great treat. On former occasions he had spoken at gatherings of British beekeepers. Beekeeping, in addition to drawing men together, had a refining influence. The industry did not alone deal with the study of the bees themselves. All industries had societies, and he was pleased to know that a Beekeepers' Association was to be re-formed. He then referred to the existence of various kindred societies in various parts of the world. Some persons held the idea that the formation of the association would knock some beekeepers out of the market, but he inclined to the belief that the regulation of price and maintaining of good quality would result from the existence of the association. At a meeting in Sydney, he had spoken favourably to the introduction of Australian honey on the London market. The price, of course, varied. He knew of a price—3d. per lb.—but that was not for honey, as some thought, but for what is known as "honeydew." Many of the brands of honey on the English market had the taste of the old combs, which existed in the hives. He counselled his hearers to take care that the hives were maintained in a clean condition. His desire was to help, and give a few hints, not to be critical. He advocated the sending of their best to the home market. If nice samples, neatly put up, were sent to England, he had no doubt they would find a ready sale. Inferior samples had been sent from other parts of the world, which were used in the preparation of medicines. He impressed on his hearers the necess-

ity of careful grading, which would have to be the same year after year. There must be uniformity if they wished to create a market for their honey. The doctor then referred to visits made by him to Germany, Italy and Switzerland, where he saw a great deal in connection with the beekeeping industry. Honey-vinegar, on the English market, could be bought for 7½d. per half-pint. He asked why could not a similar industry be started here? A less marketable honey, if used in that way, would be of immense benefit to beekeepers. Honey could also be used in the preparation of cakes, etc., in which it acted as a preservative. He suggested that the association issue circulars to the public in this connection. Referring to beeswax, the doctor expressed the opinion that the maintenance of the proper colour (white) was not properly understood, judging from the samples which he had seen at various exhibitions. He suggested that this commodity be put up in small tablets, which would be bought by many a housewife, and used for various purposes. The wax might also be used in the preparation of ointment, and would command a ready sale. In conclusion, he said he would be delighted to help his hearers in every way possible. Speaking to the resolution, which he heartily supported, he thought it should be received with hearty approval by every beekeeper in Queensland. All beekeepers should drop anything savouring of party feeling. He had very much pleasure in supporting the motion. (Loud applause.)

Mr. D. R. McConnell (Indooroopilly) also supported the motion, and spoke in warm terms of the address delivered by Dr. Hamlyn Harris. He referred to the Association which was started nearly 20 years ago, and produced the records, which he handed over to the hon. secretary (pro. tem.) He made sympathetic reference to those earnest workers who had since passed away; and mentioned the names of Messrs. Cribb, Lyons and Jones, who were still with them. He himself was a living link with those early days, as he had been one of the judges at various exhibitions ever since. Mr. McConnell spoke encouragingly of the work of beekeepers, and thought the association was capable of very good work. (Applause.)

Mr. R. J. Cribb (Milton) who held the position of hon. secretary in the original association, spoke briefly in support of the motion, and expressed his pleasure at the large attendance. Much good, he thought, would result from the re formation of the association, which would always have his hearty support. (Applause.)

The motion, on being put to the meeting, was carried unanimously amidst enthusiasm, most of those present becoming members of the re-formed association.

The following office-bearers were then elected (who will also hold office during the year 1905):—President, Mr. H. L. Jones (Goodna): vice-president, Mr. W. H. Dunsden (Toowoomba); hon. secretary, Mr. A. H. W. Clarkson (Sandgate); hon. treasurer, Mrs. A. F. Spry; committee, Messrs. J. Bell, A. Gambling, J. C. Rundle, A. F. Spry and R. J. Cribb. Dr. Hamlyn Harris was appointed honorary consulting expert.

The subscription was fixed at 5s. per annum, and 2s. 6d per annum for owners of five hives or under. It was decided that rules and regulations for the guidance of members be drawn up by the committee and submitted at a meeting to be held in January next.

Dr. Hamlyn Harris moved a vote of thanks to the chairman for presiding, which was carried unanimously. In responding, Mr. Burrt congratulated the members of the re-formed association on the successful result of their deliberations, and assured them of his hearty support, both privately and as secretary of the National Association. The council room of the National Association would be at their disposal on any occasion which would not clash with other meetings. (Applause.)

Mr. H. L. Jones moved a vote of thanks to Dr. Hamlyn Harris for his presence

and interesting address, which was carried unanimously, and briefly responded to. A vote of thanks was also passed to the press for attending and reporting the proceedings. The meeting, which was characterised by unanimity and enthusiasm, terminated at 10.30 p.m.

For the information of members and intending members, all communications for the association should be addressed to Mr. A. H. W. Clarkson, honorary secretary, Sandgate, until further notice

INTERVIEW WITH MR. H. L. JONES, PRESIDENT.

On the termination of the meeting, in the course of a conversation with Mr. H. L. Jones, the newly-elected president of the Queensland Beekeepers' Association, our representative was informed by that gentleman that he had occupied the position of vice-president in the original association. During the years which had elapsed since the operations of the association ceased, Mr. Jones added, the want of some central organization had been keenly felt by many of those engaged in the important history of honey manufacture. He expressed his gratification at the result of the meeting, and was certain the success of the association would be achieved by all the members working together.—*Daily Mail.*

Division of Labour Among Bees.

[E. F. PHILLIPS, PH.D., MEDINA, U.S.A.]

Baron von Berlepsch, in the "Bienenzeitung," records some careful experiments conducted by him to find at what age the worker bees normally leave the hive. The method used by him was to put an Italian queen in a colony of common black bees and then watch the young Italian workers as they appeared. This was done several times, and each time the time of the first flight of the young bees was recorded, and they were then followed until they became field bees. This was probably the most careful observation made up to that time, and a good deal has since been added. Without going into all the details of the records of von Berlepsch and others, we can briefly outline the history of a common worker during the summer months. After leaving its cell in the brood frame the young bee remains in the hive for at least seven days, generally nine. For the first day or two it is weak, and does no work of any kind; but later it takes up the work of nursing the larvæ. If there is any wax to build, it is the younger bees that secrete it. At about the age of seven to nine days, depending on the weather to a great extent, the bees begin to take short flights in front of the hive entrance on warm afternoons, not to collect honey or pollen, but to cleanse themselves; and in these first flights they rarely fly more than a few feet from the hive, and on their return they take up again their labours of nursing and wax building.

When about sixteen to twenty days old they begin to take foraging trips, and normally never do any other work until they die. It need scarcely be added that, when only old bees are present in the hive, they do the nursing and cell building; but under the usual conditions each worker goes through this life-cycle. Two or three points are worthy of consideration in this connection. In swarming, the young bees as well as the old fly from the hive and leave with the swarm, so we may conclude that it is not weakness that keeps the bees in the hive or that limits their earliest flights to a few feet from the entrance. We know too, that the sense of smell is very highly developed in bees, and in their early flights they may easily be guided by this sense entirely, so that, if quite blind, they could find their way back to the hive. We may, then, conclude that sight is not a highly important sense to a bee up to time it begins to take foraging trips. Even in swarming, when the young bees do fly, for some distance they are doubtless kept from wandering too far away by the scent which we know is present in a swarm.

In seeking for an explanation for the habits of any animal it is advisable, if possible, to compare these habits with

those of some other animal nearly related, or of somewhat similar habits. Ants, which belong to the same order of insects, the Hymenoptera, also have a queen, males (or drones) and undeveloped females. The undeveloped females are either workers or soldiers for the protection of the colony. In some species there is more than one kind of worker, and the different types have different duties to perform. In such cases the workers do the same kind of work all their lives, and the soldiers are for the protection of the colony only, and do none of the work which belongs to the workers. Here, then, the division of labour is carried out to a much higher degree, and the individual is destined to certain duties by its very structure. In the bee the same thing is brought about by the bees taking up various duties at different ages. If the division of labour in ants is caused by structural differences, how are we to account for the same thing in bees where we do not have more than one type of worker? We may explain this by saying that the bee knows by instinct that it must make cells and feed the larvæ while it is young; but instinct is blamed with too many things already, and it is better to find, if possible, some real cause rather than fool ourselves by attributing all the actions to a thing which we cannot define. I do not mean to imply that it is impossible for instinct to bring this about, but I think it very improbable and personally prefer some other explanation.

In my work on "Compound Eyes" I noticed that the entire eye is covered by unbranched hairs; and in trying to find some use for these I was entirely at sea until I noticed that, although the young bees have their eyes well covered, the field bees have almost every hive removed. These hairs are so dense in young bees that it is difficult to conceive of the bee seeing anything clearly; but there is no such obstruction for old bees. It then occurred to me that possibly this was in some way connected with the division of labour which we find.

It has been shown that a young bee can get along without sight, since none of its actions require acute vision, and the presence of these hairs indicates that it is probably nearly blind. Can we not, then, explain the confinement of the young bee to inside duties of the hive by the fact that it cannot see to do anything else? We do not call it instinct when a soldier ant protects the colony and does none of the work of the workers, since it is structurally unable to care for the larvæ, and it is equally unnecessary to attribute to instinct the fact that the young bee does not gather honey, since it cannot see to fly further from the hive that the distance to which scent will guide it. There may be some other structural difference between young and old bees, but it seems to me that these small hairs must be of great importance to the colony in compelling bees to do the different kinds of work. Old bees can build comb and feed larvæ, but do so only when it is absolutely necessary, but a young bee can do nothing else.

The Disappearing Trouble and Paralysis.

[BY R. BEUHNE.]

I am averse to going further into this matter at present, but Mr. Abram's "who will step on my coat tail" tone, compels me to make a few further remarks. I quite agree with Mr. A on what he has said about paralysis, in proof of which I have published his articles in "A.B.B." in the "Leader." I am not speaking of paralysis, but of the disappearing trouble. Mr. Abram's last letter proves, if further proof were needed, that he has no personal knowledge of the latter. He says: he sent affected bees to Germany, which he could not have done in the case of our trouble.

Since Mr. A. insists on being told what I said "did" refer to himself and a few others, whose names I shall give when they ask for it as he has done. Mr. A. cannot have read what I published at the time.

I investigated no theory but collected facts, to have published the whole of the correspondence and personal interviews would have filled the whole of the A.B.B. for six months. The facts are : Within a radius of 20 miles of this district, all colonies extracted or robbed after February, whether in frame hives, box hives, or trees, whether blacks, hybrids or Italians, strong, medium or weak, succumbed next spring in the manner described at the time, leaving behind a full supply of sealed stores, the honey of best market quality. Swarms obtained outside the district when hived on these stores progressed normally for a month, then began to disappear. If hived on the same combs after being extracted no disappearing took place. Bees from elsewhere exposed in cages overnight recovered under the influence of warmth, while bees (in equal numbers) wintered locally, exposed at the same time, perished.

In the year 1878, that is, before the time of the bar frame hive and Italian bees, this district was almost swept clean of bees, the heavy beeless boxes being robbed in spring. Bee trees suffered the same way.

The influence of food, (particularly during development) on the vitality is well-known in the case of infants, domestic animals, poultry and silkworms, and may I add, on good authority, will be known before long in the case of bees. I am prevented going further into the matter. I have had the privilege of seeing a report of research, but I cannot anticipate it.

In a straw of Dr. Miller's, page 1012 of "Gleanings," Nov. 1, 1904, there is also some evidence of beefood as the cause of lack of vitality.

It will probably be six months before I have collected this year's information of losses. There is always a loss which has to be eliminated after further inquiry, as some years ago to now, some peoples' bees died of paralysis, some of queenlessness, and some of starvation, and all are first reported as disappearing, and the owner in each case has his own view as to the cause. We, each of us have our fads and failings, but self-laudation and self-assertiveness, not failings of mine at any rate, and I have mane no claims whatever of discovering either a remedy or a preventative. Mr. A. is mistaken in thinking that he has a monopoly of the powers of correct observation and patient study. I am at one with Mr. A. that paralysis was first introduced from outside Australia, and I can produce numerous instances of it being introduced into Victoria with queens from other parts of Australia.

VICTORIAN APIARISTS' ASSOCIATION.

NOTICE TO BEEKEEPERS.

Will beekeepers who can supply samples of honey from various sources for Dr. Howell, communicate with the undersigned.

Samples should be as nearly as possible pure of the particular kind (that is free from honey of other sources). A sample of pure red box is particularly wanted.

Trusting that beekeepers will respond readily as the matter is of importance.

R. BEUHNE,
Tooborac.

We wish our many readers and subscribers all the usual compliments of the season.

Frames with staples under end of top bars we have voted a nuisance.

The honey flow being on the swarming fever has considerably decreased.

If you want a real good smoker try a Corneil, to be had at Hordern & Sons, Sydney.

Rearing Thousands of Queens from One Colony.

BY G. M. DOOLITTLE.

When spring opens I select one of the strongest colonies I have in the apiary, the same having a queen of the previous season's rearing, as this colony should have a queen that is not likely to fail in her egg-laying ability during the season, as the *laying* of the queen below has much to do with the perfection of the queens reared above, in my opinion.

About the middle of May I go to other colonies in the apiary, and take frames of emerging brood to the number needed to take the place of those in this hive, having no brood in them, which is generally from one to three. These beeless combs of brood are now set in the hive, when in a week or ten days I have a colony strong enough to commence operations.

As soon as the colony is strong enough to go into the upper story profitably, I go to some hive in the bee-yard that can spare them, and get two frames having mostly eggs and unsealed larvæ in the comb. Or, if the colony is a little weak, take these two frames of unsealed brood from their hive and set in their places two frames of emerging brood from other colonies. This will strengthen the colony still further, and make it stronger earlier in the season. I now put on top of this hive containing the prepared strong colony, a hive having a queen-excluder nailed to the bottom of it, so that if we need to look into the hive below afterward, the excluder will lift off with the upper hive having the upper hive and excluder in place, the two combs of unsealed brood are placed in the centre, and four frames well filled with honey are placed two on either side of these, making six frames in all. The rest of the hive is filled out with dummies except the place left for the division board feeder used in feeding, at all times when the flowers are not yielding nectar.

Before going for the needed royal jelly and the larvæ to transfer into it, I stop at the prepared hive, take out one of the dummies, shove the frames that way till I leave a frame's space between the combs of brood, when the cover is put on again. As a rule, it takes me from 15 to 20 minutes to get the royal jelly, the larvæ, put the jelly and larvæ into the cell-cups, and take the now prepared frame to the prepared hive.

On now opening the hive I find the prepared space left for the frame of prepared cell-cups, filled with bees, all clustered in there, often so closely that I have to work the frame slowly up and down in lowering it into the hive, thus causing the bees to run out of the way. I speak of this, not only to show how strong the colony should be to rear good queens, but I believe that this clustering has quite a little to do with their being better prepared with royal jelly, and for queen-rearing, than they would be did I leave the providing of this space till I came with the cell-cups already prepared for insertion.

Three days later I go to the hive again take out another dummy, draw the frames toward that part of the hive from which it is taken till I come to the frame of brood, when I left the frame of cells, take off one or two of them for the royal jelly needed in starting the next batch of cells, when the frame of cells is placed in the vacant space behind the frame of brood, caused by taking out the dummy and drawing the others along, thus preparing the same place between the frame of brood for the next frame of prepared cell-cups which the first one occupied and when all ready it it placed there as was the first.

Four days later the last dummy is removed, the frames again drawn along till we come to a frame of brood, when the last prepared frame of cells is taken out, one or two taken off for royal jelly, and the frame "jumped" to the outside of the frame of brood, which gives room for the third prepared frame between the frames of brood again, where it is placed as soon as it is prepared. As it is intended not to do any work with the bees, on Sunday, I time it so that no cells need

come off on that day, from being "ripe," so prepare the next lot of cells three days later, which makes ten days from the time we started, at which time the first are ripe, so that we really have only three prepared frames every ten days.

The frame of ripe cells is now taken out and distributed where they are needed when I lift out the two frames of brood, look them over to make sure that the bees have started no queen-cells on them, when these two frames of now sealed brood are jumped over behind the two frames of cells now remaining. I then take out a frame of honey from each side, and shove all the frames along toward each side of the hive, so as to make room for two frames containing eggs and larvæ taken from any hive in the yard, which are placed in the center of the hive again as the first two were, being left apart for the fourth prepared frame, which is now fixed as were the others, and put in.

This tells the correspondent all there is of it, only that you keep on in this way all of the season. If a honey-flow comes on, or the bees get too crowded for room so they are liable to swarm, put on a hive of combs above this second story, and extract the honey from it as often as it accumulates, making the hive too heavy to lift off handily; for you must lift this hive instead of the cover, after it is once put on. In this way I get hundreds, and up into the thousands, of cells from the one colony in one season.

DR. LANGER ON BEE STINGS.

The belief that the sting of the bee may exercise a salutory influence on rheumatic pains is very widely spread among beekeepers, and dates back from early times. Berlepsch mentions very briefly this fact in his manual, and declares that it is very easy to believe and easy to explain.

Since my researches on the poison of bees were made known, a number of beekeepers and doctors have questioned me concerning my opinion as to the influence of stings in rheumatism. Having made no personal experiments on this subject I have been in the habit of replying that, very likely, the matter contained in bee-poison operates on the patient like applications of blisters made by cantharides.

Dr. Terc, a physician at Marburg, made a number of personal applications in this way. As early as 1888 he had applied about 39,000 stings of bees to 173 persons, and he made note of the remarkable coincidences between the application of the remedy and the relief of rheumatism. In 1903 he presented the result of some new observations to the Royal and Imperial Society at Vienna. As his report is not yet printed, the author has confided to me his manuscript. It is a summing up of the cases already noted—experiments made on more than 500 persons. Being a beekeeper and a doctor, I believe it is my duty to give the result of this interesting work to the beekeeping world.

The results obtained by this doctor cause him to speak with enthusiasm on the use of bee-stings as a cure for rheumatism. He is persuaded that all articulatory rheumatism, chronic or not, is curable by the poison of the bee; and the disease is healed more rapidly if the cure is applied early. It should be noticed that each case presents characteristics peculiar to itself. The doctor is under the impression that these stings have a very salutory influence in the cure of acute rheumatism. He was impressed by the fact that none of the 30 patients attacked by that kind of rheumatism was afflicted with heart trouble. Stings have even been efficacious in cases of muscular rheumatism and facial neuralgia. The effect of the poison is local or general. The latter renders the sufferer immune, and thus leads to a cure. It is slower than other remedies—for example, salicylic acid, but it surpasses them in its effect. The doctor and the patient should have patience and confidence. This remedy should be kept from children and old people, those who show a complication of troubles such as a lack of blood,

tuberculosis, inflammation of the kidneys, or fever. However, in the case of the latter, as soon as the fever has disappeared one may apply the cure in question to the patient. Dr. Terc has seen no danger except in a case of weakness of the heart; and he is disposed to believe that serious troubles with the circulatory apparatus are present when several applications of stings produce general troubles. When from time to time we read of the death of a man, occasioned by a single sting, we may rest assured that his days and perhaps his hours were numbered, and that he would have succumbed soon without any accident.

The method of application is very simple. The bee is seized between the thumb and first finger. It is made to sting on the spot chosen, and is killed by squeezing it. The sting remains in the wound, or at least is not removed until the automatic movements of that organ have entirely ceased. Dr. Terc begins his cure by applying one or sometimes three stings, applied at the extremities or on the back. According to the reactions produced he increases the number more or less. He has applied as many as 150 in a day; but in general he advises that not more than 100 be used. The treatment extends through one, two, or even three years.

After beginning, he causes the patient to make careful observations for three days, after which he can with certainty predict the cure of the patient, otherwise he dissuades him from continuing further. The pain of the cure is woeful and progressive, and it needs a certain degree of heroism to go to the end. On this account it will be readily understood that the methods used by Dr. Terc become popular very slowly; nevertheless they never disappoint one who perseveres in them. It is self-evident that the sting cure does not do away with the changing operations in the body of the patient, such as atrophy and the degeneration of tissue.

Perhaps we shall be able some day to make a serum from animals rendered immune to the stings of bees; then it will be possible to apply that remedy in a way less painful to the human body.

"I hail with pleasure," says Dr. Terc, "every improvement in the method I have indicated. As for me, I am fully resolved on the task I imposed on myself 23 years ago."—*Gleanings.*

Extracts from Old Bee Writers.

The *Irish Bee Journal* gives some delightful extracts from old bee writers. The following is from the Rev. Charles Butler, 1609:

In order to avoid stings the beekeeper must not be (1) unchaste, (2) unclean, (3) smelling of sweat, (4) have a stinking breath, (5) not given to drunkenness, (6) not puffing or blowing, (7) not acting violently, (8) no stranger to his bees, (9) wear no offensive apparel. In a word, "you must be chaste, clean, sweet, sober, quiet and familiar, so will they love thee." Yet, with all this love and familiarity, he recommends a "hood of coarse boultering," the origin of a modern bee veil; and he further advises the beekeeper to drink of the best beer, and wet his hands and face with the same. The best time to manipulate was while the bees were out in the fields foraging. Handle them quietly, and with as little "business" as you may. Beekeeping is to be learned with experience, guided with reason and discretion.

Butler's wisdom and experience certainly taught him many facts in regard to bees doubtful or unknown before his time. He was the first to testify that "a bee is but a year's bird," many before him believing that they lived four or even ten years. He notes the following good qualities in the bee:- Profitable, laborious, busy, loyal, swift, nimble, quick of scent, bold, cunning, chaste, neat. For cleanliness and neatness they may be a "Mirror to the finest dames." Outwardly, their form is pleasant and comely, but the inward qualities of the mind are even more perfect. Of their labour he says:—Unto the industrious nature of

the bee nothing is more odious than sloth and idleness, for, while there is matter to work upon, their labour never ceases. If they are idle in the still months it is because there is no gathering. Bees ply their labour like men in harvest, and they gather the very quintessence of all the sweetness of the earth. In their labour, both at home and abroad, they are so admirable that they may be a pattern to men. As for their order it is simply perfect, for every selfish feeling is subordinated to the good of the community as a whole.

Here is loud praise of the bee, and strong commendation of our hobby:—"Among all the creatures our bountiful God h th made for the use and service of man, in respect of great profit with small cost; of their ubiquity or being in all countries, and of their continual labour and comely order, the bees are most to be admired. For, first with the provision of a hive, and some little care and attendance, which need be no hindrance to other business, but rather a delightful recreation amid the same, they bring in a store of sweet delicacies wholesome both for meat and medicine." Of this quintessence of all sweetness" Butler has much to say. Nectar is gathered from an infinite variety of herbs, trees and flowers, succeeding one another, and many of these are named; but, like all the ancients, he greatly esteemed honeydew, for he says, the "greatest plenty of purest nectar cometh from above, miraculously distilled out of the air." He notes that honey is finer or coarser according to the soil, the finer the wool, the finer the honey, and that the districts that have store of the sweetest flowers have ever the best honey, so his conclusion is that quality depends on forage. The best prize samples should be clear, odoriferous, yellow like pale gold (although right virgin honey is more crystalline), sharp, sweet and pleasant to the taste, of a mean consistency between thick and thin. All honey, however, was not of this quality and purity, to judge by the following way in which it was prepared:—"Some make one work of all—pounding and compounding honey, wax, bees, skadrons and sandrach all together. Then with a press they violently wring out all that will run!" The peculiar spelling has not been retained. Rather forbidding at first, one, however, soon becomes quite familiar with its idiosyncrasies, and it has a delightful old-world flavour of its own.

EARLY ENGLISH WRITERS.

II.—Edward Southerne—1593.

By D.M.M., *Banff, in Irish Bee Journal.*

Southerne seems to have been a capable apiculturist, and I have special pleasure in drawing the attention of novices to his opinions, derived from experience, of bees and their tempers and stings. "Thou wilt say I would well like to have Honey and Waxe, but I like not the stinging of Bees. Well there is no commoditie, in regard of worldly wealth, but hath some discommoditie. The marchant before he obtain his desire doth adventure life and goods; and it is reason the cat should wette her feet if she will eate any fish. Well (say you) then of necessitie we must be stung. I say no—for if thou use them according to the directions hereafter mentioned thou need'st not feare stinging." These directions need not all be repeated here, but gentleness is emphasised as a prime requisite in a bee-keeper when handling his bees—"Goe orderly to them and thou shalt find them gentle as sheepe."

Southerne's hives were made of straw, of about half a bushel size, because he did not think the large hives profitable. The inside was to be made smooth beforehand, to save the bees much valuable time and hard labour after they were hived. Else the bees will have "much ado about scratching and biting away such paltrie that they might have filled halfe the hive with waxe and honey." His recipe for dressing the hive, by means unique of its kind, will bear repetition—"If your bees will not tarrie in any hive, put therein two handfuls of

Barley or Pease, but Mault is the best if you have it, and let a Pigge eat it, turning the hive with your hands as he eateth, that the froth which he maketh in eatinge may remain in the hive, then wipe the hive again lightly with an old cloath, and so the Bees being put in will abide without further trouble." Several later writers commended this singular plan, and others did not at least "discommend" its use.

Good bee-man although he was, and with at least fourteen years' experience when he wrote, he seems to have been at sea regarding the sovereign of the hive, believing that there was no "Master" bee, but only a number of leaders, and that these, or even the drones, took charge of and led out the swarms. He had no belief in the efficacy of tanging with basin, pot, kettle, or frying pan, crediting the custom with doing more harm than good.

Cleanliness was rigidly inculcated. Regular cleaning up of the floor-board in late autumn and early spring was a duty. Narrowing the entrance to the smallest limits in winter, and gradually opening it wider as the season advanced was strongly advised. He was no advocate of Driving, because he credited it with causing a loss of bees and brood, while it inevitably led to robbing, and bees could not live in an empty hive. Feeding led to robbing, and consequent loss of colonies, and further it made "bees lazy." Yet he was an advocate of powerful colonies, and believed in having all "lustie and stronge."

Neighbouring beekeepers at times quarrelled over runaway swarms even in the 16th century, it seems, for we have a vivid picture of such a dispute, fortunately ending happily for all concerned. Even more humorous is Southerne's description of the greedy Parson claiming his tithe of the beekeeper's swarms. Willing to oblige, he actually carried his tenth swarm to the Parsonage, and then threw it out in the lobby to work consternation in the house, while he wended his way quietly homeward with his skep under his arm. It, at least, was his own, as he had purchased it in the open market. "Happily both, later, became friends, and if they doe not well I pray God we may!" quaintly adds our author. With the echo of these words I will now conclude.

HONEY AS FOOD.

The following is from the pen of the eminent Dr. Sangrado, and first appeared I believe, in *Abeille Bourguignonne:*

Sugar constitutes, together with meat and fat, an indispensable food for the maintenance of the normal equilibrium of health. It is necessary to eat these three articles in order to be well, while waiting for the ideal dishes the chemists have so long promised us.

Up to the present time we have only milk as a complete food—that is, including the three substances mentioned as being necessary for a daily ration. Sugar is represented to a great extent in fruits, except that kind which we use to sweeten coffee One gets but little of it from vegetables. It exists extensively in meats, but the quantity which one thus assimilates is quite insufficient.

In winter one has at his disposal, as sugared dishes, nothing but pastry, canned stuff, and honey. Pastry is very indigestible and cannot serve as regular food. Then there remain canned stuffs and honey. The first are but slightly valued, and justly. As for honey, it seems to me its usage is rather limited, and that is a great ptty, for it is a food and a medicament of the first rank.

Honey includes, in large quantity, sugar in conjunction with other food substances in a form eminently easy to digest and assimilate. It does not irritate the stomach, and passes through it rapidly, for it is not digested by that organ, but rather by the intestines, as are all the sugars. Thanks to the properties in it, it is easily assimilated by the intestines without overloading them for any undue length of time, as is the case with certain ripe fruits. Besides, it is very nutritious, and nearly every particle of its own

weight is assimilable. I say nothing as to its taste. Each one can settle that for himself.

Honey is a medicament which can be used for various purposes. Dyspeptics, whose real treatment consists in a strict food regimen, should use it as a dessert in place of cakes, fruit and nuts, such as almonds.

Honey has still one more advantage, which is that it acts as a mild laxative, and that is a valuable property for habitual constipation, which gives rise to many disorders.

Without doubt it is owing to this double action that honey owes its reputation as a narcotic. Hence it may be recommended for sleeplessness. Two spoonfuls of honey in a glass of water will suffice to induce sound sleep all night.

It is probable that honey, in such cases, serves to displace indigestible foods, which, retained in the stomach, disturb our nightly rest.

That is not all. Honey mixed with water serves as an excellent gargle, having, besides, the merit of being very agreeable to the taste, either swallowed by accident or on purpose, for honey mingled with water is delicious, and the ancient Gauls thought such a beverage was the drink of the Gods, and called it hydromel.—*Gleanings.*

CAPPINGS.

I have what I consider fairly reliable proof that bees can travel 30 miles an hour, but I can adduce no evidence to prove it. While I believe that they *can* do so, however, I am quite confident that they rarely do. My belief is that, though in making for the foraging grounds, they easily travel a mile in three minutes yet on their return they frequently take double that time; and I know on occasions they may take ten minutes. I have watched them hundreds of times approaching home heavily laden, and I know that for a considerable distance I have paced them at the above speed. In watching them leaving or returning to their hives, I made elaborate observations for given distances, and these bore me out in these conclusions.—Writer in *British Bee Journal.*

The good queen is the one whose colony gets the most honey.

Blackstone, that great authority on law, says that a swarm remains the property of the person from whose hive it issues so long as it is kept in sight by the owner or some person acting for him, and may be followed on to another person's premises for recovery of same with or without permission. If, however, the swarm be lost sight of, even for a short time, the bees become *ferœ naturœ*, or "wild" in the eye of the law, and are not recoverable. A judge has decided that under this law swarms may be followed into a neighbour's garden for recovery, just as sheep straying therein could.—*Exchange.*

Preparation for Swarming.—Years ago it was understood as a rule without exceptions that a prime swarm would not issue until sufficient time had elapsed from the first starting of queen-cells for one or more of them to be sealed. Since movable combs came into use it has come to be regarded as a rule with many exceptions. Is it really true that there is ever an exception? To be sure, a swarm often issues with no sealed cell present, perhaps only eggs in queen-cells, but does that ever occur when the bees are left to themselves? If queen-cells are destroyed by the beekeeper, the bees may then swarm with only eggs in the queen-cells, or possibly without even as much preparation as that; but is there ever really a case in which the bees swarm inside of eight days after the first egg is laid in a queen-cell?—*American Bee Journal.*

In South America the orange blossom is a most valuable factor in the production of honey, as the tree commences to bloom about the end of winter (there is no season which can be called spring in Paraguay), at a time when the swarms are weak and other flowers scarce. The

orange blossom produces an excellent honey, of fine colour, pleasant flavour, and admirable keeping qualities. Orange trees are present everywhere in Paraguay; they grow wild in the woods in great abundance, and are, in fact, in many parts the commonest wild tree. Although the fruit of the wild tree is not edible, the flowers are equally valuable as bee pasture. The orange trees continue in flower for about two months, when their place is taken by numerous other flowers. Some plants such as the banana, are in flower more or less all the year round, but, although they contain a large quantity of honey, from the shape of the flower they are difficult of access to the bees, who are, however, very fond of them, and may be seen busily collecting honey from such flowers as have fallen to the ground. To make a comparison between Paraguay and Australia, another part of the world where many large apiaries exist, Paraguay is exempt both from the extreme droughts and the extreme heats of Australia. In the latter colony the thermometer frequently rises to 120 degs. in the interior; in Paraguay a reading of 100 degs. is rare. Australia is just recovering from a drought of seven years' duration; in Paraguay if a whole month passes without rain it is called a drought. Owing to the cheapness of living and of labour, working expenses are much less in Paraguay than in Australia, while the prices obtainable for honey are also in favour of the South American country.—*Exchange.*

The atmospheric electricity has an influence on the production of the nectar. During the stormy or threatening days, the positive electricity of the atmosphere is constantly passing in the ground and accelerates the movement of the sap, the growth of the plants and other features of vegetation If, now, the ground is rich and sufficiently wet, the production of nectar will be increased. If the opposite conditions prevail, the flow of nectar will be diminished. Sometimes in dry weather, a stormy condition of the atmosphere can cut off the flow entirely. That this double action exists has been shown by submitting plants cultivated in pots to an electric current.—*Le Rucher Belge.*

The bees gather honey dew chiefly at the base of the leaf stems. The honey from that source is of a greenish-brown colour, very thick, and of a peculiar strong taste. It is not obtained every year. It is found on fruit trees only when the crop of fruit will be absent or very short. This honey dew is formed by the materials which ought to have filled the fruits. When there is no fruit to fill, these materials exude chiefly at the base of the leaf stems. They contain a small proportion of sugar, but are chiefly formed of dextrine. The dextrine is a gum very similar, chemically speaking, to the different fruit sugars. The bees gather it and transform it into honey in the same manner in which they transform the nectar of the blossoms. However, the transformation is not complete. A portion of it remains unchanged, and it is that portion which gives the honey dew its particular consistency."—*Le Rucher Belge.*

Some years ago I made some nuclei, after an American model, from bees and combs taken from several hives, and I dumped down each nucleus lot in a corner of the garden in close proximity to their old homes. I was just leaving home for a holiday, and could give them no care or attention to see that bees sufficient to carry them on, remained, so I adopted the American plan of stuffing the entrance with fog or moss, pressing it just so tightly that it would take some time for the imprisoned bees to obtain egress by eating their way out. This had the desired effect, and the imprisoned bees took to the new location as if they had never known any other, and the nuclei became strong lots, without any watching whatever.—*Exchange.*

Instead of putting bait-sections in the centre, you put them "next the super walls." So should I if I had enough of them. But I have only a limited number, and one bait in the centre, I feel confident, will do more to start work in the

super than eight next the super walls. If no bait is in the super the bees will begin work first in the centre, and a centre bait will be occupied sooner than a bait elsewhere.– "A. Bee Journal."

The practice of "putting new sections on top of sections instead of under them." I say always under; only when I don't know whether another is needed, but think possibly may be, then I put an empty super on top as a sort of safety-valve—oftentimes a pretty good plan toward the close of the season, when one doesn't know what day the flow will cease. Such a super will not be touched by the bees unless they are actually crowded into it, and it can then be moved down to the lowest place. The little darkening done to the lower sections by the bees going up through will on the whole do less harm than the gluing and soiling of sections put below when such sections are not needed.—"A. Bee Journal."

Take care of your combs of pollen. It is possible that there are places where such a comb is of no value, but in most places where a surplus of pollen is stored at one time, there will come other times when the bees will need it, and a pound of pollen may at times be worth more than a pound of honey.—"A. Bee Journal."

For a complexion lotion, to soften the skin, wash the face two or three times a week with the following preparation: Glycerine, 5 ounces; lanolin, 5 ounces; clarified honey, 5 ounces; rosewater, 1 ounce; elderflower water, 1 ounce. Put the glycerine, lanolin and honey in a double boiler. When they are well mixed add the rosewater and elderflower water. Shake well and bottle. When applying to the face use a linen pad or soft cloth.—"A. Bee Journal."

Four tablespoonfuls extracted honey, two tablespoonfuls finely chopped pecans. Mix the two ingredients. Split soda biscuits, hot or cold, butter them and fill with the mixture. The biscuit should be baked not over half an inch thick.

Mr. Richards, of Amsterdam, Belgium, undertook to keep one colony of bees in the city. There was no other available place but the very low attic of his house. He was compelled to place the entrance at the top. A little later he moved to the suburbs, took there his colony of bees. The entrance remained where it was—that is between the brood-nest and the supers. Another colony was bought, with the entrance below as usual. The first colony, with the entrance above, gave every year during three years a large amount of surplus, once as much as five supers (about the size of the supers used by the Dadants) and never offered to swarm. The other, during these three years, gave about one super every year and swarmed in spite of all efforts to prevent it. After that Mr. Richards changed also the entrance of the second hive, and from that time he obtained from it the same result, as he did from the first; that is, no swarms, and from each about 200lbs. of extracted honey every year. The only inconvenience is that the bees are unable to keep the bottom of the hive clean and it must be cleaned occasionally. A second entrance at the bottom might be put in, and opened occasionally. For the winter it might be better to close the top one and leave the lower one open to avoid loss of heat.—*Revue Internationale.*

When a honey flow is on the frames in the super may be placed a distance apart. A ten-frame hive may have only eight or even seven frames. There is a saving of time for the apiarist in handling, uncapping and extracting a smaller number of combs for the same amount of honey. And finally, the queen will never lay in such deep combs and the bees never deposit pollen in them.

A simple but very effective remedy for stings of any kind.—When stung, pull or rub out the sting, then place the bore of a key exactly central over the spot, and bear down hard. After, say 30 seconds, take off the key, which has left a deep ring around the wound, and a tiny drop of yellowish fluid standing over the wound; and this is the end of it.

GOSFORD.

J. J. PARRY, ERINA.

Well, I'll have a very fair season, exceedingly good in quality, but not too too large a crop. I don't see much fresh to write about. I see over in Victoria they still get losses with their bees in the spring. Having never experienced anything like it myself I can only form an opinion on the reports of others. If I say anything or make a suggestion I'll have some of them after my scalp. I am quite aware that one is apt to magnify the importance of his own work, it is he who is doing it, and knows better than others that has not seen or experienced it. Quite possible; but we must bear in mind that we get certain fixed beliefs and adopt certain methods, degenerate into a routine, and before we know where we are we get into a rut. Then I believe our judgment is impaired.

When this loss, which has occurred over a series of years, continues, then I say there is a permanent change, if not in the whole, in many minor ways, which causes the loss. Does the season influence it? I think it does, because they die off at that particular time.

As time goes on districts are altered in many ways. Old sources of food are giving out and new ones taking their place, etc. All these things tend to alter the vitality and characteristics of the bee. If one gets a loss don't replace them with bees from another district, but breed from the bees that lived through the bad time. Conditions perhaps, in some places do not alter or produce any marked change, but in others it does. Changed conditions demand a new adjustment, and until that stage has arrived you cannot expect any good result. A Merry Xmas and a Prosperous Season to all.

That Sorrowful Letter.

We have great pleasure in publishing the following letter, which does infinite credit to the good heartedness of the beekeepers of Western Australia:

Claremont, W.A.,
Nov. 5th, 1904.

E. Tipper, Esq.,
West Maitland, N.S.W.

Dear Sir,

I am enclosing the sum of 21s, being part private subscription and part voted by my Association to be handed by you to a person in distress, case reported in "A.B.B" Beekeepers in this State regret that one in our fair land should so feel the pinch of necessity, but we can only hope for the best and ask you to convey to our unknown friend our practical and human sympathy. Hoping that we will never again be made to feel that one of our industry is in want.

Yours faithfully,
WALTER K. POTTER, JUN.,
Hon. Sec.

PRICES OF HONEY.

Maitland Mercury.—Honey, 1d to 1½d per lb.; small tins, 1s 9d; large tins, 8s 6d.

Melbourne Australasian.—Honey and Beeswax.—Business in honey remains dull. Choice samples are quoted at 3d., and cloudy and dark lots down to 2¼d. Beeswax is quoted at 1/3.

Melbourne Leader. — Honey. — Prime clear garden samples are selling at from 2¾d to 3d; medium and discoloured at from 2d upwards.

Garden & Field, S. A.—Honey, 1½d to 2d per lb.

S. M. Herald.—Choice liquid 2½d per lb., candied and good liquid 2d to 2¼d., inferior 1d to 1¾d.

Tamworth News.—Honey—Choice liquid 1¾d to 2d per lb.; good, 1½d.

CORRESPONDENCE.

Mr. J. S. Cary, Corowa, writes:—The bees about here have been swarming pretty well, but knocked off suddenly a week or so ago, and now hang around to rob if they get the chance, so it looks as if there is nothing coming in. The yellow box ought to be in blossom but there is very little within 2 or 3 miles of here so its not much use. The red gums show buds well, but after last year it doesn't do to depend too much on them. I read with interest Mr. Ferguson's letter, who is a friend of mine. I cannot agree with him about the over-production business, my experience being all the other way. He mentions the fact that N.S.W. was a free-trade colony before federation. That was a fact as far as honey goes, as I well remember Victorian beekeepers coming over here and cutting down prices, and selling for less than they would take in Victoria, while I could not send any there without paying 2d. per lb. duty. Again, take up an old paper and compare Melbourne and Sydney prices for honey. I know, of course, that it was dearer in Victoria, because I have bought it there. Of course there are two sides to every question, which discussion helps to bring out.

R.S., Parkes, in sending his subscription to the B.F.A., says:—There is a matter which your Association might be able to deal with, viz., civil servants engaging in beekeeping and competing with those who are fighting for a living, and who take part in providing them with a regular salary, which they receive without the necessity of fighting for it. There is a lady school teacher here who is selling both bees and honey, and hives also. I don't know if this comes under the business of the Association, but I think it is a matter which it would be well to do something with.

[The Annual Meeting of the N.S.W. Bee Farmers' Association will be held as usual at Easter at Sydney. It is to be hoped that members will try their best to attend. The Secretary, while thankful for the confidence reposed in him of the various proxy papers—he has never solicited them for himself, as every member can give his proxy to anyone he knows will be present—would much rather see a good attendanee, and let each member advocate his grievances himself.

R. H. J., Moss Vale.—Bees have had a bad time the last three years, but promise better this year.

J. J. H., Brogo.—Last year was the worst experienced for honey about here for six years. My bees only gathered sufficient to carry them through the winter, and this year has not been much better so far. There are bush fires in all directions and rain is very badly needed. Can you give me any practical remedy for destroying ants? The ground about my hives is literally covered with them and they are a great nuisance. Do you know of any reliable way of uniting two or more swarms which will at all times be successful?

[The best way to deal with ants is to dig a hole in the centre of their nests, and put either kerosene or bisulphate of carbon in same. The latter should be covered up immediately it is poured in. The fumes sink and destroy all larvæ. A plentiful distribution of camphor is recommended by some. For uniting swarms get a fresh hive and place midway between the two to be united. Smoke both and then place frames alternately from each hive in the fresh hive, keeping frames with larvæ together.]

The honey producer is much at the mercy of the metropolitan commission agent. We suppose human nature, with its selfishness, is much the same everywhere.

I have a clipping trick that I used some last year, but it is too much bother. When I find the queen I lay the comb down on top of the hive, and carefully pick up the queen near her head, with the thumb and finger of my left hand, and with my jack-knife in the other hand place the point of the small blade under one of her wings and press my thumb down upon it. The work is done in much less time than it takes to tell it.

We used to keep an impervious enamal cloth over the top of the combs during the

winter, as we do in summer, but during one winter we lost a large number of colonies, and in nearly every case the bees were literally drenched by the moisture that had been produced by condensation and subsequent thaw. The colonies that came out safely were those in which the enamel cloth was imperfect—had been gnawed by the bees so as to allow the moist air to discharge its moisture into the warm covers of chaff or leaves placed over the cluster. In every case where the cloth had remained impervious to the moisture the bees had suffered, while in almost every case where the moisture had been able to pass up into the upper story the hive was in a healthy condition at the end of the cold weather. So, since that time we have made it a practice to remove the impervious ceiling and replace it by straw, or wool, or leaves. In the winter just past I have been informed of several cases of failure, where the bees had been destroyed by too great a condensation, which, in thawing during the first milder weather, had dampened the combs so that the bees had died.—(*Exchange.*)

[We use ruberoid, but always leave a small space around.]

The Characteristics of Bisulphide of Carbon; How to Burn Brimstone in Fumigating Combs.—We notice you say you cannot detect fumes (sulphur) from bisulphide of carbon. Just take a spoonful and pour it in a teasaucer. Take a match and light it, and hold it about an inch over the bisulphide of carbon. It will take fire something like gasoline. The fumes will be of sulphur. Bisulphide of carbon is half pure sulphur, the rest is carbon. I think the bisulphide would run an auto, but of course the sulphur would be detrimental to iron-work of the machine. We used bisulphide of carbon years ago for brimstoning honey, in the same way sulphur is used, by burning. We now prefer the brimstone. Brimstone is much cheaper. The only reason we used bisulphide was on account of its being so easily lighted. We can now set brimstone afire and it will burn till all is consumed. If you try to set it on fire in an earthen or iron vessel with simply a match it will go out every time, for the reason the iron conveys the heat away so fast. To burn stick brimstone with only the aid of a match, take a board about 7 in. square and nail on a rim ⅞ all around, so as to make a sort of shallow dish. Now set it on fire on the dish side. This can be done with kerosene. After it has burned some time, so as to char it, the fire must be put out. Lay away till cold. The dish is now ready. Take common stick brimstone and break it into pieces about the size of walnuts. Brush some of the small fine pieces to the middle. Take a piece in the hand. Hold it near the dish over the small fine pieces. Take a match and strike a light, holding it under the piece you have in hand. The sulphur will melt and drop on to the pile of small pieces of brimstone, and will be alight. Build the larger pieces of brimstone around this so the heat will melt them. The brimstone will all burn up. The board will last for several burnings. I used one an entire season, and have it yet. Set the board, of course, inside of a pan or kettle. Try this if you have any brimstone.—F. A. Salisbury, in *Gleanings.*

The United States is not apparently doing very much at either exporting or importing. Self-contained country as to bee-products. Official price of honey pretty low in 1902—33/⅓ cents a gallon—less than 3 cents a pound. Improved in 1903 to 40 cents a gallon—still quite a bit below 4 cents a pound. The movements in honey for the two years nearly balance, 136 car-loads coming in and 143 car-loads going out—providing we call 20 tons a car-load. But of wax we are evidently importers, the exports being incidental. One train of 23 cars would bring in our two years' import of wax, of which we would keep 18 and send 5 out again.—Hasty in *American Bee Journal.*

In the early spring, when all the bees are anxious to get some brood hatched out, it is much better to tuck the little ones up snugly and abandon them to

their fate until such time as the large, strong colonies have plenty of hatching bees; and then instead of giving the little colony more brood to care for, just take a comb from say two strong colonies, that have plenty of hatching bees jar the frames, or give a gentle shake to cause the old bees to take flight, and then with a feather or suitable brush, brush the young bees into the weak colony, leaving its brood-nest intact, and return the combs of unhatched brood and eggs to the colony from whence they were taken. Then see how the little colony will spread its own self under the stimulus of a quart, or even less, of young bees, and they will put the brood where they can better care for it than it is possible to give it to them. The trouble is, there is a much smaller per cent. of the brood hatching than the novice thinks there is, and a cool night leaves it sticking out of the cluster and it is lost.

JAMAICA HONEY IN DUBLIN, IRELAND.—Bearing a handsome label with instructions for liquifying, and an interesting disquisition on the digestibility of the contents, we observed a row of nickel-capped one-pound bottles of Jamaica honey in the window of a Dame Street shop recently. We entered and asked for one and were charged 9d. This honey has been offered to us at 17s. per cwt. in barrels of about 3cwt. each. The appearance is good, and the article would probably have taken first prize at any Irish show where the judge did not taste, and at some shows where he did, for most of the run honey shown this season had never made the acquaintance of a ripening tin. It bore every evidence of having been squeezed from the combs late on the previous evening.—WEEKLY TEACHER.

Weak stocks of bees have many enemies. Strong stocks few.

It is the custom in many parts of France, according to *Gazette Apicole*, when a farmer dies, to stop all kinds of work and activity on the place as much as possible, even the horses being given a rest. It is believed that bad luck will follow if some such respect is not paid to the defunct. If he was a beekeeper, it is customary, in some parts, to strike on the hive three times, and tell the bees that such a one is dead. In the valley of the Hem they use this formula: "Awake, little creatures of the good God. A great misfortune has just happened. Your master is dead." After the burial the bees are informed of it, which are then at liberty to pursue their wonted work. Such a superstition is mild when compared with some that were rife in England in old times, one writer in Butler's Feminine Monarchy, printed in 1609, telling with all seriousness how the bees built an altar and celebrated the Lord's supper.

The question is, "Will the bees, of choice, select too old larvæ?" not "Will they use too old larvæ when nothing better is to be had?" I'd like to have you try this experiment: Unqueen a colony, and, five days later, give it a frame of young brood, and see if further cells are started on the old brood. But I know a trick worth two of that, which I have used successfully right straight along. Keep your breeding queen in a nucleus with one or two frames of brood, and bees enough to cover as many more. Give successively frames with slight starters, and, when nearly built out, or more than half built out, and filled by the queen, take and give to a colony from which one comb with the queen has just been removed. You know the preference the bees have for cell-building on new soft comb, so the cells will be nearly all started on this new comb—scarcely a cell on any other—I had 40 cells started on one such comb. Now, I can't tell you why, but the important point in the case is that the bees do all their starting at the beginning, and no cells are started when young larvæ are no longer present. Possibly the explanation is this: The bees find this beautiful soft comb so much to their taste, so easy to handle for cell-building, that they start at once all the cells that they desire, and have no wish to start any later. *Is there any proof that*

bees, of choice, select larvae too old when younger larvae are present.—*Gleanings.*

W. O. Victor gives in Gleanings in Bee Culture the picture of a frame of brood which contained by close calculation 8200 cells of sealed brood, and this brood was all hatched within about two days from the time the first hatched.

A writer says: I would like to say for the benefit of some of the people who have been trying to hatch chicks in bee-hives, that they do not go at it right. They should fill the hive about two-thirds full of straw, chaff or dirt, make a nice, comfortable nest for the eggs, and, last but not least, place on top of the eggs a nice, quiet, broody hen! I prefer an 8-frame hive, but a 10-frame will answer fully as well.

To the question, why boarding house keepers don't put honey on their tables, the *American Bee Journal* replies, I can only make a guess in the case, and that is that they don't want the expense. If the boarders eat just as much butter with honey as without it then the honey is an extra expense. Another thing: When honey is not put regularly on the table, but put on just as a rarity, very likely a section melts away so rapidly that the boarding house landlord thinks he never could stand it. If it were on the table at every meal, they would hardly eat so much at a time.

Among the forest-trees of the tropics there is no end to the nectar yielders; but neither myself nor any other person or legion of observers could in a generation even approximately tabulate them. It may be asked if nectar-yielders are so common in the tropics, why do we not secure immense yields? During the greater part of the year it rains so incessantly as to prevent the bees from getting sufficient for their actual wants, and with a warm temperature their wants are great; hence feeding is sometimes necessary. When the dry season arrives, however, the tables are turned; and with the forest one vast mass of flowers it literally rains honey. It must not be supposed that, because there are no beekeepers, there are no bees. On the contrary, stingless bees in countless numbers people the forests and fertilize the seed; and as they resist wet-weather conditions better, they hold the field. If the torrid zone ever becomes a great honey region it will be by domesticating one or more of the stingless bees inhabiting the region. He will be no amateur bee-man who effects the conquest, and his name will appear on the list of immortals high above Reaumur, Huber, Langstroth, and Dzierzon; for if we consider the extraordinary extent of the tropics it will be evident that the production of honey might be fabulous in amount. However, this much does appear; and it is a matter for the greatest jubilation that many of the most celebrated tropical forest trees are really large nectar yielders, excelling the finest trees of the temperate zone.—*Gleanings.*

There are so many best ways of introducing queens that it is hard to say which is best. Besides, even the best of the best ways is likely to be a failure sometimes, for bees are freaky things. There is, however, one way by which you may be successful without fear of failure. Have some combs of hatching sealed brood—one way of getting them ready is by putting combs of brood mostly sealed over an excluder for eight days or more. Put these frames of brood in a hive without allowing a single bee with them and put in your queen, closing up bee-tight, and keep in a warm place for five or six days. Then set the hive on its permanent stand, leaving the entrance for a few days, only large enough for a single bee to pass.—*Dr Miller.*

It should be understood, that bee-keeping is not an occupation in which one can easily become *wealthy*. In this respect, it is much like other rural pursuits. Rightly managed, in a locality adapted to the business, it can be depended upon to furnish a comfortable living, and perhaps enable a man to lay up a few thousands of dollars; but such fortunes as are sometimes amassed in merchandising or manufacturing can never be hoped for by the bee-keeper.

Fortunately, however, the perfection of a man's happiness bears but little relation to the size of his fortune; and many a man with the hum of the bees over his head, finds happiness deeper and sweeter than ever comes to the merchant prince with his cares and his thousands.—W. Z. Hutchinson, in the "Beekeepers' Review."

If there is one thing above another that I did besides carefully studying the bees and everything connected with them that led to my success, it was that I increased my stock *slowly*, and as I could manage them. If the season was poor I got what surplus honey I could, and let the increase go till a more favorable year, not attempting to increase by artificial means. If the year was good I would get my crop of honey and what increase I could. In this way I made them earn me something almost every year. It seems to me that I have known more failures in bee-keeping to come from rapid increase than from any other cause, and I don't know but more than from all other causes put together.—J. G. Crane in *American Bee Journal.*

If the combs are very old, you cannot get the wax out clean without something in the way of a wax-press. If you have nothing of that kind, and no solar extractor, you can do very well with a dripping-pan extractor. An old dripping pan (a new one would do) has one corner split open, and that makes the extractor. The dripping-pan is put into the oven of a cook-stove with the split corner projecting outward. The opposite corner, the one farthest in the oven, is slightly raised by having a pebble or something of the kind under it, so that the melted wax will run outward. A dish set under catches the dripping wax, making the outfit complete."—*American Bee Journal.*

Sometimes bees get that disagreeable habit of following one around from one hive to the next, flying around the backs of the hives with head and body slightly elevated, abdomen down and dabbing at any crack in the hive and back again alternately. Also they are always ready to help themselves to any honey or syrup which you may be intending to place in some particular colony. When they act like this, if one keeps on working, taking each colony in regular order, they are going to make trouble; but if you skip some colonies and go to another part of the yard you can sometimes work quite a while without being bothered.—*Exchange.*

Drones are of very little use in any case for warmth. They are there during the warmest weather, most numerous when the hive is so warm that the bees have to cluster outside. If there is a lull in the warm weather—if the wind turns to the north and the crop stops—the first thing the bees will do will be to chase those drones and drive them away, unless the colony is queenless. In this very changeable climate we probably notice this oftener than they do in more equable climates. I have no doubt that my readers have all seen the drones driven out, more or less, a few days before the opening of the crop, when their warmth would be of no use if ever. When God wants to reduce the number of drones produced, we do not contradict Nature. There is no fault to be found with the excessive production of drones, in a state of Nature. Since the queen mates in the open air, she must necessarily run many dangers. It is therefore necessary that drones exist in great numbers in order that she may mate readily. But the drones of half a dozen hives will sufficiently fill the air in the vicinity of the hives containing virgin queens to supply as many as needed for a hundred colonies. We are no more to be looked on as finding fault with Nature, when we seek to prevent the production of drones, than the farmer who castrates his boar pigs, his colts, his calves. "God does well what He does." But we would bring a very broad smile on the lips of the most rigid Presbyterian if we were to try to convince him, that for that most excellent reason he must preserve all his boars, his stallions, and bulls.—C. P. Dadant.