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West Maitland, N.S.W.: E. Tipper, August 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 5.

AUGUST 29, 1904.

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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.

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THE AUSTRALIAN
BEE BULLETIN

A MONTHLY JOURNAL
Devoted to Beekeeping —
Circulated throughout the Commonwealth of
Australia — New Zealand & Cape of Good Hope

T. TIPPER
EDITOR & PUBLISHER
WEST MAITLAND & WILLOW TREE.



MAITLAND, N.S.W.—AUGUST 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.
The W. T. Falconer Manufacturing Co.,
Jamestown, N.Y., U.S.A.
L. T. Chambers, Franklin-St., Melbourne

Queen Raisers.

- W. Abram, Beecroft.
H. L. Jones, Goodna, Queensland.
E. T. Penglase, Fernbank P.O., Gipps-
land, Victoria.
T. Bolton, Hamilton, Victoria.
R. H. Jervis, Moss Vale.
H. Edwards, Kemp's Creek, via Liver-
pool, N.S.W.

Honey Tins.

- Chown Bros. and Mullholland, Ltd.,
Thomas St., Ultimo, Sydney.

Miscellaneous.

- A. Hordern & Sons, Haymarket only,
Sydney.
P. J. Moy & Co., 161 Sussex St, Sydney.
Corney & Co., 55 Clarence-St., Sydney.
H. Prescott & Co., 336 & 338 Sussex-St,
Sydney.
W. L. Davey, Station-St., Fairfield, Vic.

In feeding bees a little salt should be added. It tends to prevent disease.

Extracted honey in Cuba is said to often net the producer not more than two cents a pound.

The population of Australia is a little over 3,000,000, that of United States and Canada over 90,000,000.

Father Langstroth says years ago that a good stock of empty combs was the sheet anchor of beekeeping.

Kerosene poured into a hole in ant's nests, made with a crow bar, and then set alight, is a good way of destroying them.

The Atchleys get orders for bee stings 10,000 at a time. They have been supplying a medical firm for the last ten years.

In Algeria, in order to prevent swarming, the entrance is closed, and another one is established between the body of the hive and the supers.

W. L. Cogshall, said to be the prince of American beekeepers, says that: With but four exceptions his twenty apiaries represent someone who has become discouraged at beekeeping.

PHACELIA TANACETIFOLIA.—As the re-sult of a large number of observations collected, the "Praktischer Wegweiser" reports that the overwhelming evidence shows phacelia to be a honey-plant of the highest value, but views conflict as to its value for honey.

The lucerne or alfalfa growers of one of the American States are threatening beekeepers with a suit at law, because the bees are robbing the alfalfa of valuable material in gathering the nectar, and thus injuring the farmer who produces the hay.

J. H. Chambers, says in the "Southland Queen," that the dumb driven crowd had at all times followed leaders, and that the Langstroth hive had largely been manufactured and sold by powerful firms, with agents and dealers all over the land, its extensive use was due more to that fact than to any advantage or superiority it really possessed over other sizes and forms of hives.

Sheep can be used for keeping grass down in a bee-yard, but there should be no foliage or low shrubbery which it is desired to preserve, for them to get at. A sheep will eat almost anything green. He likes variety, and will nibble at choice shrubbery, especially grapevines. [In our yards there are a number of poddy calves, but they knock the covers off.]

A SORROWFUL LETTER.

In response to the heading "A Sorrowful Letter" in our last, "A Friend" has set a noble example by forwarding us £1 on behalf of the widow, which we have forwarded her. We shall be very pleased to receive and forward further contributions for so worthy an object. It is a real genuine case of a hard life battle.

Mr. E. Tipper,

Dear Sir,—I have this day received your letter, with cheque in from Mr. ———, for £1 ls. I cannot express my surprise and thankfulness to the Almighty for sending me help. I had no idea whatever of anything of the sort when I wrote you before; in fact you will have to take the will for the deed, as I simply cannot tell you how thankful I am. I can only hope that you or yours may

never stand in such need as myself and my children have done. It was all the more surprising, as I am a perfect stranger to you, but if you care to write to the Colliery Manager, or Dr. ———, they can tell you just what sort I am, and the fight I have had since my husband died three years ago. I was left with eight of a family, the eldest daughter married, my eldest son a delicate boy 17 years of age, and the youngest 12 months. My family are all more or less delicate. I spent the last money I had in cattle after my husband died, and the drought killed the most of them. After that I went into ——— and took a small shop. My boy had the cart and went dealing, but he got such bad health I had to send him back, and then take what I could get for the shop and go back with the others, or they would have been all sick. Since then only God and myself knows how I have had to struggle to keep things going. I may tell you that up to going ——— four years since, I had never handled bees, horses, or cows. I have 20 colonies of bees, but since the drought I have only got 175lb of honey from them. I am hoping to get some this season if bush fires do not start. My late husband was a miner, he worked at ——— Colliery for 14 years prior to going to ———. May the God of the widow and fatherless shower every blessing on you, is the earnest prayer of yours sincerely,

P.S.—I am writing to Mr. ——— to-night, thanking him as best I can, but I can never thank you or him enough for what you have done.

IF H. R. G., on page 109, knew the state of the honey industry in other parts of the world, he might think a little. To our reading there is not a part of the civilised world where enterprising supply dealers can get to that there are not plenty of beekeepers, and honey as well. As to foreign markets, has not the trial been made again and again? Have

not private individuals made various attempts? Did not the Sydney Farmers' Co-operative make a big effort some two or three years ago, with serious loss to quite a number of beekeepers? Has not the Victorian Government been giving bonuses for exportation of honey?

Yes! And after reading the working of the butter bonuses at the Royal Commission, it would be well to study this matter too by beekeepers. And yet look at the glut now both in Sydney and Melbourne. Are all Commission Agents devoid of intelligence? Are not Roots and other American supply dealers pushing their wares, and missioning beekeeping everywhere—in all parts of the globe? Is not Canada doing her best in the English market, with her clover honey and closer communication? The various English and Irish Beekeepers' Associations are constantly complaining of the importation of *foreign* honey! Are there not thousands and thousands of beekeepers in every one of the European countries? What about Northern Africa and Asia, where beekeepers were thousands of years ago? How about the West Indian Islands? Jamaica honey is sold in England at under 2d per lb. Honolulu and the Fijis are stocked with American sage honey. People will not take honey in preference to butter, and one of the reasons honey is such a glut now is the low price of butter.

What is the remedy then? To watch and shun those supply dealers, who would boom the industry in order to make more beekeepers and sell more hives, &c., and let the beekeepers have less to say about the wonderful profits there is in beekeeping. Does a country storekeeper tell all the world how much money he makes a year? Would he not soon get plenty of opposition? *There are* plenty of beekeepers in Australia at the present time to supply our own market, and export too, if the markets could be found. Look after that bonus too, and try to get your share. Australia has only a population of a little over *three* millions. North America has over 90,000,000. If this

advice is adopted things may rectify themselves in time. And those who have made homes for themselves with the idea that beekeeping would keep them and their families, may then, we hope, have some peace of mind as to their future.

PUBLICATIONS RECEIVED.

We acknowledge receipt of copy of North-West Poultry Journal published at Salem Oregon, U.S.A. It is a first class got up periodical of 40 pages, reading matter and Illustrations all up-to-date. 10 cents will get you a sample copy. And the subscription is 75 cents per annum.

We acknowledge receipt of Fourth edition of Mr. Isaac Hopkins' Australasian Bee Manual. It is smaller than the Edition issued some years ago, but contains 162 pages of up-to-date matter. The previous edition was published at 5/- the present one at 2/6. It is very nicely got up, the printing and binding being first class. Mr Hopkins is a practical beekeeper of many years standing, and so all the information can be relied on as thoroughly practical. We shall be pleased to supply any one with copies who desire such.

We acknowledge receipts of copies of new American Bee Journal, The Rural Beekeeper, published by W.H Putmann, at River Falls, Wisconsin. It seems a well got up and well edited journal, containing a lot of interesting bee news.

We acknowledge receipt from Messrs. Fitchett Bros., of a copy of July number of "Life," issued by them. The chief feature is an illustrated article on Paderewski, the celebrated pianist, now in Melbourne, and another illustrated article, "How a great newspaper is run."

We beg to acknowledge receipt from the editor, the Rev. J. G. Digges, M.A., a copy of "The Irish Bee Guide, or Manual of Modern Beekeeping." It is a beautifully got up work, containing 240 pages, well illustrated, not only with all essential matters relating to the working among the bees, but excellent photos of

the author himself, and the leading members of the Irish Beekeepers' Association. It is a very readable, instructive and interesting book. The price is 2s. The work is divided very properly into three parts, the first of which deals with the life of the bee, the second with hives and appliances, and the third with modern bee-keeping. The author has kept to the object he had in view and does not wander into extraneous matters. All the information that it gives is clear, succinct, and easily understood. In reviewing it the "Killarney Moderator" says:—"We are glad to learn that in accordance with the new spirit which is now creeping up in the country of making a start in industry by purchasing our own goods first, in preference to those of a foreigner, that the paper, letterpress, and binding are all produced in Ireland, and the moderate price of 2s enables the volume to be purchased by beekeepers of even the most moderate income." Should any of our readers desire a copy of same, we will send for it on receipt of 3s for payment, and postage.

An article on "Beefarming" by Mr. W. Ager, unavoidably held over till next issue.

We would call attention to advertisement elsewhere, that Mr. C. J. Manning has taken over the old established hive manufactory of Mr. R. K. Allport, at Cluter-street, North Sydney. He has secured up-to-date machinery, and is prepared to pay immediate attention to all orders.

If you want a bed of beautiful blue flowers resembling heliotrope, on which the bees shall tumble over each other, it is not yet too late to sow *phacelia tenacetifolia*.—"Gleanings."

Mr. Jesse Warren, who has charge of Roots' retail-honey department, has developed a plan by which honey that is candied solid in square cans may be removed bodily, cut into one-pound bricks, and wrapped in waxed paper just as a grocer wraps up bricks of creamery butter. His *modus operandi* is this:—He takes

a can of honey that he *knows* is candied *solid and hard* to hold its shape. He then takes a pair of tinner's snips, cuts the tin down the sides, and then pulls it off from the cake of honey. He now takes a piece of iron or steel wire, about No. 20, or a small strong fishline a yard long. To each end of this is secured a wooden handle. The cake of solid honey is laid on its side on a board, when he slips the wire under the cake, back, say, two inches. He draws it around the cake, crosses the two ends of the wire, grabs the handles, then pulls slowly, when the wire passes easily and nicely right through the whole cake. A paddle or thin-bladed knife is then inserted in the crack where the wire passes, cleaving a slab of honey two inches thick, the size of the top of the square can. Another slice is taken off in a like manner. These slabs are then respiced the same way into one pound bricks. They are next wrapped in paraffine paper. Another paper wrapping with suitable label, and directions how to handle, makes a very neat and pretty package that costs almost nothing. The only expense is the sacrificing of the can. But this is offset by the saving of the labor of melting the honey to get it out, and then recandying after it is poured into paper bags.—*Gleanings*.

Honey is largely used in the manufacture of many articles of food because of its wondrous preserving qualities; cakes, for instance, will never become hard or dry if honey enters into the mixture; beer is more quickly fermented and tobacco is better packed in plugs when honey is used. Aside from that used in packing food products and in the preserving of fruits and confections, there are food qualities in honey pure and simple which have been acknowledged the world over for centuries. What seems to be most lacking in the handling of honey is its proper placing before the consumer in neat, inexpensive packages and the pushing of sales through judicious advertising. If such a sweet as corn syrup can be profitably moved in this manner surely honey has a most brilliant future.—*Exchange*

PRICES OF HONEY.

Maitland Mercury.—Honey, 2d per lb.

Melbourne Australasian.—Honey and Beeswax—Honey is selling at 3½d. for prime, and down to 2½d for cloudy and dark lots. Beeswax is worth 1/2.

Melbourne Leader.—Victoria retail market 3d. to 6d.

Garden & Field, S. A.—Clear extracted 2½d to 2½d per lb., dark and inferior 1d to 1½d.

S. M. Herald.—Choice liquid 2½d per lb., candied and good liquid 2d to 2½d., inferior 1d to 1½d.

Tamworth News.—Sections, 3d, 60lb tins, 10/-.

The following letter is a reply from one of the largest commission agents in Sydney, to whom a ton of honey had been sent, with instructions not to sell it below 3d per lb.:—

Sydney, Aug. 11th, 1904.

M—

Dear Sir,—With regard to your honey, we regret that there is no prospect at present of securing threepence per lb. for this commodity, and, as it is inclined to become candied, we think that you would be wise in removing your reserve and allowing us to sell at current rate, which is ½d or 1d per lb. lower than the price you name. Butter has been so cheap throughout the winter that there has not been anything like an extensive demand for honey.

H. PRESCOTT & CO.,

COMMISSION AGENTS,

336 & 338 SUSSEX STREET,

—SYDNEY.—

Make a specialty of - - - -

HONEY AND BEESWAX.

—)o(—

- - - Prompt and Satisfactory Returns.

SOLE AGENTS PINEAPPLE BACON & HAMS.

QUESTION NEXT ISSUE.

Our leading article of last month, and Mr. Ferguson's opinion as follows:—

W. F., Bungowannah Aug 9th—I am surprised at your idea of raising the price of honey by decreasing the number of beekeepers. I maintain that we would get a better price if we produced a ton for every pound now produced as we would then be able to keep up a regular supply of uniform quality. The more beekeepers the better so long as they do not encroach on each others runs. A large increase in the production of honey might reduce the price for a while, but the reduced price would lead to an increased consumption, and also to a sound export trade.

See that your neighbouring beekeeper takes the "A. Bee Bulletin."

Echoes from Continental Journals.

(Specially translated for A.B.B. by J.R.G.)

STINGLESS BEES ONCE MORE.

There is mention made at times in some of the apicultural reviews of stingless bees. Certain timid beekeepers are delighted to know that one or other of their *confreres* have actually tried them, and they hope to soon be able to stock their apiaries with them. Recently we have again read that an investigator dispatched to South America by Mr. Root was announcing that he had discovered in Venezuela a race of stingless bees of the size and shape of the ordinary hive bee, and of a beautiful light golden colour. In another journal we were reading lately that the colony of bees of this race which was sent from Brazil last Sep. to the editor of the *Bienen Vater*, of Vienna, had perished in the month of January, despite indefatigable endeavours to surround the hive with temperature like to that of the climate of their original *habitat*.

All these references no doubt relate to the genus of bees known as *Melipones* (*apis melipona*.) But do not let us forget that if these insects have no sting, they yet know how to defend themselves in another fashion. They employ their powerful mandibles to ferociously bite enemies. In Central America varieties exist which bite so savagely, and with so much fury that they are to be feared quite as much as the most spiteful Cyprians or Italian hybrids—in fact the natives of these parts maintain that these bees *sting*, though proof of their being *minus* stings is indisputable.—*L' Abeille et sa Culture*.

A NICE POINT FOR THEOLOGICALS AND JURISTS. A BEE-TREE.

Apropos of swarming, a curious case presented itself here (the Department of the Loire, France) towards the end of the winter. Last year an individual pursued a swarm which came out of one of his hives, and witnessed it entering the hollow trunk of a chestnut-tree, and not being able to withdraw the bees from their new domicile, withdrew himself and left them there. The owner of the chestnut-tree sold his tree to a cabinet-maker, and the workman whom the latter engaged to fell the tree re-discovered the swarm of the preceding year living therein, and transformed into a powerful colony, with a rich store of honey. To whom should this treasure-trove belong?

The difficulty was quickly resolved by the workmen, who seized the honey, killed all the bees they could, and left the remainder on the ground, where they were speedily covered by a fall of snow. Stupidity and barbarity! But that is not the point. That evening, in different fireside conferences, the question of rights in the case was keenly discussed. The original owner of the swarm maintained that he could have reclaimed what he was pleased to call his property. The seller of the chestnut tree objected that the swarm, not having been taken away at the time, it had become an integral part of his estate. The cabinet-maker, the acquirer of the tree which had turned out

to be a bee-hive, affirmed that his contract of sale included both the tree and all contained in it, and that therefore the bees and their honey in all fairness belonged to him and to nobody else. Finally, the workmen who had felled the tree concluded: "It is we who found the treasure, so it is legally ours."

Who was right, and how should law and conscience decide it.—J. M. G. in *La Revue Eclectique d'Apiculture*.

SHE LIKED PLENTY.

(MIMI is about to commence her luncheon): "Mamma, give me a slice of bread with a lot of holes in it; it will hold more honey."—*Petit Almanack des Abeilles*.

THE HUMOURS OF ADVERTISEMENT IN A LEADING GERMAN BEE PAPER

"Whoever can prove that the honey from the firm of So-and-So is injurious to health shall receive, *gratis*, two kilos of the same." (One kilo is equal to about 2½ lbs. English.—Translator.)

—*La Revue d'Apiculture*.

VICTORIAN APIARISTS' ASSOCIATION.

R. BEUHNE.

THE RECENT VICTORIAN CONVENTION AND WORK FOR THE FUTURE,

Every one of the beekeepers present at our last meeting will perhaps agree with me that it was the most successful meeting we have yet had. Of course there will have been some little disappointment to one or the other of us even then. There always was, and there always will be, something left to be desired. Personally I should have liked that we could have given a little more time to some of the subjects of practical bee-keeping. There are many who look forward to the annual meeting as a means of enlarging their knowledge on some point or other, confirming theories and picking up new ideas. Considering the amount of debatable matter of a financial and organisational nature that had to be dealt with, I think we have made good use of the time at our disposal. On

future occasions we hope to be able to dispose of purely routine business in less time, and to devote a little more to instructive matters of practical apiculture.

In connection with the increase of the annual subscription, I have heard of one grumble by one who wasn't there. Some people's idea is that for 10s. paid they should receive 10s. worth (or more) of something or other. If people of that mind would reflect a little they would see the absurdity of their idea. Do we always ourselves receive a quid pro quo for money paid away? Some of us pay into lodges, fire or life insurance, etc., and yet who would grumble because he was never sick, didn't get burnt out, or died?

Then someone else thinks we should have had a credit balance. Well, the Association is not a savings bank. The subscriptions are paid in to be expended in furtherance of the objects of the Association, and incidental expenses of running it. No calling worthy the name exists without organisation, even agriculturists are now uniting for the protection of their interests.

Personally I have been in all beekeepers' organisations, and attended all annual and many other meetings since 1892. If I were to reckon up all the money expended in this connection, together with time lost in attending to Association matters, and beekeepers' individual requests, articles in papers, etc., the total would look quite formidable. What have I had in return for it? In a direct and pecuniary sense nothing whatever. But I am not sorry. I am satisfied that it has all come back to me indirectly in knowledge and information useful in our calling; in the pleasure of having been able to be of some little use to others, and in the good will of fellow beekeepers.

The present is a critical time; individually we are powerless and unrecognised. Organised (still better than at present) and united throughout Australia, we can raise apiculture to a profitable, permanent and important industry. An outside mar-

ket for our product *can* be found, and will be obtained when once we can move the Federal Government to take the matter up in the right way. A State Government will do nothing, since any success would be shared by other States, and we have as yet no Federal Department of Agriculture. I would urge upon the different Beekeepers' Associations the necessity of working for the establishment of a Federal Department of Agriculture, upon members of Associations of doing their utmost, individually, to bring in outsiders, and upon all outside beekeepers the wisdom of joining us for the common good of all engaged in our industry.

In conclusion, a word to members. Don't think, because you have paid your subscription, large or small, that you have nothing further to do, and that the Executive and Secretary will do all the rest. They do all they can, but they do not know all the beekeepers, but you may know some and you may have more influence than a letter from the Secretary. I am doing my best, will you do yours?

CORRECTIONS OF REPORT OF ANNUAL MEETING.

Page 83, last paragraph, should read: "Dr. Cherry said he wanted pollen from different plants, and at different seasons of the year."

Page 83. "Carriage of honey—During the last year or so had not cased them," should read, "during the last *ten* years; and further on, "honey so sent, etc." should read "*boxes* so sent."

"It saved expense and freight, etc." should follow "and he had no leaking," (8th line from top of par.)

Page 83.—"Dr. Cherry said no other food," should be "no other *substitute*."

Page 87.—"The Director of Agriculture complained he had not received samples of adulterated honey." *Adulterated* should be left out, as it was not asked for.—R. BEUHNE.

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Claremont, N.S.W.—The queens arrived in splendid condition, and have started to lay.—W. H. Farley.

Vasse Road, Bunbury, West Australia.—I am pleased with the last queen you sent; there was not one dead bee in the cage. Please send six untested and one tested.—John A. Ayre.

Willow Tree, N.S.W.—The two queens I got from you worked up well and quickly. Unfortunately there has been no flow yet to test their honey producing qualities or their offspring, but I have no fear for them.—E. Tipper.

NUMEROUS OTHER TESTIMONIALS

E. T. PENGLASE,

NARRANG APIARY,

FERNBANK P.O., GIPPSLAND, Victoria

ON PARALYSIS.

[BY W. ABRAM.]

In conjunction with the following I wish to refer the kind readers to my articles on "Bee Study and Observation." in June to September issues, also to November and December issues on the above subject.

In a copy from "Gleanings" in the November number of the *A.B.B.*, Mr. Atchley holds that the cause of paralysis is an over production of chyle, that it is not a disease, that queens and drones are not affected by it, etc.

What Mr. Atchley thinks is chyle, is in my opinion not chyle, but an accumulation of food—refuse, which from some cause or other, deranges and endangers their healthy condition. The causes may be various: The hive may afford insufficient protection against cold for the comfortable cluster—the bees may be too few,—the food unsuited,—constitutional weakness,—changes in the weather, etc. In any such circumstances the bees may take more food than under proper conditions they would have taken, and this may cause trouble, and result in the complaint under view. But if chyle is not the cause, then neither stimulating, nor moving, nor disturbing them can occasion it, nor does it; stimulating by feeding, provided the food is proper, nor moving bees in winter is harmful, as far as I know. I have moved hundreds of hives several times in midwinter, and once had them closed in for six days, but no paralysis followed. The same applies regards disturbance. On the other hand if either of these facts caused the complaint then bees that are not stimulated, nor moved, nor disturbed, must remain immune from attacks of paralysis. Do they? If bees take more food than required for their subsistence they have either to soon disgorge it again, or it passes into their digestive stomach where it is assimilated by the body, or under favourable conditions for wax production it is formed into wax. Bees that have consumed an overplus of food when con-

ditions for wax production do not exist, are under a slight disadvantage, inasmuch as they then have to assimilate the food, but even that does not of itself tend to an overproduction of chyle for brood-food; but even if it did, then chyle, properly prepared of good food, as is the chyle fed to the larvae when very young, is not hurtful to the bees to cause them to suffer as they do from paralysis. Then again, drones do not prepare chyle, and—though Mr. Atchley may deny it—they suffer just the same as bees do should the malady exist, or appear, when drones are present in the affected hive. I am sure that neither drones nor queens are immune from the attack, though the latter less so.

On the other hand, again, if an over production of chyle was the cause, then the simplest thing out would be to remove the surplus of the "great nurses," and the trouble would be avoided. Or one could produce paralysis by simply removing all unsealed brood from a hive. This is often done, but does paralysis result? No, not if the bees were healthy before. Chyle, then, is not the cause.

The absence or scarcity of young brood is not the cause either, firstly because bees do not produce brood-food if it is not needed; secondly, there is usually more brood in the diseased hive than the bees can attend to properly, especially where the queen is a good layer. Therefore, if it cures the afflicted bees when they are given to a hive where "brooding is going on," why are they not cured in their own hive where they have brood? Because in the former case the bees of the healthy hive soon clear out every sick bee, whereas in the latter case there are not enough healthy bees for that job, as well as to attend to the other work also; the bees are too weak to look after the brood properly. I hold that it is not over-production of chyle, nor deficiency of brood, but rather the reverse, namely, scarcity of food-production, occasioned by unsuitable conditions. If now we can discover what causes these conditions and how to prevent them, we shall find a remedy for

the evil. These conditions may be climatic, constitutional, etc., or a combination of them, such as unsuitable food, etc.

Climatic conditions influence all things—why not the bees and the food they consume? Have you observed any difference in the quality of honey and pollen in the autumn, and again in the spring in a hive, that is, insufficient protection against cold and altogether unsuitable for the comfortable clustering of the bees in the winter? The honey, good in the autumn, is now either thick and candied, or watery; the former if sealed but not kept warm by the bees, the latter if much honey remained unsealed during the winter in the hive as stores and the bees were not numerous enough to cluster all over it—it absorbed much moisture from the atmosphere and may have started fermentation; and the pollen in open cells is covered with moldiness as are most of the combs outside the cluster. Under such conditions the bees feel uncomfortable,—the heat they produce by the greater consumption of food escapes and produces more moisture, which increases the discomfort, and ultimately the bees suffer badly. Is it surprising if they suffer? Or is this state of affairs so rare? Are they in the condition to produce good and plentiful food for their young?

Climatic conditions cannot be foreseen exactly, and they vary as other conditions vary, but we can adjust and modify natural conditions somewhat to our advantages and to some extent minimise the drawbacks. I believe that much of the trouble originates from some such causes, which in its progress result in disease.

That the ultimate effect is a disease has been proved by scientists who have found disease-bacilli in the intestines of diseased bees; it is further proved in practice by the fact that stocks in apparently excellent conditions become quickly diseased and are soon reduced to a mere handful of bees once the disease becomes fully established in an apiary. Its

destruction of bee life is enormous and widespread. It becomes, therefore, an infectious or contagious disease. This is more readily ascertained where the disease continues in summer as not infrequently happens, when queens and drones suffer likewise as bees. I have failed to notice any immunity from the disease as regards any variety or race; but I have found that in each variety or race some stocks possess greater resisting power than others.

To obviate the disease then,—breed from most vigorous stocks,—do not introduce the disease from abroad,—do not interchange bees or combs from diseased to healthy stocks, provide your bees with the most favourable conditions possible to their welfare. This is not an impossible task if you have studied the habits and requirements of bees thoroughly.

The first step in the right direction is the breeding for the fuller development of the desirable characteristics, and herein I cannot agree with the method of those who neglect desirable or necessary and natural traits for some gain in some other respects, proceedings which ultimately result in some such calamities as have befallen them that carried it too far.

The next matter for consideration is before the honey flow ceases in autumn. Then comes the preparation for their wintering, and again in spring when breeding starts anew, a re-adjustment of their quarters may be needed, if now all is well there will be little trouble about dwindling or paralysis. Some American beekeepers, if their writings are any criterion, by which I judge their actions, have in my opinion, grossly failed in some of these respects. The same applies where their teachings have been adopted.

Whilst the right space and food supply in winter greatly influence the results in next spring, it must be borne in mind that what suited admirably in one season may not suit at all the next. At one time the weather is mild and neither too wet nor dry, at another it is quite different, therefore the preparations need modification; but it is hardly ever wrong

if they have at least in early spring, the amount of combs they can just cover properly, they can then suit themselves better to any conditions prevailing, and they breed and work better in consequence, than in a large space.

Perhaps the uninitiated may like to know the sign or signs of the disease. In my opinion it varies in degrees, shortly thus: Firstly, some bees appear shabby looking and are being pulled about by other bees of the same hive, the lot has a lazy look about them, some seem to work, others not, progress becomes slack, the bees become less, and if you look about you will find them on the ground, on flowers and leaves, but inactive, their energy is spent and they never return. Secondly, some of the bees appear swollen and unable to move, others, likewise more or less swollen, try to fly out, but they tumble down in front of the hive, where they twist and quiver till they succumb. This stage is more dangerous than the former, because some of the bees die in the hive and are not carried out. On opening such hive you notice a sour smell and bee-excreta on hive and combs. Generally the older bees become attacked first, but as the disease progresses the young just hatched suffer likewise. I do not know of any sure remedy in such a case. But feeding with pure honey, lukewarm, in cool weather and half honey half water, with a little salt added, when the bees can fly in the day, will often give relief if the disease is not too far advanced, the feeding to be repeated and no more should be given as what the bees can carry up before it gets cold. This acts as a stimulant, warms the bees and hive and rouses them to greater activity, and the salt acts as a purgative. After a good cleansing flight there will be fewer swollen bees, if any, and if the conditions are, and remain suitable, the lot may recover; otherwise it is slight relief and the disease may re-occur, perhaps more severe than before and ending in total loss.

[P.S.—Since the above was written I notice Mr. Beuhne's on "Preparing Colonies for Winter," which indicate that the stand I always took and still hold begins to bear fruit, in that it finds support by others in contradiction to their former contrary views. I may further mention that one or two empty or partly filled combs in the centre between full honey combs are not a disadvantage provided the bees can cover them all completely; indeed they are valuable in early spring, as breeding would begin in them and that from near the top, which is far preferable to the brood beginning near the bottom, for here the heat escapes to the top. Though honey is a better heat retainer than empty combs I prefer a fair amount of empty cells, as if some honey can be gathered the bees will do it and then there would be no space for breeding. The sudden stoppage of the honey flow is the cause of stopping of breeding, in fact neglect of some of the brood, not the want of pollen, because it occurs just the same where pollen is plentiful.]

EARLY ENGLISH WRITERS.

I.—THOMAS HILL—1579.

By D. M. M., *Banff*.

A profitable instruction of the perfite ordering of bees, with the marvellous nature, propertie, and governmente of them: and the necessarie uses both of their Honie and Waxe, serving diversly, as well in inward as outward causes: gathered out of the best writers: By Thomas Hyil, Londoner. Imprinted at London by Henric Bynneman, Anno, 1579.]

The above is the title of the first book on Bees printed in the English language. It has little original in it, being mostly, if not entirely, a simple translation, "Englished" by Thomas Hill, Hyll, or Hylle, as the name is variously handed down to us. Amongst the ancient authors out of which the treatise was gathered were Pliny, Aristotle, Columella, Varro,

and many others, all well known as writers on bees in classic times. Hill, in his Preface, professes that he himself did the collecting, and "travelled in the translation;" but the fact is that the whole book is a simple translation of a Latin work by one Georgius Pictorius, still extant, and very little original matter indeed was added by Hill. A perusal of the work would lead us to the conclusion that neither writer nor translator were practical bee-keepers, or even well versed in bee anatomy, but all the same the book forms interesting reading. A note by W. Allen the original possessor of this interesting black letter volume now before me reads—"Thomas Hill was a London Author of various works on Dreams, Physiognomy, Mysteries, an Almanac, Astronomy, Arithmetic, besides several works on Gardening. He died in the beginning of the 17th Century." I believe he was dead in 1599.

For the practical work of Apiculture this quaint book, of course, is useless, but all the same it is delightfully fascinating, and in my view Hill deserves the "good report" he pleads for in his Preface for handing us down this "Profitable Instruction on the Perfite ordering of Bees." It is little good telling us that the Latin Work of George Painter was lying in some few ancient libraries, food for worms; but, "Englished" as it was by our author, it marks an epoch in bee-keeping. Hill put bone and muscle into it, clothed it with thews and sinews, and gave us a living creation—a Book; a thing, as he himself tells us, at the time—"very rare and seldom seen in the English tongue." We are introduced almost at the start to the generation of bees and gravely informed that bees proceed of bees by the actual doing together, after which they lay eggs, sitting upon them as the hens do on their eggs, and when they have sat on them for the space of 45 days (XLV daies) then do they hatch their young ones, which come forth at the first like to white worms—except the King. At the first time one of them hatcheth five young

together, the next time fewer, and so fewer and fewer until she cometh to one at a time. A great profit ariseth because of bees, if they be set in a convenient and fit place, and are carefully and wisely guided. They must be wise little creatures too, for, flying abroad in a mighty wind, they marvellously stay and guide themselves by weighing their bodies down with little stones carried in their legs. These females revere and honour their King in such sort that they are obedient and very ready at his bidding to do whatsoever he assigneth them, not for fear of punishment but love. They have a perfect order among them, and if their King happen to die they shall bitterly mourn for him, and for lack of an other they cannot be ruled or guided. They mourn his death with a sad wailing, and humming, and unless another King increase by little and little they die out. He advises that to check swarming the skilful practisers will cut off the King's wing, as then they will not attempt to fly abroad. We find a distinction made between bees; those small of body are the better, because they are more earnest in their labour, gather more honey, and endure labour the better while the "worsen" apparently is lazy, being content to gather dribbles of honey near home from such sources as the garden flowers. The idea is a very old one, for Virgil sings the praises of the "better" bee. Even thus early they had a proper notion of the small use of retaining combs too long, for we are advised to cut out all corrupt comb, so that they may renew it, and if necessary they should be fed to supply the loss. Rosemary sodden with water and honey together, and being cold, poured into half canes and set down near the mouths of the hive, is the food, and the mode of supplying it, and such feeding doth greatly recover the bees. The bee-keeper must diligently eschew all meats of a strong and ill-smelling savour, be chaste of body, free from filthiness, not breathing sourly or of a stinking breath, not sweating, nor savouring of sweat nor

of a wicked condition, nor one jerky in movement nor when stung given to run away. He should entreat the bees by a more gentle manner. All of which precepts and advices I can heartily endorse! That the bee-keeper may not be "stinged" he should anoint his hands and face with the juice of the herb Spurge mixed with oil. If stung, drink the juice of the herb grace and rue mixed with wine, rubbing the same on the place affected. The imperfect bees without a sting, whom men properly name drones, when too numerous may be got rid of according to the following plan—"First take and pluck off the wings of one of these, which lay on or put within the hive and, incontinent, the honey bees espying the same will fall upon the other drone bees and both kill and drive them quite away." Southerne scoffeth at Master Hill for this device, but Levett considers it "neither so absurd or fantastical" as Mr. S would make it appear, though he is not over friendly to our author on several other points. Hives are variously made and of diverse materials; of these latter earth is the worst; but cow dung may be used, also tiles, oiser or willow, and of course straw, but whether wheat or rye it matters not. One would scarcely however look for the following—Make your hives of the wood of a hollow tree, or of *light boards made square*. These must, however, all be rigidly clean, as "in all cleanliness and sweetness bees are much delighted." The swarming time then, as now, was an anxious one, and they watched for any signs, so piping was recognised, and we are informed that—When minded within three days to fly away they make a marvellous noise, stirring to and fro within, at evening, as soldiers at the alarm, which noise you may hear if you place your ear to the hive. In hiving avoid eating all meats "that do stinke like as leeks, onions and garlic, which the bees greatly abdo-re." Their warfare is dilated on. They shout with great noise flying and dashing together, and great is the noise made among them, many fall headlong down

thick as hail stones on the ground. The manner of *Gelding* the hives is in this wise: first stop the holes of the hive, that the bees pass not forth, with grass or some other herb; after that put under the hives some linen rags making a "smoake" with the same, and then cut out what combs can be spared. Primitive honey-taking certainly, but better and certainly vastly more humane than the sulphur pit. In regard to the honey taken, the white in all countries is better estimated than the black; but the *best* honey is that which is "very clear, of a golden colour, of a most pleasant and sweet taste, cleaving somewhat to the fingers in handling, and but little stiffening or waxing hard together." Not at all a bad estimate of good honey.

Hill's book embraces 41 chapters, and 43 pages deal with Bee-keeping; the last contains his conclusion to the reader, wherein he commits his little book to our gentle judgment, hoping we may receive "profite and commoditie" thereby. I, for my part, have thoroughly enjoyed the reading of this quaint old book, and now, as he fervently desired, seek to pass on some of its "commoditie and fruite" to others.—*Irish Bee Journal*.

QUEEN REARING.

Our way to prepare a colony for cell building is to remove the queen and all the brood, and two hours later give them prepared cell-cups, or else transfer the larvæ into the lower cells of a newly drawn comb. We prefer the former, however, as they are better to handle. We use the Doolittle plan, not because it is better than the Alley or Atchley system but because it is more convenient.

In order to get good cells and a lot of them built, there must be a honey flow on, or else it is necessary to feed your colony from two days previous, to four days after the operation is performed. By this time the cells will be sealed and you can transfer them to the nursery cages or give them a laying queen. But, before giving the laying queen you

should give them a frame of cell-cups or a newly drawn comb which has been grafted with larvæ from your breeder. This should be done twenty-four hours before giving the queen. They will begin feeding the larvæ much sooner than will a colony just made queenless.

Now go to another colony that you wish to set to cell-building and take away its queen and brood and bring it to this colony, and take the frame of cells which they have started to the colony from which you took the brood and queen. By this means, the colony has been queenless but five days. After getting a lot of good cells built, the next thing is to care for them. Our cell cages are prepared as follows: Take a strip of wood, three-fourths by one-half inch and cut length to fit between end-bars of brood frame. Now cut half way through the strip saw kerfs to make twenty compartments, which are separated by partitions made of section material and fitted into the saw kerfs. Now cut a piece of wire cloth to fit each side. To provision these you can bore a hole in each compartment and use soft candy; or you can shave a piece of comb down to the mid-rib and fill with honey, allowing it to rest on the bottom bar.

Now cut little caps to just fit between the partitions and will fit tight. These ought to come a little above the wire-cloth side-walls. Now dip the caps into melted wax and stick your cells fast, and place them in the cages until you have it full; then fasten it in a brood frame with a small nail. If you use cages that have holes in the bottom-bars, you can put three in one frame.

Now, to get these cells hatched is where the trouble comes. Be sure you place the nursery where the bees will cover it entirely. Do not place it in a queenless colony, as some have advised. Put it between frames of open brood where it will get the warmth and moisture. This gives us the best hatch. When hatched, they are ready for the nuclei.

I know there are many who want their cells to hatch in the nucleus hive, but we hold our queens in the nursery cage

until they are four days old, then successfully introduce them by using fresh queenless bees every time. Here is where another great mistake has always been with me, and I know I learned it from others, and that is having a permanent nucleus. For best results never use the same bees for accompanying more than one queen in the nucleus hive. Some one is ready to say, "That would be a great waste of bees." This is 'another' mistake. When your queen begins laying, bring in your nucleus, bees and all, shake them into another hive, give them a frame of brood and a laying queen and you will soon have a good colony. Another says; "That is handling a lot of bees to get one queen mated." Here I want to say that this is where another mistake comes in. Two tablespoonfuls of bees are plenty to accompany a queen while in the nucleus hive. Some claim that our queens will not be as good by that process. It is the rearing, not the number of bees in the colony at mating time that counts as to quality.

To get queens mated with few bees it is best to have small boxes or hives. I use a frame four of which fit into a brood frame. By this means I am able to get them filled with honey easily, and when I want to use them I put them in boxes made to fit, stock them with bees and run in a virgin queen four days old, haul a hundred or so out to a mating yard, and seven days later prepare another load and haul them out and bring back the ones I took before. If the weather has been favorable they will be laying. If not, I can pitch them out in any old place until they are ready to mail.

Now, the success of this plan is in using a few bees to mate a queen and the using of these bees but once for this purpose. The Swathmore plan was far ahead of the old plans; but this plan is as far ahead of Swathmore's as was his ahead of those prior. The reason is this: While he used a colony to mate eleven queens, I mate one hundred with the same amount.—*American Beekeeper.*

HALF INCREASE.

A plan which allows of a half-increase, or one that gives one new colony from two full colonies at swarming time with no desire to swarm thereafter.

"Take a hive having seven of those empty combs you have on hand, and place it upon the stand of any populous colony which you have reason to think may swarm in a few days. Now select a frame from the brood-chamber which is nearly filled with honey, but having a very little brood in it, and set this comb (bees and all) in the centre of the hive, thus making eight frames. Now set the sections which were on the removed hive, on the new hive now on the old stand, and shake and brush *all* the bees off their combs down in front of the prepared hive, into which they will run as fast as shaken. Get the bees all out of the hive also, when you will put the frames of brood now beeless, back in the hive and, set it down near another populous colony. Now take one of the combs of brood and carry it to one of your nuclei, which you have previously prepared, so you would have queens to use when you wished them and exchange it for a comb of brood from the nucleus, having the queen and all the bees that may happen to be on it, taking this latter and placing it, queen, bees, and all, in the hive standing by the populous colony. Now fill out the hive with empty combs till the full number are in; and as soon as the hive is as you desire it to be for the next two days, set the populous colony to one side a little, and put this prepared hive in its place, and, later, remove this set-off colony to a new stand where you wish it to stay for the rest of the season. A day or two later, take the sections from the removed colony and place them on the hive having the frame from the nucleus in it; and in about a week put sections on the removed colony again. In this way you have on the stand of the first populous colony all of its bees and one frame from the old hive with a little brood to hold the bees in a contented condition, the queen in a

prolific state, ready to take advantage of the empty combs you have given, and the sections they had commenced work on all ready for their use and all in condition for a large yield of honey, with no desire to swarm. Next you have nearly all the brood from the first colony, a young prolific queen and her attendant bees from nucleus, together with all the field-bees and sections from the removed colony on the stand of the same, and that in a condition to carry forward the work already begun in the sections, and with swarming all done with for the season; while the removed colony is in perfect condition, less the field bees which have been drawn off by its removal, in just the right time to stop all idea of swarming for the season. And this colony will also be ready to go to work in the sections that are to be put on in a week or so after the manipulation. All three are in the best possible condition to take advantage of the honey harvest, which will be at its commencement now, if you have timed your labor so as to have all done about three to eight days before your expected honey flow."—D. M. Doolittle in *Gleanings*.

CAPPINGS,

It is claimed that this good gentleman, Dzierzon, was the first to discover parthenogenesis—that particular property that a bee-egg has of producing, without being fertilized, a male bee. I have shown to him that 500 years before Christ, old Aristoteles published this wonder; and that Huber, our great Geneva bee-lover, had, at the beginning of the past century, demonstrated scientifically by anatomy the same thing by the laying bees he sent to Miss Jurine.

"It is generally better to know that each colony has enough in the fall to carry it over till nectar is expected in the spring, even if you had to allow forty pounds for each colony; but if, from any cause, the bees do not have enough when brood-rearing commences at the beginning of the season,

it is well to feed, for there is no time in the year when it pays better to feed than after the bees begin to rear brood and have general weekly or daily flights; for the feed so used not only preserves the life of the colony but helps much by way of stimulating the colony to greater efforts than would otherwise be made; and if this stimulation brings your bees on the stage of action in the right time for any honey harvest you will be doubly paid for all feeding you may feel obliged to do."—*Gleanings*.

M. Duclos tells in *Bulletin de la Meuse* that he fed a weak colony and started robbing. Notwithstanding narrowed entrance, only night brought a respite. Next day, when excitement was at its highest, he opened the entrance wide, and when the largest number of robbers were inside he fastened them in, giving plenty of air. After a week's imprisonment he opened the entrance. The robbers remained loyal to their new sovereign, all was lovely, and he had a strong colony.

A German exchange, *Praktischer Wegweiser*, gives an interesting account of beekeeping in Siberia. The winter lasts seven months, beginning in September and ending in May, there being no fall and spring. The snow is often ten feet deep. The principal source of honey there is basswood, of which Siberia boasts 17 different kinds, blossoming at different times. The wood of it is used for all kinds of building purposes, even for making sheds for the purpose of protecting hives. Nearly all bee-keepers there are professionals, and they select in the forest, far from any town, a convenient place for winter quarters. The hives are nearly all American pattern, set around on four posts, provided with covers, and separated from each other in such a manner as to afford easy manipulation. The colonies are strong, about 15 lbs. each, only such being kept. Swarms or seconds are united to the number of five or seven, after having taken away their queens and drones. These are kept in a cellar for four or five days, otherwise they are apt

to desert. To catch runaway swarms, hundreds of common hives are suspended on the trees. The bees do not go out between 11 o'clock and some time in the afternoon, on account of the oppressive heat. A good hive will furnish about 100 lbs. of honey which sells for about 25 cents per kilogram of 2 lbs. 3 ounces. There are some apiaries in Siberia that certainly have over 1000 hives each.—*Gleanings*.

C. C. Poppleton, says in the *American Beekeeper* that bee paralysis is hereditary. Certain queens seem to transmit the germs of the disease through queen daughters to their progeny." He observes, further, that "colonies which have had the disease one season, but recovered without treatment of any kind, are much more liable to have the disease next season." And again, "It is the old bees, the field workers that die." It may be interesting to mention, that others have followed Mr. Poppleton's method of treatment with entire success, which is nothing more nor less than sprinkling the infected combs with powdered sulphur, then repeating the treatment a week or so later, and again if necessary. The ancients, generally, maintained that there was a close connection between bees and the soul. Porphyry speaks of "those souls which the ancients called bees."—*Cincinnati Enquirer*.

I took about 2½ pounds of honey and mixed with water so as to make a gallon. I put this in a jar and set in a warm place near the stove. After three weeks it was found to be still only sweetened water, and the water had evaporated so that there was hardly 3 quarts left. I then poured in ½ teacupful of good cider-vinegar, and in less than two weeks it was good vinegar; so it would seem that the proper organisms were not present until I poured in the vinegar containing these proper ferments. The vinegar no doubt contained both the alcoholic and acetic ferments. Probably a few apple-parings would have given similar results as they usually contain both of these organisms.—Writer in *American Bee Journal*.

✻CORRESPONDENCE.✻

J. C., Mitta Mitta, Victoria, August 7.—We had a moderately good season here last year. I had twenty-seven hives spring count, increased to fifty-three, and extracted sixty 60lb. tins. The coming season promises to be a good one as the red gum, white gum, apple tree and messmate, also peppermint are in bud in this locality. The scotch thistle also yields well here.

W. J. B., Tyndale, Clarence River, Aug. 11th—My bees have wintered well, I had a look, in at several of my hives the other day and queens have commenced laying very strongly already, and judging by the appearance of the trees around here, there is every prospect of a heavy spring flow. I have bought a beefarmer out here, as he intends following other pursuits, so I have been kept busy removing his bees and getting in readiness for the coming season. Wishing your journal every success.

F. W. Penberthy, Aug 17th—I would like to have been down to Melbourne with you, but was too busy. I will try to go some day if they can only keep up their large Conference. No doubt the Bee License is a good thing where beekeepers are inclined to crowd one another as in Victoria. We must see what we can do in that line in N. S. W. The distance limit would be the greatest obstacle, and not often effective if we got it. If A. and B. look up a block each on their Bee License 3 miles apart, and if there was private property in A or B's range there would be nothing to prevent C. from leasing a small portion for an apiary. Again, C. must not be allowed to take up a special lease and keep bees if within 3 miles of another beekeeper. All those points ought to be considered. Perhaps the Victorians would not have had the Bee License yet if it was not for self interest to sell bees and go Supply Dealing. I think the price of honey must

come down a bit. If the box honies come down to 2d regular for 3 or 4 years there would be very few North Coast beekeepers left, the only thing to prevent it is spring dwindling which wipe out the small beekeeper often in this district. That alone would prevent small beekeepers from getting it all into their hands. I believe there is none of it on the coast. Spring dwindling is the same as the 'disappearing trick' I take it, and is a disease which causes ten times the loss that foul brood causes; and I don't think I would be far out if I said 100 times instead of ten. It is present in the hive in spring, when they are making slow progress, down to the hive that die out in two or three weeks, just a matter of intensity. I sent a box of dead bees down to the department a few days ago. White box is out in bloom here too, but it is too cold for the bees to do much in the supers yet. Increasing the brood nicely, that is healthy.

H. R. G., Laharum, Vic.—In your last issue you pointed out the deplorable state of the honey market, and I think that all those that were in Melbourne at convention could see the condition of things staring them plainly in the face, by giving the agents a call. We have just passed through the off year. I think that all will agree with me that we expect three or four times as much honey this coming season as we reaped the past season. This part especially I may fairly say is sure to produce ten times as much. I may as well ask you now as later, what are we going to do with our honey? Plainly, can all that are not infants see that there is no room for our industry to expand. We call ours the V. A. Association, met in Melbourne, discussed a lot of matters such as conserving our forest, land concessions, and we discussed a lot of matters pertaining our industry, but I'm afraid a lot of us don't see the beam till we bump our heads so that at least we feel it. Perhaps a lot of us pretend or try not to see it till we do collide. If our industry is to go ahead, if we intend to make it an industry for men to make a living out of,

we must encourage more to begin and as well increase in our own yards, so that, supply dealers and all interested would get their share of benefit. As things are at present there are more bees now than it is necessary to supply our own market. Well, now is our time to look for an outlet for our production; why wait till we have all severely suffered through the half price, and perhaps many of us abandoned the industry, till we are as far back as can get; Let us test things while there is plenty; we can produce prime honey, why should only Australians eat our honey. Did I hear a gentlemen say at the meeting that South Africa has proved a market, who knows anything re this industry over there; Are there few beemen there, or is it like our own, overstocked and overdone to the utmost. Well then we need not try, but we should take the matter up in earnest at once; all that are in the industry can see that it is their personal duty. Will the gentlemen that mentioned S. A. give full particulars of his experience for the benefit of us as well as himself? Will any others who know anything re export let us hear it in the next issue; for it means either up or down to the industry? Why can't we try to export? why should we not succeed; if we do not make proper trial we most surely won't. Where does India get her supply of honey from? Is there a home production there? Any one knowing should open it shortly. Let us give things a trial the coming season. If we can afford to give our honey away for half value here in Australia, we can surely afford to give others in other lands a cheap taste of our sweets. Would you kindly let me know the best method of preparing boards for dipping to prevent the wax from sticking? Is salt water soaking a good method?

Simply dip in water. Salt water might not be bad.

H.W.S., Walcha, June 9th.—Bees have done well here this season, honey is plentiful and dull of sale. I have 28 hives at present and have extracted $2\frac{1}{2}$ tons. I think I will find it difficult to dispose of it, judging by the appearance of the timber. I don't think I can say much for next year.

C.E.H., Tasmania, June 6th.—This year's yield has been rather a poor one. I had plenty of good strong swarms. November and December, but the season was too wet, the bees could not work. The flavor of the honey in this district is very good and sells well. I get my tins from Chown Bros and Mullholland through seeing their advertisement in your paper. I am very pleased with the lots they have sent me, very seldom finding a leaky one.

W.B., Stroud, June 21st.—I receive the A.B.B. every month. I have 23 colonies of bees now, all in good order, 2 supers full of sealed honey on each box. So that ought to carry them through the winter. I increased from 13 to 23 this season and have taken 64. 60 lb tins of honey, so I don't think I have done too bad. The bees are flying pretty thick of a fine warm day, yet some hives have a lot of drones yet. On a fine day they are buzzing about like spring time. I don't remember seeing drones so late before, not any numbers of them. It may mean a lot of swarms next year. I have one little hive here that I caught late in the fall. It was about the size of a man's fist. I put it in a small box, just holds 3 shallow extracting frames. I am going to see whether it comes through the winter alright. Hoping you have had a good season with your bees.

T. S. McD.—I am thinking of getting a foundation mill, what make would you recommend? and what smoker do you recommend?

Inquire of any of our advertisers. We like the Crane or Cornell Smokers. A large Bingham is also a very good one.

J. S. C., Kendall, July 23.—We had a good season here, though honey has been a poor price. I am only going to keep about 20 or 25 hives in future, so my trouble will be to keep down increase. I will have to get the non-swarmer and long-tongued strain, though the ones I have now will be difficult to beat. By thoroughly looking after the above number I will get as much honey as some others with 100 colonies who don't properly attend to their bees.

C. Y., Wollongong.—It has been a very bad season for the bees on honey, and where the bees had not been fed, there would have been heavy losses in them.

J. J. B., Wallabadah.—Just a few lines to let you know how things are here. We have had a very cold winter, and although the white box trees bloomed splendidly all the winter the bees could not gather much honey owing to cold winds. But there is a prospect of plenty of blossoms for the next 4 months, when I hope to be able to tell you some better news. I have just extracted a few hundred pounds of honey. But the crop for the year is very far behind. We get here about one good flow of honey in four years, then three poor ones. But as I have only to feed my bees twice in 14 years, or on two occasions, I consider myself fortunate; the timber is being ringbarked and destroyed all round, so I suppose there will soon be less bees, less honey. Honey is very low in price here and I have decided not to sell only about what will pay for tins and exes, and store it away till next year or even longer, and would rather not sell any in my own district while so low.

G. B., Dawson, Vic., July 30.—Please send a copy of the "A.B.B." to — Glenmaggie P.O., also to — Heyfield P.O. Hoping you will have a good year as there is every prospect of a good season here. The trees are already beginning to blossom, and the bees are very healthy and in a forward condition. I receive the "A.B.B." very regular and read it with much interest, and am well pleased with it.

J. R. H., Narromine, Aug. 3.—I am afraid spring dwindling is going to give me some trouble this spring. I lost 100 more hives last season with it. I have powdered the bottom board with sulphur, but cannot say yet if it is doing any good. The flow of honey was very poor with me, but a beekeeper about 15 miles away says he got from 31 swarms, 65 cwt.

[Your plan of sulphuring might be all right. Another plan is to remove all brood, and then sulphur the frames. You should also re-queen.]

T. K., Yangan, Queensland. I would consider it a great favour, if you would kindly let me know at your earliest convenience, what the ruling price of good quality honey per lb? The reason why I am inquiring about same is because the markets here seem to be fairly glutted at present. I have the greater part of mine done up in the 7lb. tins, I suppose about 1½ tons in all. How do you think it will take in the 7lb. tins down your way. You might mention the names of some of the buyers of same in and around Sydney. Of course it is all in a candied state just now, but I could liquify it if necessary. Could you give me any idea of the freight of say a ton of honey from Brisbane to Sydney? I should not think that it would amount to a great deal, as it could be packed into a small space. Awaiting your esteemed reply.

[We would refer you to leading article in last issue. Things are not altered. Australia has only a population of some three million. But some people are acting as if it had a population of 80,000,000 or 90,000,000 and many must suffer. Honey is produced the world over as well as in Australia.]

HONEY AND BEESWAX YIELDS.

REVIEW OF LATEST STATISTICS.

BY R. BEUHNE.

The returns for the season 1903-1904, have just been issued by the Victorian Government Statist, Mr. W. McLean. They show an increase in the number of beekeepers of 1207, of frame hives, 4278; box hives, 4355, but a decrease in the yield of honey from frame hives of 310,894lb., from box hives of 54,469lb., and of beeswax from frame and box hives of 4028lb. The average yield per frame hive for the whole State is a little over 30lb., and per box hive slightly over 11lb., as compared with an average yield per frame hive of 50lb., and per box hive of 17lb. for the season 1902-3, or a decrease of average of 29lb. and 6lb. respectively.

The way the returns are collected by the Government Statist's office is still very unsatisfactory, and the figures far from reliable. In many parts of the state the honey flow did not come on till March and April, that is after the statistics had been collected; and while in some instances a rough estimate of the probable yield was given by beekeepers, in many other cases the yield was returned as nil unless some honey was obtained previous to the collection of statistics.

As an instance let us take the county of Dalhousie. The number of frame hives is returned as 649, and the yield from them is 4092lb. or slightly over 6lb. per hive, whereas as a matter of fact the yield was over 30lb. per hive, as ascertained by independent inquiries made in June, the yield of honey from each one of a number of apiaries exceeding by itself the total appearing in the statistics as the produce of 649 hives. This state of affairs will continue till the date of collecting is altered to June, or collectors are instructed to ask for statistics back to the date of previous collection. In the latter case the figures would still be unsatisfactory, as the present time of collecting the returns falls in many cases into the middle of the honey flow, and unless the beekeeper has a regular stocktaking when supplying the information, he will have probably forgotten in the next eleven months how much of his season crop was returned in the statistics and how much secured after their collection.

Surely it ought not to be very difficult to adopt a system of collecting the returns up to the end of May in the case of box frame hives. It would hardly be necessary with box hives, as very little, if any, honey is taken from such so late in the season.

RETURN FOR FIVE YEARS.

Season.	Beekeepers.	Bee Hives.	Honey.	Beeswax.
			Lb.	Lb.
1899-1900 ...	2,896 ...	17,729 ...	670,124 ...	14,009
1900-1901 ...	2,293 ...	21,412 ...	957,020 ...	15,269
1901-1902 ...	3,776 ...	22,083 ...	572,477 ...	13,530
1902-1903 ...	4,402 ...	32,126 ...	1,199,331 ...	23,061
1903-1904 ...	5,609 ...	40,759 ...	833,908 ...	18,979

Beefarming is becoming a growing industry in the Wimmera district. Many settlers are now combining beefarming

with agriculture. Several apiarists in the Grampians south of Horsham state that this season is the best experienced since 1895. One apiarist states that last year he cleared £700, and if the present prospects are realised he will clear £1000 this year.—*Leader*.

[The tabular form in connection with the above will appear in our next issue.]

N.S.W. CHAMBER OF AGRICULTURE.

An adjourned meeting of the above took place on July 7th, at the Royal Chambers, Hunter-street, Sydney. Mr. P. H. Morton, of Barrengaray, presided. The sub-committee previously appointed to draw up a revision of the Constitution, brought up their report, which was adopted. Among such was the following:—

APIARIST COMMITTEE.

19. The Apiarist Committee shall enquire and report to the Council from time to time upon all matters affecting the bee industry, and make such suggestions for improvement as they may deem necessary, and generally to report upon matters which may be referred to them for investigation and enquiry.

Of affiliated societies the following was adopted:

AFFILIATED SOCIETIES.

1. Any agricultural, horticultural or pastoral association, farmers' institute or other local body of agriculturists may become affiliated with the Chamber.

2. Each affiliated society shall have the right to nominate a member or members of their society as members of the Chamber of Agriculture. The names of their elected representatives to be sent to the Secretary, when they shall be enrolled as members of the Chamber entitled to all the rights and privileges of membership.

3. The annual subscription for affiliated societies shall be 10s for each representative nominated by them to the Chamber.

4. Affiliated societies may send reports of their proceedings and papers read at their meetings to the secretary for publication in the official organ of the Chamber.

The following beekeepers are on the Council:—W. Ager, C. H. Dight, W. Hessel Hall, E. Tipper. The Secretary is Mr. R. H. Lalor, Seven Hills.

A meeting of above took place on Friday Aug 12th—

DESTRUCTION OF FORESTS.

Mr. Ager was given permission to introduce a resolution to the following effect:— "That it is the opinion of this Chamber that the Government should use more care and attention towards the protection and preservation of the timber and timber industry of this State by setting aside fixed areas for the purpose, and by prohibiting the destruction of serviceable timbers on leasehold lands."

This was carried after some discussion.

FEDERAL DEPARTMENT OF AGRICULTURE.

On the motion of Mr. Rumsey, seconded by Mr. Lord, the following resolution was passed:— "That this Council approves of the action taken by Sir John Quick in proposing that the Federal Government organise a Department of Agriculture."

DISASSOCIATING MINES AND AGRICULTURE.

Mr. Yewen moved, and Mr. Henry Lord seconded, the following resolution, which was carried:—

"That the council of the Chamber of Agriculture approach Mr. Carruthers by letter or deputation for the purpose of urging, in the event of his forming a ministry to carry on the government of the country, the desirableness of acting up on the following suggestions:—

"(1) That in forming a new ministry separate portfolios be allotted to Mines and Agriculture, so that the Minister for Agriculture be not saddled with the supervision of the Mines Department, or the Department of Agriculture placed in a secondary position to that of the Department of Mines.

"(2) That the Minister for Agriculture have control of the Forest Branch, as well as Stock Branch, with a director over each, similar to that filled by the Director of Agriculture."

The following apicultural committee were appointed:—

Wm. Ager, Moss Vale; W. Hessel Hall, Emu Plains; H. Handcock, Bathurst; B. Stacey, Capertee; E. Tipper Willow Tree; H. J. Rumsey, Dundas;

B. Corrie, Colo Vale; J. F. Donnelly, Bellinger; F. W. Penberthy, Inverell.

The next meeting of the Council was fixed for Friday, October 7, at 3 p. m., at 12 Spring-street.

THE GROWTH OF THE GRUB.

Paper read by Dr. Cherry, Bacteriologist to the Department of Agriculture, at the Victorian Apiarists' Conference.

There is a very important distinction between the two great classes of food materials found in all kinds of plants and animals. The one class, known as "flesh formers," contain nitrogen, and constitute more than half the weight of the animal. The other class, known as the "heat producers," consists merely of carbon and the elements of water, and are represented by fat in animals and sugar in plants. The flesh formers compose the working parts of the animal body; the heat producers are the fuel which keeps them working. Both classes of food material come originally from the plant, but while sugar is common and cheap, the flesh formers are scarce and expensive. In the plant, as its growth reaches maturity, we find that the flesh formers become concentrated in the seed, and it is this fact which explains the value of these parts as food for animals. The pod-bearing plants, peas, beans, clover and lucerne, are noted for the high percentage of nitrogen that they contain. Herbivorous animals have to digest large quantities of vegetable food in order to obtain the necessary amount of nitrogen, while carnivorous animals make use of that which is concentrated in the flesh of those which they eat. Thus the struggle for existence is to a great extent simply a struggle for nitrogen.

Now insects, like all other animals, require a full supply of flesh formers, because their muscles and other parts are exceedingly active. But they differ from the higher animals in the fact that there is no provision made for the maintenance of the working tissues as they wear out. The supply, to last the whole life of the animal is elaborated while the insect is in the larval stage. Hence the insect

resorts to all kinds of devices in order to secure a full supply of nitrogen for the grub. Let us take a few examples. Some grubs, as ordinary caterpillars, are very voracious, and obtain the full supply of flesh formers by working over enormous amounts of vegetable food in proportion to their own weight. Other insects, as the codlin moth, lay their eggs so that the grub gets to the core of the fruit near the seed, where the nitrogen is concentrated. Others, as the ichneumon flies, lay their eggs in the bodies of other insects, so as to make use of the material they have painfully collected. Others, as the blow fly, place the grubs in highly nitrogenous material, such as flesh, while the adult animal lives on sugar. In the case of the bee, the larvae are fed on pollen, which is the most highly nitrogenous material the bee can find in the flower. Nectar and honey contain little except sugar. Hence a full supply of pollen is essential to the due nutrition of the larvae. From examinations recently carried out there is no doubt that pollen varies considerably in its chemical composition. Possibly in periods of drought the eucalypts do not produce so much or so rich pollen as at other seasons. From the great quantity of nitrogen in the seeds of wattles, clover and lucerne, there is little doubt but that the pollen of these plants is extra rich in that constituent, and that perhaps explains why they are

favourites with beekeepers. Any artificial food supplied to bees should be well supplied with nitrogen. What he wished to emphasise was the fact that healthy bees can only be reared on food that contains a proper amount of this all important element. The growing tissues of the larval bee cannot be built up from honey and sugar alone.

Conversation ensued, in which Mr. Bolton took part. Dr. Cherry said no other food was to be compared with bean or pea meal, with regard to the percentage of nitrogen.

In reply to Mr. Beuhne Dr. Cherry said bees will probably breed better in a hilly country than where there was an absence of mimosa and wattles. So far as chemical composition went flour was suitable, but pea meal and bean meal were by far the richest in nitrogen. They contain from 2 to 3 times as much nitrogen as flour or maize meal.

Mr. Atchley in the "Southland Queen" says: "I am sorry, indeed, to note that our Texas honey market is flat, and no honey moving at anything like the price it ought to go at. Certainly I am no prophet, but I surely guessed it right two years ago when I remarked that our honey market would be ruined in two years, and now it may never be as active as it once was."

REDWOOD HIVES.

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