Rise and Progress of Bee Culture.

READ BEFORE THE AMERICAN BEE-KEEPERS' ASSOCIATION, OCTOBER 8TH, 1878, BY A. J. KING, EDITOR BEE KEEPERS' MAGAZINE, N. Y.

All the great inventions and discoveries which have developed the resources of the world to a greater extent within the past century, than in all previous time since the creation, have had their origin, more or less remote, in the ages past. The various applications of steam, electricity, the mechanical powers, and the wondrous development of natural science which have so changed the face of all nature, and the current of thought within the past few years, are but the accumulation and scientific combinations of ideas and inventions, scattered all along the line of the ages, by the past generations in their onward march from ignorance, superstition and bigotry to intelligence, knowledge and true science. Of all the fields of research in the development of national industries, none are more fruitful, inviting and instructive to the antiquarian than the history of the culture of the honey bee, for in all his researches, he will find himself in the company of the wisest and best minds of all ages. Poets, naturalists, philosophers, and doctors of divinity are all largely represented in its history. Honey was regarded by the ancients as a present from the Gods, and with it their libations were made around the tombs of those dear to them. With honey they preserved their corpses. With honey their Gods were appeased by pouring it on their alters and the heads of the victims. Honey was the only sweet known until within comparatively modern times. The Holy Scriptures abound in figures of the highest joy and the most exquisite sweetness, drawn from the bee and its delicious product. Aristotle pronounced the honey bee a magazine of the virtues. Virgil, the most elegant of the Latin poets, call it a ray of the divinity, chose it as the subject for the best of his Georgics. Shakspeare, Milton, and in fact, all the prominent writers, have bestowed on the bee, at least a passing notice. DeMontfort, who, in 1646 wrote a work on bees estimates the number of authors who had written on this subject previous to his time, at between five and six hundred, the larger part of which are lost, but traces of most of them have come down to us through works published in the seventeenth century. These works, one of which was written by DeMontfort, seems to unite the ideas of the ancients with those of his own time. And the most romantic and foolish reveries stand side by side with sensible views, and in many instances the two are so badly mixed, that to give in full the various views which have prevailed, at different times in the past history of bee culture, would bring a result similar to what Milton says of the writings of the Fathers. A huge drag net, brought down the stream of time, filled mostly with sticks and straws, pebbles and shells, sea weed and mud, with a pearl in the oyster here and there. We shall confine ourself to the merest outline of this history and endeavor to select as many of the pearls as we can in passing.

Of the antiquity of the bee, we cannot speak positively, but the geological evidences of flowering plants, demanding insects for their fertilization, together with the remains of insect feeding reptiles, as well as herbivorous animals, places the bee, at least presumably, ages anterior to the creation of man. The positive proof of its early domestication are ample. The ancient Egyptian sculpture and tablets abound with hieroglyphics, wherein the bee is the symbol of royalty, their economy being represented with a monarch at its head. In most instances these representations are *rude*, and betray a lack of close observation, as the bee is pictured with two wings and four legs; however on one tablet of the twelfth dynasty, the bee is figured correctly, having four wings and six legs. *Shuckard*, in his "British Bees," gives us indications of a still higher antiquity from the *Sanskrit*, wherein *Ma* signifies honey; *Madhupa*, *honey-drinker*, and *mad-humkara*, honey maker. He also traces the same in the Chinese dialects. The earliest Shemitic and Aryan records, the Book of Job, the Vedas, as well as the poems of Homer, are conclusive proof of the early domestication of the honey bee, all of which are interesting to the student of Apiculture. Of the origin of bees, the ancients indulged in the most extravagant fancies, some contending that they originated from the putred carcasses of animals.

Probably from witnessing the transformation of insects as millers from moth worms, butterflies from caterpillars, etc. They give recipes to produce swarms of bees, the details of which are too disgusting to relate. Others, of finer and more poetical conceptions, imagined that bees were bred from the purest juices of the summer flowers. Virgil expresses something of this opinion in the following from the fourth book of his Georgics: "Chiefly you will marvel at this custom, peculiar to the bees, that they neither indulge in congugal embrace nor softly dissolve their bodies in the joys of love, nor bring forth young with a mother's throes; but they, themselves, cull their progeny with their mouths, from leaves and fragrant herbs. They, themselves, raise up a new *king*, and little subjects, and build new palaces of waxen realms." With all these false notions of bees, the ancients still possessed much valuable knowledge. To Aristotle and Virgil we are indebted for the first discription of Italian bees, which, until recently, had been regarded as a myth. Virgil remarks as follows regarding the two varieties: "For the one looks hideously ugly, as when a parched traveler comes from a very dusty road and spits the dirt out of his dry mouth. The other shines and sparkles with brightness, glittering with gold. This is the better breed. From these, at stated seasons of the sky, you may press the luscious honey, yet not so luscious, as pure and fit to correct the hard relish of the grape." Again he says: "There are two sorts, the one glorious with refulgent spots of gold, and is distinguished both by his make and conspicuous with glittering scales. The other is horribly deformed with sloth, and ingloriously drags a big belly."

Aristotle lived three hundred years prior to the Christian era. He wrote largely on every department of natural history. His pupil, Alexander the Great, placed at his disposal large sums of money, and employed, during his campaign in Asia, more than a thousand persons in collecting specimens for his use from all parts of the animal kingdom. From his pen and those of his pupils we are indebted for much information in bee culture. Columella about the commencement of the Christian era, wrote a large work on "Husbandry," in which he gives direction for the artificial swarming of bees. Supplying queens to destitute colonies. Transferring hatching brood to weak stock, and many other useful operations of which the great multitude of bee keepers are ignorant to this day. Varo and Pliny also wrote in a manner which presupposes quite a knowledge of the brood nest, all of which led to the belief that in those early classic days a very advanced knowledge of bee culture prevailed. What is known in hisory as the "dark ages" now came on, and for the space of nearly fourteen hundred years no progress was made in any department of national history, but on the contrary much was lost.

At the close of this dark era of mental darkness the celebrated John Ray appeared. He collected and arranged all which survived of the previous productions on entomology. Ray was succeeded by Lineus, the inventor of the binomial system of classification which is still used by all investigators of natural science. At the close of the 17th century Swammerdam, Maraldi and Raumer wrote extensively on bees and hives, and Shirach, Reims and others still later.

These writers discovered many of the facts connected with the secret working of the hive, which contributed largely in raising the vail of ignorance which still enshrowded this industry and paved the way for the prince of apiarians—the great Huber, who appeared about the close of the 18th. century, and with whose history every apiarian, worthy the name, is acquainted. He, it was, who combining in one the unicomb observation frames of his day, removed their glass sides, and gave to the world the first movable frame bee-hive in existence, and by the aid of which he made those beautiful experiments which placed the science of bee-keeping on the enduring basis of truth. Experiments which established one by one nearly all the wondrous facts connected with the natural history of the honey-bee, by the adoption of which bee-keeping has gradually assumed national importance in all civilized countries. It is a fact that the blind Huber, through the eyes of his faithful servant, Francis Burnens, saw more and did more for rational bee-culture than any one man before or since his time.

The correct theory once established prominent naturalists adopted it. Authors and inventors sprang up on every hand, and movable frame hives of different patterns were soon in use in various parts of Europe. Munn of England; Berlepsch, of Germany, and DeBovois, of France, being the most prominent, and all of whom have written extensively on the subject of bees and hives. It is estimated that from Shirach up to about 1847, one hundred and twenty-four books were written on bee-keeping. Apiaries sprang up of larger dimensions than ever before, some nobleman owning as high as eight thousand stocks. The discovery of the refining of sugar, made by the Venetians about the middle of the 16th. century was at this time in full blast in Germany and served to distract attention from the production of honey, and sufficiently accounts for its decline about this time.

The engraving and description of the Munn movable frame hive, may be found in the "Cottage Gardener's Chronicle," London, 1843, page 317, also in the author's pamphlet in 1844. The DeBovois' movable frame hive, which was almost identical with King's American bee-hive, is fully described in the author's large book on apiculture, published in France, in 1847. Berlepsch hive invented in 1840, was greatly improved in 1845, making it almost identical with the Langstroth. He further improved it and published an illustrated description in the *Bienen Zeitung*, for May, 1852. But bee culture in Europe was by no means carried on principally by those using movable frames. On the contrary the great majority used either the straw hive, wooden gum, or square box, with bars crossing the top, to which the combs were attached, and either the storifying, nadir and collateral system were resorted to for surplus honey.

(Continued next week.)

Making Philadelphia the Great Fruit Center.

Hitherto New York has been regarded as the chief distribution center for foreign fruits imported into America. It has obtained the reputation from the fact that its supplies are received by steamers, while the fruit coming to this port has been brought by schooners, which occupy nearly treble the time in the passage. The result has been that the buyers have resorted to New York, where, with plenty of fruit in the market, they were enabled to purchase on more favorable terms. A determined effort, however, has been inaugurated by the fruit importers of Philadelphia to capture at least a portion of the trade of their sister city.

The subject was first broached among the importers last autumn, when it was conceded that they could only succeed in their object by securing a direct line of steamships between Philadelphia and the Mediterranean. To build such a line at home was out of the question, and so they turned their eyes abroad. They ascertained that owing to the dulness in trade a large number of British steamers were lying idle. Communications were opened with the owners, and the flattering inducement held out of a full cargo of fruit one way and a hold full of grain and merchandise for the return voyage.

A couple of ship owners determined to make the experiment, and toward the end of 1877 two steamer loads of Mediterranean fruit were brought to Philadelphia, and the steamers went back with paying cargoes. Encouraged by the success of the preliminary effort, negotiations were reopened between the importers and the shipowners, and during the past few weeks an arrangement has been effected by which a steamer laden with fruit will leave the Mediterranean every ten days for Philadelphia.

The pioneer steamer of the fleet, the Carudoc, is now on her way across the water. Each vessel will bring currants from the Grecian islands, oranges from Sicly, lemons from Malaga and grapes from Almeria.

The fruit importers anticipate that the results of this enterprise will be to make Philadelphia the chief center for the distribution of foreign fruit imported into America. Buyers, they say, will be more ready to resort here than to New York, and a goodly portion of the latter's trade will thus be diverted. A steamer can make the distance with comfort in twenty-eight days, while one steamer's cargo is equal to nearly five of those brought per schooner.

Philadelphia fruit dealers have already been successfull in playing havoc with the New York trade in bananas. Formerly the Gothamites controlled a large portion of the West India growings, and the Philadelphians were almost entirely left out in the cold. But the latter bethought themselves of the idea of buying the crops when the young fruit was but just sprouting, and of having their schooners on hand in the harbors as soon as the fruit was fit to pick. The scheme was successful and to-day three-fourths of all the bananas which are brought to America are distributed from this port. A movement is now on foot looking to the construction of a small, swift, iron steamer to ply between Philadelphia and the West Indies. The vessel is to be completed by the spring of next year.

Notes on European Raisin Making.

The different qualities of imported raisins known in the trade are the produce either of distinct varieties of the plant, of different soils, or of different modes of drying; this last, indeed, is all-important in producing a fine flavored, fleshy, and good looking fruit. In his account of Spain, Laborde thus describes the mode of drying these fruits:—"In the kingdom of Valencia they make a kind of ley with the ashes of rosemary and vine branches, to which they add a quart of slacked lime. This ley is heated, and a vessel full of holes containing the grapes is put into it. When the bunches are in the state desired they are generally carried to nakid rocks, where they are spread on beds of the field Artemisia, and are turned every two or three days till they are dry. In the kingdom of Granada, particularly towards Malaga, they are simply dried in the sun without any preparation. The former have a more pleasing rind, but a less mellow substance; the skins of the latter are not so sugary, but their substance has a much greater relish, therefore the raisins of Malaga are preferred by foreigners, and are sold at a higher price. To this their quality may likewise contribute, as they are naturally larger and more delicate than those of the kingdom of Valencia."

The finest kinds at the present time are, we believe, those that are carefully dried in the sun as they still hang in bunches on the vines, the stalks being partially cut through so as to interupt the natural flow of the juices, and the leaves being also removed around the bunches. The Spanish grape harvest for the preparation of raisins commences in August, and during the drying, more particularly of the better kinds of fruit, the bunches are very carefully overhauled and the small or injured fruits removed. Great care is needed that rain or moisture should not get to them, by which the fruit is often spoiled; and the stalks, instead of being the bright, reddish-brown color, so familiar to us, and always indicative of good fruit, become black or blotchy. When thoroughly dried they are carefully and tightly packed in boxes, varying in size.

In the neighborhood of Smyrna large quantities of grapes are grown entirely for the purpose of drying; the well known Sultana, a small seedless variety with a light colored fruit is solely the produce of this neighborhood. The vines, which are planted in rows, usually about six feet to seven feet apart, commence bearing in the third year, and are considered in perfection at from four to six years old. The gathering of the fruit commences in July and lasts till about the middle of August, the principal bunches being gathered first, and those from the lateral shoots, which are for the most part smaller, being taken at the close of the harvest. The drying and packing are similar in principle to those already described. Sultanas always realize a higher price in the market than the other kinds of raisins, and the produce also fluctuates very much. It is estimated that, in the neighborhood of Smyrna about 10,000 tons are annually produced. Very large quantities of raisins have been received from Malaga this season. From August, 1876, to June 30th. of 1877, as many as 1,342-000 boxes arrived, against 977,520 up to the same date of the previous year. In the early part of the season, in some districts near Valencia, the vineyards suffered severely from storms, but the crops, on the whole, appear to have been good.

Somewhat similar to the Sultana in point of its being without seeds is the currant, the produce of a distinct variety of *vitis vinifera*, known as Corinthiaca, derived it is said, from Corinth the place of its original cultivation. At the present time it is very largely grown in the Greek islands, especially in Patras, Zante, the best quality being produced in Patras, Vostizza, and Corinth. In a well ordered currant plantation, the vines are usually found in rows about six feet apart, and sufficiently distant from each other to allow the branches to form a spreading head, which is supported by props. What we have said with regard to the gathering and drying of raisins, is generally applicable to the currant.

The current crop of the Morea in 1876, was an exceptionally large one, reaching 70,000 tons, of which England took 53,556 tons, the United States of America 6,431, Canada 906 Trieste, 2,999, North of Europe 441, Russia 659, Marseilles, 32, while 4,926 tons were held for shipment to England and America. It seems from the report from which the above figures are gathered, that the consumption of currants is steadily increasing all over the world.—*Pacific Rural Press.*

Improvement of Common Sheep.

A correspondent having asked the *National Live Stock Journal* the following question:—"What is the best cross upon our common sheep for quality and quantity of wool for the general market, and for weight of carcass?" the editor answers:

This inquiry can be replied to from so many standpoints that an opinion in favor of either of the recognized breeds requires certain explanations.

A cross of the long wool, says Cotswold, Leicaster or Lincolnshire will insure an increase of carcas to nearly or quite double the value of the common or native dam. The fleece will have additional length, considerable improvement in length and lustre will add to its market value.

A cross of middle wool—say Southdown, Shropshire, etc. will add greatly to the quality of the meat; somewhat less, though considerable to its quantity; will thicken somewhat the fleece, and give it slight additional weight, without adding much to its value per pound.

A cross of the American Merino will make a marked improvement in fleece—adding to all its desirable characteristics, except that of length. The weight, in many instances, will be doubled, while in any other than an anomalous condition of the market, the value per pound will be somewhat increased. The size of carcass will not be increased, though its compactness and symmetry of outline will be greatly improved.

With the average farmer, the more satisfactory results will be secured by a cross with the long wool breed or the fine wools. The one will show its chief improvement in the carcass, the other in the fleece—though the merits of neither will be confined to these prominent characteristics. Always with the recommendation that the best rams, within reach of the means of the flock owner, be used, and that none of the male animals of the cross be used as sires, no matter how near the desired standard they may approach.—*Western Agriculturist.*

—Careful housewife (lifting a shoe from a soup tureen): "La! who'd a thought baby's shoe would turn up in the soup? But I knew it wasn't lost. I never lost anything!"

Cannibalism—Swallowing a little London porter.