

SOME EVIDENCE OF BEES AND HONEY IN ANCIENT EGYPT

by F. FILCE LEEK

Mena House, Aldbury, nr Tring, Herts., UK

The author of this article is an Egyptologist, and author of The human remains from the tomb of Tutankhamūn (Oxford: University Press, 1972). He is at present engaged on a study of the organic remains in the tomb.

Introduction

If there were no other evidence of the importance of the bee in the life and the economy of ancient Egypt, the continued incorporation of the hieroglyph of the bee in the Pharaoh's "titulary" throughout the whole of the dynastic period would be sufficient to establish its position in his kingdom. The pictograph representing the bee and that of the sedge plant (Fig. 1) were combined into and served to introduce the fourth of the five Royal names which the Pharaoh assumed on succession to the throne. It appeared in the titulary of Menes (Mena), to whom credit is given for unifying Upper and Lower Egypt around 3000 BC and thus founding the First Dynasty, and it continued in an unbroken sequence for some 2650 years until the death of Nekhtharehbe (Nectanebos II), which event brought the Thirtieth Dynasty to a close.

The literal translation of the joint hieroglyph is rendered as "he who belongs to the sedge and the bee". The sedge plant, which symbolizes Upper Egypt, is thought to be identical with the *scirpus*-reed. The bee symbolizes Lower Egypt, but its exact connection with this part of the country, and the reason for this connection, remain obscure⁶.

Apart from the use in the titulary of the Pharaoh, evidence of bees and honey in ancient Egypt can be derived from a number of other types of contemporary records: artefacts, tomb paintings, inscriptions, papyri, and legends.

Artefacts

Although a wide variety of food and beverages were placed in ancient tombs throughout the dynastic period, very few specimens of honey have been recovered. This is not surprising, as during the passage of time its condition would change, and there could be the further complication through infestation of the containers by insects.

This indeed was the sequence of events in the case of two pottery jars bearing the hieratic inscription "honey of good quality" that were found by Howard Carter⁴ during his investigation into the remains found in the tomb of Tut'ankhamūn. Alfred Lucas, the government chemist in London at the time of the tomb's discovery who undertook the chemical analyses⁸, reported on the contents of the two pottery vessels (no. 614j and 614k): "... they were practically empty, except for a trace of dried material adhering to the inside. In one case I analysed this, so far as was possible with the very small quantity available, with the result that the chemical tests were negative, the only indication of sugar being a slight smell suggestive of caramel (burnt sugar) when the material was treated with hot water in which 26 per cent was soluble. . . . These negative results however, do not necessarily mean that the specimen had not been honey at one time, but merely indicate that, if honey, they had become so changed



Fig. 1. An example of Middle Kingdom hieroglyphs of the sedge and the bee, from the Kiosk of Senuseret I at Karnak, c. 1950 BC.

photo: Peter A. Clayton

that they no longer responded to the usual tests."

While preparing this article, I was shown a letter written by the late Arthur E. Weigall, one-time Inspector-General of Antiquities to the Egyptian Government, to members of his family in England, describing his impressions during the opening of the tomb of Yusa and Thuiu, the parents of Queen Tyi, the wife of Amenophis III. ". . . Here there was a group of lovely painted vases, here a pile of gold and silver figures. In one corner were some jars of wine, the lids tied on with string, and among them was an alabaster *jug full of honey still liquid*. When I saw this I nearly fainted, the extraordinary sensation of finding oneself looking at a pot of honey as liquid and sticky as the honey one eats for breakfast and yet *three thousand five hundred years old* was so dumbfounding that one felt as though one was dreaming!" In his book, *The glory of the Pharaohs* (1923), the relevant passage reads: "Here were fine alabaster vases and in one of these we were startled to find a liquid, like honey or syrup, still unsolidified by time." There is, without doubt, reference to this same alabaster vase in the Cairo Museum Catalogue¹⁰, written by L. E. Quibell, who was Inspector of the Antiquity Service in charge of the excavation of this tomb: "Obj. no. 51105. Vase. Alabaster. Height 34.5 cm. Vase with one handle . . . and inside there is about 100 c.c. of a clear brown viscous liquid . . ." In the Appendix, Lucas⁸ gives particulars of more than twelve chemical and analytical tests he applied to the sample. In his conclusion, he states: "From the results obtained there can be little doubt that the sample is Castor Oil that has become very acid and has undergone other changes on keeping."

It seems to be accepted as a fact that many samples of honey have been recovered from ancient Egyptian tombs ever since the pyramid age, but apart from one sample of honeycomb examined by Zander¹², authentication by pollen analysis is lacking. In pursuit of my botanical researches, I recently approached various world museums and archaeological institutes, asking for samples of honey or honeycomb. So far three samples have been received, and a pollen investigation carried out at the British Museum (Natural History). The report received on the samples is as follows.

1. Dissolved in ether, therefore a wax, but as it contained only one or two grains of pollen, it could not have been a part of honeycomb.
2. A black sticky liquid taken from an Eighteenth Dynasty vase, no pollen grains whatsoever, consequently not honey.
3. Did not dissolve in water (so it was not sugar). Did not dissolve in ether (so it was not beeswax). It did contain however a very few grains of pollen from the date palm (*Phoenix dactylifera* L.) and of lotus (*Nymphaea lotus* L.). But as the count was so insignificant the specimen could not have been honeycomb.

These reports indicate that judgment should be reserved on samples thought to be ancient honey or honeycomb until a pollen investigation has been made.

The same reservations do not arise with beeswax, since its use, in a wide variety of ways, has been verified. As the result of examination of tomb paintings of the Eighteenth Dynasty, Mackay⁸ showed that it was used not only as a protective covering for a painting, but on occasion also for intimate mixing with the pigment as a binder. Petrie⁸ found it used as a filling of the incised hieroglyphs on the red granite coffin of Ramesses II, now in the Louvre Museum, Paris, and also in the figures recessed on wooden coffins.

Beeswax was used as a binder for the charcoal black pigment on the famous head of Nefertiti, now in the Egyptian Museum in East Berlin. Lucas⁸, during his examination

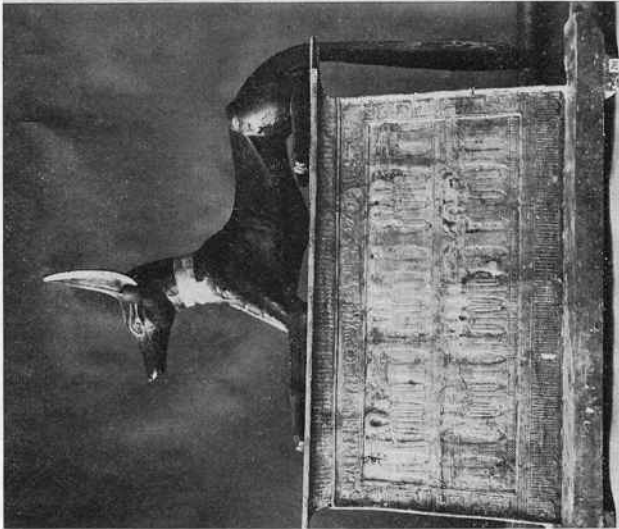


Fig. 2. Recumbent statue of the jackal Anubis, on a golden shrine found in the Treasury of the tomb of Tutankhamūn; see Fig. 3.

photograph by courtesy of the Griffith Institute, Oxford



Fig. 3. Twice during antiquity the tomb of Tutankhamūn was entered by robbers and rifled. Before sealing the tomb again, the priests rehoused many of the disturbed artefacts, and the golden shrine (Fig. 2) was the receptacle for a diverse collection, including a small beeswax model of a heron (centre bottom).

photograph by courtesy of the Griffith Institute, Oxford

of the objects found in the tomb of Tut'ankhamūn, detected a number of examples of its use for luting the lids of the extremely ornate alabaster vases, and for covering the yellow pigment that filled an incised inscription on a wooden casket. He also established that two model bennu birds (herons), also found in the tomb, were made of beeswax; see Fig. 2 and Fig. 3.

The use of beeswax for the construction of many forms of magical figures has been recorded. During the famous Harem conspiracy trial in the reign of Ramesses III, evidence was given that the chief of the chamber, Pebekkamen, procured from the overseer of the royal herds, Penhubin, a number of magic wax figures of gods and men which (in the belief of the owner) had the power to disable or enfeeble the limbs of people.

Ancient embalmers relied much on beeswax during the process of mummification; Elliot Smith⁸ reported numerous uses of it, mainly for covering the eyes, mouth, nose and embalming incision. In the Egyptian Museum in Cairo are 15 wigs, 7 of which are the large ceremonial wigs worn by priests of the Twenty-First Dynasty. They had been copiously covered with beeswax, almost certainly to ensure the permanency of the curls.

When metallurgy was introduced into ancient Egypt, the craftsmen took advantage of the suitability of beeswax for modelling, and used it in the process known as *cire perdue* (lost wax). Especially during the latter dynasties, bronze was a popular metal for casting statuettes, the smaller ones being cast solid (see Fig. 4), and the larger ones usually hollow.

A number of other uses for beeswax were recorded during the whole of the pharaonic period; its wide range of properties were utilized for instance in adhesives, in cosmetics, and in caulking planks of the ships that sailed on the Nile.

There are no objects from Ancient Egypt that can be identified as hives in any museum, as far as is known by T. H. G. James, Keeper of the Department of Egyptology, British Museum. The author knows of none that have been found in tombs. On the other hand, vessels of dried mud or baked clay would not necessarily generate much interest when found together with alabaster or gold ornaments.

Tomb paintings

Unlike the decorations to be seen in royal tombs, which record scenes of religious or mythological significance, the scenes shown on the walls in the tombs of the nobles bear witness to the daily events of life on the estates and among the common people. Four scenes relating to beekeeping and honey handling have so far been recorded, and together they encompass a period of some 2000 years. Reconstructed drawings of three have been published by Kuény⁷ and of the fourth by Sève-Söderbergh¹¹. In spite of what has been said above, the earliest of the four paintings is associated with a Pharaoh. It was not in a pyramid tomb, however, but in the sun temple of Neuserre, the sixth king of the Fifth Dynasty, built at Abu Ghorab about 2400 BC. The scene (Kuény's Fig. 1) depicts processes connected with the gathering, filtering and packing of honey.

The walls of the Eighteenth Dynasty tomb of Rekh-mi-rē at Thebes, dating from 1450 BC, are adorned with varied and superbly executed reliefs, one of which portrays two servants extracting honey from hives, a second group filling and closing jars, and a third applying seals to the vessels (Kuény's Fig. 2). The scene depicted by Sève-Söderbergh¹¹ is in an Eighteenth Dynasty tomb of the same period. It is very similar to that in the tomb of Rekh-mi-rē, and is therefore identified as a representation of

honey gathering. Unfortunately this relief is badly preserved and is scarcely visible.

The fourth scene comes from the Saite Period tomb of Pa-be-sa, about 600 BC (Kuény's Fig. 3). In the upper register a servant is pouring honey from one container into another. In the lower register, a man kneels with his hands outstretched towards a number of rounded cylindrical hives, lying horizontally: adjoining both scenes are vertical lines of bees.

Inscriptions

Not only are scenes of religious and secular nature inscribed on the walls, both inside and outside of temples and tombs, but frequently register after register of hieroglyphs. These not only tell of the heroic exploits of the Pharaoh, but also unfold details of events in the lives of both the nobles and the fellahin. Much of the history of Aswan, the most southern frontier town of ancient Egypt, can thus still be read on the now



Fig. 4. Small beeswax model of the falcon-headed god Horus, provenance unknown. Because of its sensitivity of detail, it was probably intended to be used for cast bronze statuettes.
William Myers Museum, Eton College, by courtesy of the Provost of Eton College

sadly deteriorated walls of the cliff tombs situated in two parallel lines on the west bank of the Nile. These tombs had been constructed for the Governors of the South, High Priests and other Nobles of exalted rank.

It was from Aswan that military and trading expeditions set out for the neighbouring country of Nubia and also the Sudan. A great obstacle to the success of such operations was the existence of the cataracts, the first being immediately south of the town. Many of the inscriptions on the walls of the tombs are devoted to the reasons for these expeditions, the events that occurred during the journeys, and the results of the projects. Some of the inscriptions relate to Sebni, whose titles included Count, Wearer of the Royal Seals, Governor of the South, Sole Companion and Ritual Priest. When he set out to the south to seek the body of his dead father, Mekhu, it is recorded that he took with him troops, 100 asses, sacks bearing clothing, ointment, oil and honey. Other examples show that honey was commonly included in the provisions for such journeys.

Aswan was famous since the earliest dynastic period for its granite quarries, and many large boulders bordering the Nile and in the neighbouring desert bear graffiti recording events during the whole of the historic period. One, known as the Silsileh quarry stela, attests to the fact that Seti I sent an expedition of 1000 men to the area to procure blocks of sandstone towards the building of his temples; it continues by recording his pride in the humane treatment accorded to his workmen, and we learn that honey was included in the daily rations of the King's Messengers and Standard Bearers.

Information concerning the military exploits of Tuthmosis III, is to be found on the inside of the wall enclosing the corridor which surrounds the granite holy of holies of the great Karnak temple of Amon. They record the most complete account of the military achievements of any Egyptian monarch. Long lists of tribute derived as ransom from the conquered cities are included and, amongst these, slaves, gold, bulls, cattle, wine—and large quantities of honey.

The tomb of Rekh-mi-rē, who was the Vizier or Prime Minister of Egypt during the reign of Tuthmosis III, has already been mentioned. It contains not only the fullest known source for studying the constitution of the state and the administration of the Pharaoh's government, but also the best known representations of peoples and products of countries adjacent to Egypt with whom trading relations existed. Honey occurs in the many lists of taxes and tributes payable by mayors and officials of the surrounding districts¹. Many similar inscriptions recording the importance of honey as tribute or ransom, and in the daily diet of royalty and their subjects, are to be found throughout the Nile valley on the surviving temples and tombs¹.

Papyri

A vast quantity of papyri have survived from ancient times. Literary compositions, legal documents, and scientific treatises on such subjects as mathematics, astronomy and medicine, are types of written evidence that still exist. Study of these greatly extends and enlarges our knowledge derived from examination of objects regained by archaeological excavation, and honey is frequently a subject of discussion.

From various medico-legal papyri we learn that the ancient Egyptians thought that illness, apart from that caused by obvious accident, was the result of hostile powers, "an adversary male or female or a dead person". Consequently, magical charms, spells and incantations were largely used in an effort to restore the sufferer to well-being. Study of the Ebers⁵ and the Edwin Smith^{2, 6} papyri, however, reveals that there

was also a far less primitive form of medical practice, one based on acute and reasoned observation of illness. The pharmacopoeia used a wide variety of substances, many strange to us, and some even obnoxious. But, with the aid of honey, the physicians endeavoured to make the medicine more palatable. Honey figures most prominently in cures recommended for affections of the respiratory system and the resultant cough. Honey was also prescribed as an ingredient in compound unguents for the cure of eye diseases, being mixed with wax and a number of plant extracts.

Honey is frequently mentioned in literary compositions. It will suffice to mention *The Tale of Sinuhe*³, a very fine but highly artificial poetical writing that tells the story of the hero's adventures after fleeing the country for political reasons. He found refuge in the land of Kadem, described by the phrase: "copious was its honey".

Legends

Ancient Egyptian literature abounds in legends. Frequent mention of bees and honey is made in the papyri to be seen in the Museo di Antichità-Egittologia, Turin, and the Rijksmuseum van Oudheden, Leiden. But none of these can compare with the following excerpt⁹ from the Salt papyri in the British Museum in London, for its eloquent and succinct expression of contemporary ideas on the origin of bees and their bountiful products:

The god Re wept and the tears
from his eyes fell on the ground
and turned into a bee.
The bee made [his honeycomb]
and busied himself
with the flowers of every plant;
and so wax was made
and also honey
out of the tears of the god Re.

Acknowledgements

I wish to express sincere gratitude to the three curators who so kindly co-operated by sending samples, and to Dr. G. C. S. Clarke, who carried out the pollen analysis. Peter A. Clayton gave permission to publish his photograph of the sedge and the bee (Fig. 1) and made several helpful suggestions. Denny B. Weigall kindly allowed me to quote from the private correspondence of his father, the late Arthur E. Weigall.

References

1. BREASTED, J. H. (1906, reissued 1962) Ancient records of Egypt. *New York: Russell & Russell* Vol. II, index in Vol. V
2. ——— (1930) The Edwin Smith surgical papyrus. *Chicago*
3. BULLOCK, R. A. (1975) The tale of Sinuhe (translation privately circulated)
4. CARTER, H. Information from the Howard Carter Tutankhamun record cards in the archives of the Griffith Institute, Oxford
5. EBERS, G. (1875) Papyrus Ebers. *Leipzig*
6. GARDINER, A. H. (1927) Egyptian grammar. *Oxford* pp. 71-76

continued on page 163

visionary, and pursued his aim without thought of remuneration; his idealism was so infectious that I followed his footsteps without minding the difficulties or inconveniences. This was the origin of what later became the Apicultural Laboratory at Mahabaleshwar.

Very encouraging results were obtained from the work at Mahabaleshwar during the next ten years, and the Khadi and Village Industries Commission, a statutory body of the Government of India, decided to extend the scope of this work to cover the entire country. The Central Bee Research Institute in Poona, the result of Dr. Deodikar's vision in the 1950s and his unabated efforts ever since, is today the only institution in India devoted solely and comprehensively to bee research. The Institute is recognized not only in India, but by international bodies such as the Bee Research Association and Apimondia, and by bee scientists all over the world.

Dr. Deodikar holds many distinguished posts: Director of the Post-Graduate Research Institute of the Maharashtra Association for the Cultivation of Sciences, Member of the Executive Council of the Indian Council of Agricultural Research, Visiting Professor of Genetics at Poona University, Member of the Council of the Mahatma Phule Agricultural University, Chairman of the Committee for Beekeeping Industry of the Indian Standards Institution, President of the Indian Society of Genetics and Plant Breeding. His versatility is astounding: he has dealt with subjects ranging from an ideal road transport system for India to Indian philosophy, and from biological disciplines such as genetics and biochemistry to astrophysics. He has published over 100 books, monographs and research papers in leading Indian and international journals. But he has not forgotten his old love, and continues his association with the Central Bee Research Institute as Honorary Scientific Adviser.

This unique man will reach his sixtieth birthday in November 1975. I myself feel proud to have been associated with him for over 25 years, and I join with many others in wishing him a healthy and active life for many years to come.

continued from page 148

7. KUÉNY, G. (1950) Scènes apicoles dans l'Ancienne Egypte. *J. Near Eastern Studies* 9 : 84-93
8. LUCAS, A. (1962) Ancient Egyptian materials and industries. 4th ed., revised and enlarged by J. R. Harris *London* pp. 2-3, 25-26, 30-31, 89, 221, 297, 301, 303, 336-37, 352-53, 364
9. POSENER, G. et al. (1962) A dictionary of Egyptian civilisation. *London* p. 127
10. QUIBELL, J. E. (1908) Tomb of Yuua and Thuiu. Vol. XLIII, Catalogue Générale d'Antiquités Egypt. Mus. Caire. *Cairo* pp. 49, 75-76
11. SÄVE-SÖDERBERGH, T. (1957) Four Eighteenth Dynasty tombs. *Oxford: University Press for Griffith Institute* p. 9, plate IXb
12. ZANDER, E. (1937) Beiträge zur Herkunftsbestimmung bei Honig. Pollengestaltung and Herkunftsbestimmung bei Blütenhonig. Bd 2. *Leipzig*