Eva Crane Trust

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TITLE: A lifetime's recollections of Kenyan Tribal Beekeeping

SOURCE: Jim Nightingale interviewed by Eva Crane.

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FOREWORD

Jim Nightingale was a much loved figure in Kenya beekeeping and farming, and he had a unique knowledge of beekeeping tribes, their traditional methods and customs. He could never be persuaded to write down what he knew, so in 1980 I spent a weekend at the Nightingale home in Njoro recording his experiences and knowledge on tape.

The transcription of the recording is now published as a memorial volume to Jim Nightingale. I express my appreciation of Peter Paterson's able assistance during the recording sessions, and of Barbie Nightingale's help in many ways, including the short account of Jim's life on page 5. I also thank Gordon Townsend and Willard Robinson for their descriptions of Jim's way of handling tropical African bees, and the honey they produce in traditional hives, respectively. Judith Dolby transcribed the tapes, and typed the subsequent drafts and the camera-ready copy.

The Third International Conference on Apiculture in Tropical Climates, to be held in Nairobi in November 1984, will provide a special occasion for remembering Jim and his beekeeping.

Eva Crane
August 1983

JIM NIGHTINGALE 1910 - 1983

Jim's father Max Nightingale was brought to Kenya by the British Government as a surveyor, to open up and survey the land for farming development, and his name W.M. Nightingale can still be seen on many maps and deed plans. When he was working on the Kinangop areas, Max met the Fey family and he married Eleanor Fey (Jim's mother "Nell"). Max and his family surveyed across thousands of acres of Kenya, then British East Africa, from the Kinangop plateau, Kipipiri, Ol Kalou, to the Uasin Gishu and Eldoret. In 1912 they purchased a piece of land near the Fey's farm, divided from it by the Chania River, and here they lived and farmed until 1963.

Jim's childhood was spent with his African friends, walking in the forests, fishing, or helping the old Kikuyu men attending their hives. He was the first boy to attend the old Kenton College School at Kijabe; he later went to school in England, and then to Kersney College in Natal, South Africa, where he was the leader of the Beekeeper Club. When he returned to Kenya at eighteen, he was put on to the job of marking out and making the first road through the Bamboo Forest from Kinangop to Uplands. The new road follows almost the same line as the one he cut fifty years ago. Jim helped on the farm, and started his own herd of Ayrshire cattle, as he was anxious to hand-rear calves - a practice unheard of in Kenya at that time. Jim tried out a new idea, which he had read about in books, on the Polhill calves owned by my parents, and in 1935 he and I were married. He was also one of the early pioneers of pyrethrum, which later became the main crop of Kinangop farmers. Jim had his own bees as soon as he returned from college, having imported Langstroth hives from the USA. He many times imported queens, but their progeny did not survive.

After the Second World War Jim started migratory beekeeping, moving his hives long distances by truck to many parts of Kenya where the current honey flow was brought on by seasonal flowering or rain. After a few years he returned to the same places season after season. He was always interested in trees, their uses as timber, for charcoal or for honey production. He studied all the local flora, both for their honey potential and for their other uses. Soil conservation, including contouring of land, roads and forests, was another of Jim's interests. He worked a lot with the Agricultural Departments as well as on his farm. He hated to see soil erosion.

In 1963, when the Kinangop went over to new small-scale settlement farms, the Nightingale family moved to Njoro, to start a new life. We took with us many of the hives, and also cedar fence posts, the dairy herd of Friesians, the pigs, sheep, horses and many other items. The Njoro farm was built up with the assistance of our wonderful family, who gradually took over its working while Jim devoted his time to helping African beekeepers and the Kenya honey industry, with field days on the farm and visits to many parts of the country where his ideas and advice on bees were put to good use.

Jim was a wonderful father, farmer and husband. We experienced great pleasure and satisfaction together, raising our family of six, and seeing the next generations of children and grandchildren following in Jim's footsteps.

Barbie Nightingale
August 1983

The Interview

KIKUYU AND DOROBO TRIBES

EC. Can you think right back to your early boyhood, when you had a lot to do with the Kikuyu and their beekeeping. What were the people like? What sort of lives did they lead in those days?

JN. Well, to our concept these were primitive people, with their own customs. Beekeeping for honey came into their customs a lot; honey was used as a traditional gift, and it was a very important part of their social structure. For instance in a proposal of marriage the father always had to have a gift of honey or honey beer.

EC. And who made the honey beer? Was it just for special occasions?

JN. No, it was a universal drink for the old men, I think, and they would have made it all their lives. Women could also make it, but it was the old men who drank it.

EC. How did they drink it? From cups, or from one communal vessel, or what?

JN. It was usually poured from a large central vessel into little gourd basins, but sometimes into a type of gourd that could be drunk from like a bottle.

EC. And was it very alcoholic? Were the people allowed to get drunk on it, or was this disapproved of?

JN. It was very alcoholic. Whether a person drank it depended on his age group. The young warrior class were not allowed to drink at all. It was the old men who drank it, after they had reached an age where they were physically not of much use to the tribe, although their advice was taken. These old men were looked up to, and they were permitted by tribal custom to imbibe.

EC. Did the beer perhaps contribute to the old men's advice?

JN. Well, in a gathering of elders to discuss issues, the beer would be handed round, and I think it loosened their tongues a bit.

EC. And when it was used in connection with marriage, was it used in the ceremonies, or was it offered as a gift?

JN. The prospective bridegroom would invariably include a gift of honey when approaching the bride's father. The amount would be whatever he felt he could afford. I think it varied between a gallon or less to four gallons - or any greater amount. The more honey he could present, the better chance he had. Honey was always included in the bride price, but this was given over a period of time, not all at once.

EC. What would happen to this honey, would the bride's family eat it?

JN. No, it was always turned into beer. Honey was universally consumed as beer. Occasionally combs taken from the hive would be eaten straight away by the beekeeper's family; it was usually presented as a general mush-up, honey, grubs, pollen and all.

EC. You mentioned the bride price just now; what was this?

JN. In order to marry a girl, the man had to pay over a certain number of cattle, and so many goats and sheep. The father would try to put the price up, but as a girl got older and remained unmarried, he would have to reduce it.

EC. Like having an end of season sale?

JN. Yes, it was a disgrace to have a daughter left on your hands unmarried. So if she wasn't all that attractive, and was getting on, she would be bought at a lower price as a third or fourth wife of an older man. She would at least be honorably married and could join in family life. All the women would be married to someone. But a man couldn't have a second wife if he had a brother who was unmarried.

EC. Did people who were not beekeepers have to give honey too?

JN. Yes, they got the honey from beekeepers. Each section of the tribe would have members who were the beekeepers. But the dwellers of the adjoining forest, loosely called the Dorobo, were the main suppliers of honey. They would trade the honey for meat and other articles that the tribe could supply to them. So there was a certain amount of trade in honey. Wandorobo is the plural form of Dorobo.

EC. What proportion of the people were beekeepers?

JN. Thinking back on it, there seemed to be a far more universal interest in bees and beekeeping in a tribe than you would get today. Nowadays a large percentage of the Africans are ignorant of bees, but in those days they all had a certain amount of interest. Even if they didn't keep bees themselves, they were in contact with the beekeepers all the time. And a tremendous number of people owned hives, which were inviolate. Nobody would dare to touch another man's hives because of desturi.

EC. What is desturi?

JN. I think custom is the nearest English equivalent. All tribal and social activities were governed by desturi. People did this or that because desturi said they should do it. Or they did not do it because desturi said they shouldn't. Desturi was an excellent thing, and society was governed by it. It had more power than custom. You never broke desturi. Desturi said you never violated another man's beehive, and you didn't do it.

EC. And were the trees marked in some way to show who in the tribe owned the hives in them? Or did everyone know, because they were so close to each other?

JN. They all knew their hives. And there was never any thought of disturbing another man's hives. Sometimes they would work in groups, or a family of beekeepers would go out together, because it was easier to work that way.

EC. And was it always the men who worked them?

JN. Yes, always men, never women.

EC. And what was done with the honey when they got it? Was it strained at all?

JN. No, they just took the combs out - grubs and pollen and dead bees and so on - all mashed into a container. The Kikuyu in my part of the world used skin containers. Occasionally you would see the odd drum of hollow wood, with a leather bottom and a leather cap on it. But skin bags were much easier to carry, over the shoulder. The honey would be squashed tightly, to get in as much as possible. It might be stored in these bags as well. In the early days containers for storing honey were hard to come by, there was no modern tin ware. But they did use gourds; they might collect honey in a skin bag and then tip it in a gourd. Some of the very large gourds were used for storing beer, but beer was never stored for any length of time, or it would become too potent.

EC. Tell me what the hives were like.

JN. Hives were made everywhere from what local material was suitable. I can tell you about the part of the world where I lived, the Kinangop in Kikuyu country. This is on the east side of the Rift Valley, and on the west side of a range of mountains (the Aberdares) running parallel to the Rift Valley and separated from it by a wide high-altitude plain. The mountains were forested, and this is where the bees were kept, in hollowed-out cedar logs; the men hollowed them out with a chisel attached to a long pole. The hive was set up in the ground at a convenient angle, chiselled out from one end, then turned round and chiselled out from the other end. The beekeepers made their own hives, although in other places there were traditional hive makers, like the Wakamba, but my experience with the Kikuyu is that the beekeeper made his own hive, and he put it up in a tree straight away. Or he might let it season a bit after first hollowing it, and then work on it again. As soon as it was sufficiently seasoned he would get it up in the tree.

EC. And how did he close the ends?

JN. A piece of cedar wood was smoothed off to fit the end of the hive and a notch was made in each end which matched a notch in the hive, cut so that the two fitted exactly.

EC. Then where was the bees' entrance?

JN. The Kikuyu made entrances at both ends, a lot of little holes burned through the wood with a hot piece of metal.

EC. Was the hive hung up with a forked stick, or by a rope?

JN. Neither. The Kikuyu used to wedge their hives in branches and tie them in with monkey rope, lianas. Later on they stole wire from people's fences and used that. But in the early days they used the material that was available in the forest, and many different types of fibre plants were suitable for tying hives in the trees. The hives were placed as high as possible; I think they found that the higher the hive, the more chance there was that a swarm would occupy it, and the less likely the bees were to leave the hive.

EC. And do you know why this should be?

JN. No, but my theory is that the higher the hive is in the tree, the more equable the climate is. Nearer the ground there are greater variations. I think that is the main reason why the bees prefer the height. A secondary reason is that the bees were probably more likely to survive if they were high up, out of the way of such predators as honey badgers.

EC. Can you say anything about swarms actually going into empty hives. Is this more likely if the hive is higher?

JN. Yes, definitely. If you put one hive high up in a tree and another low down, the one high up will be colonized first.

EC. And is there any difference between trees, say on the edge of forest and in the middle of a group, with regard to swarms going into them?

JN. I don't think so. The beekeepers used to discuss amongst themselves what was a suitable place to put a hive, which trees were best, and so on. But I think the height was the main factor in that part of the world, because it was very cold at night with heavy frosts. The closer to the ground you get, the larger is the variation in temperature. Plants get frosted in small hollows in the ground - frost pockets - and up in the tops of the trees there was a much more even temperature.

EC. Did the people know roughly when the swarms would come? It was seasonal, I suppose?

JN. Yes, and you expected the swarms to arrive from the lower parts of the area, down near Naivasha.

EC. So these would be migratory swarms?

JN. Mostly, yes, because on the Kinangop there wasn't time for colonies to develop to the swarming stage in their own area. But down lower, round Naivasha, when the forage finished, the bees came up to the Kinangop, usually round about August.

EC. And what flowers were coming out then on the Kinangop?

JN. It was almost universally Dombeya, but every seventh year the Mimulus solmsii flowered and it produced a tremendous honey flow at more or less the same time as the Dombeya, which just increased the Mimulus flow. There would be a subsidiary honey flow from Hypericum in January.

EC. So the bees were still on the Kinangop in January?

JN. They would be around, and you might even get some honey from Hypericum or from heaths (Erica). On the higher altitudes these gave a dark honey, and were only a secondary source.

EC. Did the beekeepers wait until the bees left before they harvested the honey?

JN. No, they had to take the honey before then; when the bees left they would take most of the honey in the hive with them.

EC. You mean they flew off carrying it?

JN. Actually, if a hive was completely unmolested the bees wouldn't migrate, but would settle in the hive for good. In my opinion, bees don't leave if there's plenty of water and plenty of food. If they've got stores of food these will see them through to the next season. The bees only migrate when the food in the hive is almost exhausted.

EC. When the beekeepers took the honey, did they kill the colony, or did they leave the bees and some honey behind? Or was it sometimes one and sometimes the other.

JN. No, it was very much later that the bees were killed. The traditional beekeeper didn't kill his bees, he took their stores and sometimes a certain amount of brood, and if he did this the bees would eventually reach a starvation level and would then migrate.

EC. So migration would be induced by the beekeeper's operation? It would be the weakened colonies - the ones that were left small, and with little food - that would migrate? When? And where to?

JN. In February they would go back to Naivasha, below the escarpment, and try to find homes there. If there was a good breeding season in the Kinangop forest, but a strong honey flow in the lower country, the bees would migrate because of the honey flow down below. Swarming migration would increase.

EC. What is the distance between Naivasha and Kinangop? And was there any forage for the bees in between?

JN. It's about 10 miles in a direct line, and there was no forage at all.

EC. So would the bees fly all the distance at one time, or would they stop and rest on the way?

JN. They'd rest on the way if they could, but I've many times come across swarms that were completely exhausted. They would seize on the opportunity to settle on one's body. If you held your hat up and collected a few bees on it they would all settle on it immediately, from exhaustion.

EC. Do you mean it was such a featureless landscape that any object made them settle on it?

JN. Yes, there were no trees, or even bushes.

EC. Might this be the basis for stories of bees attacking animals and swarms settling on them?

JN. No, I don't think so. In those conditions the bees were not at all aggressive. I think most cases of bees stinging animals and so on arose when the bees were aggressive. They probably came from a hive out of sight somewhere that had been disturbed, or when some other factor has created an aggressive feeling in the hive; they would then attack whatever they found. I don't think swarms have attacked on many occasions, although a hive might have been molested to such an extent - by a predator such as a badger or a human being - that the bees just cleared off and were still in a very aggressive mood. So although they were migrating they had been made aggressive because of having been recently molested. But this would be unusual.

EC. So what happened when the bees got back to Naivasha?

JN. They either went into hives there, or into hollow trees, or mostly into the rocks. All the cliffs were full of colonies of bees.

EC. And did people take the honey from them. Or was there not enough to be worth taking?

JN. They could get a lot of honey from them, but they preferred to take it from hives. And also in the Naivasha area - if you go back far enough - it was uninhabited country, far away from tribal areas, so there were not many beekeepers. A lot of the Rift Valley was uninhabited, except for Masai nomads passing through with their stock from Limuru to the Tugen country. There wasn't a settled community in that part of the world at all. But when I was a youngster we used to go honey hunting in the cliffs there, and bees were everywhere. There was a lot of honey, because it hadn't been disturbed for years.

EC. Who took you honey hunting?

JN. I went myself, with some other boys of my own age, when I was at school in Kijabe at Kenton College, which had just opened. We took a box of matches, and that's all - no protection against the bees whatever. We made a smudge fire, but we used to get very badly stung.

EC. What did you carry the honey in?

JN. Tins or anything else we could get hold of, and we would bring it back to school.

EC. And how did you get up to the nests?

JN. We clambered up the rocks.

EC. Like prehistoric honey hunters?

JN. Yes. We got the Saturday afternoon and Sunday afternoon off, and a gang of us would go wandering round. It was part of our sport. Naturally not all the boys would go near the bees, but there were a dozen or so who were interested. I was about twelve I think. I was the first boy to arrive at the school - I came on a horse, wearing a big stetson hat.

EC. And were you the leader of the honey-hunting gang?

JN No, but I was an active member of it. The leaders were a couple of young boys who had been brought up in the wilds as I was, but in a different area, Laikipia, and they had done a similar sort of thing when they went out with Africans to collect bees. They were a couple of very tough boys. One of them particularly looked like a pin cushion when he was stung, but it didn't seem to worry him a bit. I think I was a little bit more careful, and used to stand behind and take the honey from the boys who pulled it out of the rock. Just as prehistoric man might have done it.

EC. And were there trees with honey in?

JN. It was mostly in rocks. In Kenya there were bees' nests everywhere: in hollow trees, and under the limbs of big trees. In the Mau forest here, my father went out surveying, and he was never short of honey. One of the workers would go in and pull out the centre comb and shake it, without smoke or anything, just giving it a jerk and pulling it out. He would break off the honey at the top of the comb for my father, and the Africans would eat the grubs, which were more tasty to them than the honey.

EC. This was a happy division! It sounds as though the bees must have been less easily alerted to sting then than now.

JN. Yes indeed. Human freedom of movement around the country has now destroyed all the tractable bees. Only the fierce bees that the human predators left alone have managed to survive. They are the ones that are producing swarms and colonizing hives today. In the old days only the tribal traditional beekeeper did anything with the bees; he would sometimes rob nests in the rocks and hollow trees, but mostly he used his own hives. And because he owned the hives and the bees, he did not over-rob them. He would leave enough honey for the bees to carry on; he soon learnt that if he took too much out the bees would abscond.

EC. Did he in some way work so the queen was left behind, or did he

sometimes happen to take comb with the queen on it, and the bees then reared a new one?

JN. I think that by working from the honey end, and blowing smoke into the hive there, it was possible that the queen would be driven away towards the other end.

Ec. Which would be the honey end? You say there were entrances at both ends of the hives.

JN. Well, honey could be stored at both ends, or one end. The beekeeper would soon find out, just by knowledge of that particular hive; in his mind he could remember where the brood was last time, and most likely it would still be in the same place. And he could tell by the bees' activity where the brood was, and he would take from the other end and leave enough for the bees. He knew precious little about what went on in the hive; it was surprising how little these beekeepers did know. They had a name for the drone, and they knew the drone was lazy and didn't work. The Kikuyu called him kinaweh and sometimes referred to people as 'drones', as we do.

EC. And did they know anything about the big bee - the queen?

JN. No. My memory is that they knew there was a 'queen'; I remember that they were very interested when I myself had learned more about bees and was able to show them the queen. They had seen it before, and sometimes used to talk about it, but they didn't realize it was the mother of the hive. Thinking back on it, their knowledge was very, very small.

EC. And yet they were successful over generations in getting honey from the bees and leaving the colonies alive to carry on? Were there any special characters among the beekeepers, ones that you remember?

JN. They were forest people, who were interested in the flora, and usually they had some connection with the original Dorobo people. They were a people apart from the ordinary members of the tribe, in that they had a far better knowledge of the uses of plants. So a lot of them were medicine men as well as beekeepers.

EC. And did they use honey in their treatments?

JN. Yes, they used it for dressing wounds. Sometimes they would use propolis, but it wasn't used as much as I think one would use it now, with our present knowledge. Their main use of honey was as an article of trade, and for people to use as gifts for beer making.

EC. What did they do with the wax?

JN. Nothing. The wax was not used at all, it was thrown away.

EC. And propolis?

JN. They had no use for that either. The beekeeper used to have a big chunk of it stuck on a stick, it looked like a large knobkerry. He

carried it around in his satchel, and would rub it round the inside of an empty hive to try to create an attractive smell, to get the bees to go into it. But it was really a waste product; it wasn't used.

EC. It's very difficult to get information about plants in the tropics that yield propolis. Have you any knowledge about them?

JN. No, I wish I had. I have seen bees collecting resin from trees, in crevices of bark and so on, and I wish I had taken more notice. I should like to do it even now, to find where the bees get propolis.

EC. But they do use it in the hive, you say. Knowledge even on this is lacking in the tropics.

JN. I collect vast quantities of propolis from my hive, and I use it for mending leaks in water tanks, guttering and so on; it is extremely useful

EC. Do the bees use it to narrow the entrance, and to close up cracks in the hive?

JN. These bees had to use whatever they could find for a nesting place, holes in the rocks and so on, and the entrance might be an opening a square foot in area. Eventually they would propolize the whole of this and just leave small holes in it. You would not see this nowadays, because the nests get destroyed so quickly, but in the old days when there were hundreds of unmolested colonies, entrances were propolized. I have collected large chunks of propolis from natural nests.

EC. Can you think of anything else we ought to cover on the Kikuyu and Dorobo?

JN. The most interesting thing to me was their knowledge of the flora of the area, and the uses to which plants could be put - apart from whether or not they were good bee forage. They knew where the best fibres came from, and what were good medicinal plants. The man I used to go out with, Gichuhi, owned hundreds of hives. He eventually became a very noted medicine man, which is rather different from being a witch doctor. A certain amount of mumbo-jumbo goes into witch doctoring, but a real medicine man would use the products of nature for his patients' good. Gichuhi's knowledge was fantastic. But I was young at the time, and did not realize that this knowledge would be useful to posterity, so I never recorded anything. I regret now that I did not write down what he knew. One very rare plant in the forest was extremely good for insanity. We had a lunatic on the farm who was really dangerous, and Gichuki would come and borrow our labour and take them away for the whole day to find enough of the plant to make his concoction, and give it to the lunatic. He would then be alright for about 4 or 5 days, as sober as anyone else. But when the plant wore off he would be deranged again. In the end we had to send him to a mental hospital in Nairobi, because we couldn't afford the labour to find the plant every 4 or 5 days.

EC. Did the beekeepers know more about other uses of plants because they had to know about the plants used by bees?

JN. They were handling forest products for all sorts of reasons, to produce handles for their tools, to produce beehives, and to find suitable fibre to tie their hives up, and I suppose this knowledge was passed on to other members of the tribe. But the beekeepers were the ones that really knew it, and they were looked up to by the tribe. From that, they evolved into medicine men.

EC. Did many other members of the tribe besides beekeepers go into the forests to collect things?

JN. Yes, members of the tribe would go for instance to collect fibres, because they needed fibres to make their baskets and other containers. They had no sacking or anything of that sort. They collected mostly bark of Hibiscus or Dombeya, and used the inner part, having stripped off the outer bark. They would chew it, and for days they would be collecting this and chewing it until they had got a large quantity of fibre, with all the exterior stuff chewed off. Then they would spin it into thread and weave their bags, and containers, for grain or whatever they had, because there was nothing else to carry it in.

EC. They used no earthenware pots?

JN. Pots were used for cooking, but they were too heavy for carrying. They used gourds for carrying water, or a very finely woven fibre bag, or they put the gourd into a bag and used the straps of the bag to carry it. Sometimes they used skin bags. The beekeepers used skin bags for collecting honey, leather bags, mostly from goats. The Dorobo type, the forest people who were beekeepers, used a lot of antelope and forest animal skins and tanned them. Otherwise goat skin seemed to be the most used.

EC. Then they had goats?

JN. Yes, the Kikuyu have goats. The young Kikuyu men, the warrior class, wore practically no clothes. The older men would wear goat skin cloaks with the hair still on it, but the women folk would wear leather made from goat skin, with all the hair removed. The tanned skins were incredibly soft and as far as African tribes went, the Kikuyu were very well clothed in skins. The body was always well covered from the waist to the knees, and also over the shoulders. The warriors would have a heart-shaped cowhide shield over the back of the shoulder to carry the weight of the pigtail: their hair was long and heavily ochred, which made it heavy. But as the men got older they wore more in the way of clothing.

EC. And when they collected honey - either by honey hunting or from hives - did they take off any of their clothes, or did they just go as they were?

JN. They usually used to strip down, and go with nothing on.

EC. They didn't cover their hair?

JN. The honey hunters didn't have long hair; it was normally very short, and didn't seem to catch the bees in it. It was only the warrior class, who did no work at all, who wore the hair long.

KAMBA TRIBE

EC. Can you tell me something about the Kamba people east of Nairobi?

JN. The Kamba cover a very large area of rather arid land, not lush like that where the other tribes live, and they have always been honey hunters and beekeepers as a tribe. I think there is a higher proportion of beekeepers among the Kamba than among almost any other tribe, or at any rate there was.

EC. The way you describe the country makes it sound like Masai country, but they are not beekeepers, surely?

JN. No, Masai are not static people; they are nomads, who go through savannah country and rely on herds of cattle. Kamba country has got a lot more thorn type vegetation.

EC. But how do the Kamba manage to remain static? Do they grow their food, even though their land is arid?

JN. Yes, but it is barely sufficient. They have always had periodic famines, and these are worse now, because of bad land erosion. Also there is over-population, and too much stock. I think in the earlier days the Kamba country had a much better vegetation cover, and even better honey-producing conditions - with fewer people. I had no contact with Kamba people until I was grown up, and by then I was mentally more able to take in and remember what I saw. After I started farming for myself as a young man, I used to go into Kamba country recruiting labour, and I took a tremendous interest in what I saw there, and talked to the locals. The main difference between the Kamba people and the Kikuyu seemed to me that the Kamba were more universally beekeepers than the Kikuyu ever were. Also they seemed to have a better knowledge of bees in general, for instance they knew what a queen was.

EC. And did they have a name for the queen?

JN. Yes, they called it the Mama, but this could have been because I told them that she was the mother. The universal use for honey was for beer making, and the Kamba were great boozers and drinkers. Every time I went into Kitui area they were all under the influence of drink. It was difficult to get somebody sufficiently sober to negotiate with. So it was a problem knowing who to choose for labour. I used to send one of our labourers who was a Kamba, to find his friends. He would go from Kitui to his particular area, which was very remote, towards the north. It was very interesting. The water supply was usually catchment, or huge rocks. My first contact with Kamba beekeepers was in those days, and later on, when I was handing over more of my farming to my sons, I was able to go

again and discuss beekeeping more fully with them. The chief difference between them and other tribes was their method of taking the honey out of the hives. They seemed to operate universally at night, and they lowered their hives to the ground. The Kikuyu used to operate in the day time, and they went up into the tree with their containers. Kikuyu hives were very much bigger than the Kamba ones - really huge. They were so unwieldy you couldn't lower and raise them, and they were tied into the topmost branches in such a way that you wouldn't be able to move them. The Kamba hang their hives so that they can move them. The outer end points downwards.

EC. To let the rain out?

JN. No, it's dry country. I believe it is because the bees have a tendency to store its honey at the higher end of the hive. So in my opinion they were able to open the top end of the hive and get the honey from there. The entrance would be at the lower part of the hive, not at the top.

EC. Hives I have seen near Nairobi are canted at quite a big angle, about 30°. And this is Kamba style?

JN. Yes, and you will find them hanging by a forked stick, although in early days they would have to use fibre for tying them. Latterly of course they stole wire wherever they could find it.

EC. Then what were their hives made of?

JN. They were hollowed logs, from trees available in their own area. On the whole they had a smaller diameter - I think because of the trees that were available. They would make a hive as big as possible, but the Kikuyu had available the much bigger cedar logs for making their hives.

EC. And were these very big hives ever full of honey, full of comb?

JN. Yes, absolutely. If you get a Dombeya flow that is really working properly it is just fantastic what the bees can store. As an example, we were using Langstroth hives on the Kinangop near the forest during a mukeo flow (that is a Dombeya flow), and I had a lot of supers left over, and rather than take them home in the vehicle I stuck them on one hive just over the inner cover, and I put the outer cover on the top: I was just storing spare boxes. I went back a bit over two weeks later, hoping to distribute these supers to the different hives and I found that the bees had worked through a small hole in the inner cover and had filled and sealed every super. They had also built comb, and sealed it, on top of the frames between them and the inner cover. I needed a step ladder to take the top super off, it was so high. (If I had known what would happen I would have done the same to all the other hives.) The bees had dwindled to a small handful, they had worked themselves to death. It seemed they had given up brood rearing, all the brood comb was filled with honey too, so there was nowhere to rear brood. I am sure they hadn't swarmed. That type of honey flow only occurs periodically; when it does, the trees actually drip nectar onto the ground. When I went

riding in the forest during a honey flow like that, I would come back with my clothes soaking wet with nectar, all sticky. It dried on the clothes and I would have to take them off and wash them.

EC. So how much honey would the Kamba get in a hive? What sort of flow would they have?

JN. I think they had some very good flows, especially in the early days. They always seemed to have lashings of honey - they did not know what to do with it. They did extract beeswax, which the Kikuyu never did. Traders bought it, as they still do today.

EC. Is that because they are nearer the coast?

JN. I don't think so, it just happens that it's wonderful honey country. When I was talking about the Kinangop being so marvellous, that's once in a blue moon. But down in Kamba country they get plenty of honey every year. It is mostly from Acacia or labiates.

EC. And what would they get to collect the honey in, barrels or skins?

JN. They had wooden barrels and skin bags, and many more wooden barrels than the Kikuyu ever used.

EC. What area does Kamba country cover?

JN. It is a huge area, going right down to the coast. During the rains there, the amount of bee flora is just fantastic, and it's just not being used nowadays. If I was younger, and knew what I know now, I would definitely take advantage of it. I think one would have to establish water supply points, and work the bees in such a way that plenty of food was left to last them through the very severe dry weather.

EC. And what is the seasonal cycle down there? What is the active season, with the flow?

JN. I think Peter Paterson will know better than I do, because he has taken honey there.

PP. Yes. The situation varies from one year to another. Each year the rains are at a different period, so flowers come later or earlier, and again one type of plant flowers one year, but not the next, or different plants flower in different ratios. So it's very difficult to lay down any rules.

JN. In this part of the world you cannot say that in a certain month next year you will be getting honey. Only on the Kinangop was it absolutely definite, September was the main honey flow, with subsidiary ones in January from Hypericum. That was far more definite than anything I have been able to find since. I have some hives in a building, where records for about 10 years are written on the lids and haven't faded out. I went through these, and I couldn't pinpoint a single month in which I could say "that is the month I am going to get my honey".

EC. Does the ground flora flower after the rains, or not even then?

PP. I don't think necessarily so, but certainly the rain influences it. It is probably more true with the trees, which flower just before the rains.

EC. This is not easy for someone from a temperate climte to understand. We know how difficult it is for us, but we somehow think that it is much easier when it is a rainy season and a dry season.

JN. No, in a temperate climate you've got winter, spring, summer and autumn, and nothing will alter these seasons. Here we imagine we have a dry season in January to March, but in certain years that is our wettest period of the whole year. So you really never know quite where you are. Then plants are affected; if we get three years of rain, our Kenya wild white clover will disappear altogether; it needs a dry weather. It gives a fantastic honey flow when it comes out, and with really good rain after a very strong dry weather, when everything has been sort of dried right off, then the clover will come on and you get a very good honey flow from it. It is nearly two years since I had a super clover honey flow, but the wet year that produced this flow was followed by another wet year, and the clover died out. It couldn't take it. Its a combination of weather factors. It needn't be the weather in any one year, but a combination of two or three years, that alters the flowering pattern. Nowadays we've got eucalypts to rely on as well, they are taking over in a lot of places from the natural flora that has been destroyed by human beings. Eucalypts are very unpredictable trees, and I gather that this is also true in Australia.

EC. Did the Kamba beekeepers have some idea about the seasonal cycle? Were they knowledgable about when they could expect their honey?

JN. Yes, they would expect it just before the rain for instance, and they also got a honey flow about September as well.

PP. One comment I have often heard is that they get the honey at about the time of the maize tassels?

JN. Yes. And that indicates the end of the growing season - or well into the growing season. Of course in that hot country the maize comes on very quickly. Six weeks from planting the maize would be tasselling, and it is planted with the very first rain. This gives a very good indication that say 6 weeks to 2 months after the first flowering there is a honey flow; that would not be from the Acacia, but almost certainly from ground flora. And this is the flora that I see when I go down to the coast when it is raining. I have seen thousands of acres looking just like purple heather, and not a bee on it. There are lots of solitary bees and stingless bees working the flowers, but no beekeepers. The honeybees died out in the dry weather, or somebody probably robbed them out.

I think in the old days there was always sufficient for bees to survive and repopulate hives in all these localities. But now, with the freedom of movement of people, the less aggressive bees have all been exterminated.

EC. What about stingless bees, did the Africans get the honey from these?

JN. I don't know about the Kamba. I would have thought they had so much honey from the honeybees that they wouldn't have bothered, but I don't know. The Dorobo people in this part of the world do or did take honey from stingless bees. Some nest in the ground, and others nest in trees. There are many different species. I don't know enough about them, but I have helped to dig out ground-nesting ones. Even a couple of years ago I hunted around to see if there was a man who could find me some stingless bees. And just for the fun of it, ten miles from here we dug out a nest in the ground. It is very interesting to see how it is constructed. You find the little entrance tube in the ground, which is just about big enough to put your finger into; this particular type of bee always builds the nest in an excavated hole about two feet down. They seem to make the hole themselves. They hollow it out, and so you dig a hole alongside where you see the tunnel, down to below two feet, and then you scrape away towards where the bees are, and keep tapping with the blade of your knife until you hear a hollow sound; that tells you that you are right at the nest, so you don't excavate any more there. You hollow out underneath very gently and scrape away with a twig, or something like that, or a little brush, until you actually reach the honey pots. The nest is in a sort of envelope of propolis. The honey hunter puts a little gourd or tin underneath, and pricks the honey pots in the nest with a thorn. He doesn't get the whole nest out, but lets the honey run out into his container. When it is nearly full, he empties it into a bigger container; he can only get a small container under the nest.

EC. Do the bees attack him in any way? I know they don't sting, but some of the stingless bees can do quite nasty things to you.

JN. No, you can drive these stingless bees like sheep. You've just got to wave your hand at them and they move away from you. That applies to quite a lot of stingless bees; by movement you can actually drive them away.

EC. And so how much honey would he get from a nest?

JN. He might get up to two pints. It's very watery runny honey. It tastes rather like the cough mixture I used to be given as a child.

EC. And you don't know what the stingless bees forage on?

JN. I have seem them forage on the normal undergrowth you get in a forest - Labiatae and Vernonias and things like that. The same sort of plants that honeybees would visit.

EC. And is the honey from stingless bees valued in any special way?

JN. Not that I know of. I have heard it said that the honey is good for coughs; it is a bit pungent, with a bit of a sting to it.

EC. And where was the nest you are describing, that was being dug out?

JN. It was about 10 miles from here, in the Mau Forest and west of the

Rift Valley, at a higher altitude, about 8000 ft. I don't know about any stingless bees in the Kamba country. And in Kikuyu country no one bothered about them.

EC. Is there anything else you can remember back about the Kamba?

JN. Well, the way they used to work their hives is interesting. They operated them at night, and lowered them to the ground; they had to work in pairs because one must go up the tree and tie the hive on to the long skin thong they used.

EC. I only knew the plaited type of rope, such as is used in Tharaka.

JN. The plaited rope is a later development. Originally the rope would have been made, even there, out of a leather thong cut from a buffalo skin and then tanned.

The Kamba lowered the hive to the ground (working at night). They were very drastic with their bees. In the climate there, bees are easily driven out, and they find another home - probably nearby. Or they may swarm on a bush, and return to the original home a couple of days later.

EC. If they were driven out, that is surely one stage better than being burnt in the hive?

JN. Yes, though I think some of them got burnt in the hive too. Then near the Kamba country there were allied Taveta people who probably used the same methods. They were a very similar people, who lived to the south towards the Tanzanian border. I went there during a period of dearth, and there were hundreds of hives with not a bee in any of them. The beekeepers were quite unconcerned about it. They said: "Oh that's alright - once the rains come, the flowers will come out, and the bees will come back". I asked them where from, and they said: "Oh, they'll come from those hills somewhere", and waved towards Tanzania.

EC. So this was an example of migration?

JN. Yes, that's why I mention it. This was about five years ago, and it's still going on. And I'm almost convinced that this migration will cease as the hills in Tanzania get overpopulated, and that those poor people in Taveta will find themselves without bees. This has already happened in the Rift Valley here. And the natural flora that support the bees during very dry conditions in the Taveta plains will dry up, and therefore the supply of bees. The beekeepers will then have to learn to leave enough food on the hives, in order to make their bees stay in them. There will have to be this change-over.

EC. Are there any legends associated with bees, in any of the tribes you've come across? Bees seem to be an important part of their lives - or were.

JN. I can't remember any. Honey of course is magic, in that it produces a highly intoxicating drink which they enjoy. And I think the

African tribes must have used honey for certain ceremonies of sacrifice. They would probably pour some out, but they wouldn't waste a lot, because even their sacrificed goats and sheep were all eaten in the end. They weren't wasted.

EC. In Southern Africa there seems to be evidence that bees were sacred to the Bushmen, and honey too.

JN. Here it was the hives that were sacrosanct.

EC. But that was nothing to do with religion, surely?

JN. No, it was custom, desturi, but that really meant religion. The people believed in a spirit and god, and so on, but their social behaviour was governed by desturi.

EC. This must have been a very cohesive force.

JN. Yes, although no longer, unfortunately. Desturi has disappeared. That's why we have the problems we have today. Desturi means absolutely nothing now.

PP. Before we move on from the Kamba, could you comment on cotton growing in the Kamba country. Has this caused a decline in the amount of beekeeping, because of the pesticide spraying?

JN. The Kamba beekeepers told me that they have lost a tremendous amount of bees from spraying when they were near cotton. It is a latter-day problem, of course. The other big complaint now is that desturi has broken down and hives have to be kept within sight of the homestead for security, instead of out in the bush. I was also told that people are still able to keep their hives in the bush if they haven't got missionized. They spoke of certain areas: "The missionaries haven't got there, they're not Christians yet, so they can keep their hives out in the bush still." I asked the people who were talking to me if they were Christians: "Oh, yes, Christianity is a very good thing, but unfortunately it has destroyed our desturi, which governed the fact that you couldn't disturb another man's bee hive. But now we're Christians, of course we can do this." We have tried to give a new concept of right and wrong, but at the same time we've taken away their own method of governing right and wrong. If we could have combined the two, as the ancient missionaries to Britain did, it would have been much better.

EC. Did the missionaries know nothing about beekeeping?

JN. No, but the important thing was that they knew nothing about desturi. They tended to think that savages were savages and that's it.

PP. Would part of the trouble be that the Christian influence broke down the belief in some of the witch doctors' customs and powers, and that some of the traditional protection was destroyed?

JN. Yes, that certainly happened. I suppose it is inevitable that, if you impose onto a society some completely new social concept, the old concept suffers. And that's what happened.

EC. What happens between the Kamba country and the coast, as far as beekeeping goes?

JN. There's very little, because it's very remote. The Kamba go as far as they can, but they wouldn't be allowed to keep bees now in, say, the National Parks. They're not alowed to go in there, because the chances are they would combine beekeeping with poaching. Those are the sort of areas that are not being exploited for bees now, although they could be.

EC. Was there a beekeeping tradition along the coast in the old days?

PP. I can't speak for the old days, but more recently, it is certainly true in the coastal hinterlands. I suspect that beekeeping probably used to be practised along the coastal belt, but not now. With the changing agricultural patterns, some of the forests being cut down and maize plantations going up in their place, it's not so conducive to beekeeping, and also the coastal strip itself is comparatively densely populated. On the other hand in the hinterland the population goes down, and the vegetation changes. I think what beekeeping there was took place in the hinterland rather than on the coastal strip itself; I don't think there was a beekeeping tradition amongst the Swahili and Arabs on the coast.

EC. You once told me about an African that you were allowed to go out with as a boy, on your farm on the Kinangop. What did you do, and how old were you? Can you remember back to any one expedition?

JN. I was round about 8 - 12, and this African was allowed to take me fishing, for one thing. We'd go right down the Chania valley where nobody else went, and we'd come back with the most fantastic fish - trout which had been put in there many years before, when I was a very small boy. We would go along game trails, and be able to observe animals like bongo, and all the time he'd be talking, about the flora mostly, and the wild animals, especially the monkeys. He used to carry a special little horn in his satchel, and when he blew it in a special way, it would get all the colonies of monkeys answering. From that he could gauge other things, because he was actually a half-Dorobo, so he thought in terms of where the animals were - where good hunting was. And he was able to spot ancient game pits put in years before. If I'd been left to myself, I might have fallen into one, but having him with me I was safe. He knew the right place to put a game pit, so there would probably be one there, and he would hunt around and find it; a lot of them had cedar stakes in the bottom. The man was a beekeeper himself, so sometimes we went to visit his hives and he would take the honey out and put it in his bag to take home. He didn't bother about wild nests - I learned about them later, when I went to school. Bees in the rocks were anyone's property and not governed by desturi, so we could raid them. This African just loved showing me the forest, and sometimes we would follow a honey guide bird to a bees' nest. When we reached it he would be quiet and wait patiently for us to produce a honey comb for him. And he must always be given a comb.

EC. What else happened on these trips? Did you shoot any game?

JN. No, I very quickly gave up the idea of shooting. At first I was considered too young to have a gun; when I got older I did a certain amount of shooting, but always out in the plains, never in the forest. If you go around with a gun in the forest you don't see anything.

EC. Did the Africans use arrows or spears to kill animals?

JN. No, they were more trappers than hunters. My friend set traps on our trips. By the time I was a youngster the original Dorobo were no longer there, and game pits were not made any more. But trapping was done extensively, with very ingenious traps that would catch any animal. They ate the meat and used the skin. But all those forest dwellers went very quickly when the British took over the forest reserve; they were moved out to live in the adjoining tribes such as the Dorobo.

TUGEN TRIBE

EC. Which beekeeping tribes do you know about in the Rift Valley?

JN. There are the Tugen (who are Kalenjin people), the Marakwet in the Kerio valley, and beyond them the Pokot. Those are the only ones I've been in contact with.

EC. And where they as big beekeepers as the Kikuyu and the Kamba?

JN. Yes. They've always kept bees, but probably not quite to the same extent as the Kamba. I only knew them after 1963, when I came to the Njoro area from the Kinangop and started farming here. Things have changed greatly since then, and much of the flora has disappeared because of human intervention. The change had already started when I came here: there were fewer swarms migrating down from the hills above, and now they have pretty well gone altogether.

EC. And what was the major factor in reducing the bee population here in the Rift Valley?

JN. Close settlement in those areas in which bees had been able to survive all the year round, up above the Rift Valley. Where the bees survived, they would come down into the Rift Valley from the higher ground when the honey flows started here.

EC. So people were getting honey from bees up at the top of the Rift Valley?

JN. Yes, the western side of the Rift was all populated with Kalenjin people. The bees migrated chiefly from higher to the lower areas, the time of year depending entirely on the weather. The three main sources of honey down below were Acacia tortilla, Acacia mellifera and Acacia senegal. Above, there was Dombeya, Vernonia and Gladiatii and so on. But the bees came down when the Acacia flowered,

and the Kalenjin people got swarms in their hives. These were not hung in trees, but I should tell you about hives first, and then about their siting.

The hives are different from others in that they consist of a log, split in half to make two troughs, and the two halves are fitted together again to make a cylindrical hive. Some tribes bind the two parts together. The Tugen just put them together and wedge the hive up in the top of a flat-topped thorn tree, in such a way that they can work it there. They ensure that there is a lower branch they can stand on, or if not, they put in a pole to stand on. They open the hive at one edge and put in a stone or wooden wedge, then open it up so that they can see the combs along the whole length of the hive.

When they hollow out the troughs, they varnish the inside with the watery part of the contents of a goat's stomach, and as the varnish starts to dry they run their fingers round the inside of the hive. This leaves slight marks in the varnish.

EC. At right angles to the length of the hive?

JN. Yes, it encourages the bees to attach their combs that way rather than along the length of the hive. It is the Tugen custom, and I don't know of any other tribe that does it. The Tugen live in the very hot area of the Rift Valley north from here, from Campi ya moto towards Lake Baringo. Lake Hannington (now Bogoria) is on the southern edge of it.

EC. Are the ends of the Tugen hives made of discs of wood?

JN. No, each end is integral with the hive itself. As a rule, the flight entrance is made at the end, but very often the bees have subsidiary entrances along the crack of the hive. And the Tugen put their hives level, like the Kikuyu, not tilted down at one end as the Kamba do.

EC. When did they operate their hives, by night or by day?

JN. In the evening, they don't seem to insist on working in the dark. They used smoke, and they mostly collected the combs in a skin bag, but they also used old tins or any container they could get.

EC. And do they use the honey for making beer, like the other tribes we've been talking about?

JN. Yes, this is universal throughout eastern Africa.

EC. It is always the men who drink it, not the women?

JN. Yes. The very old women get a look in sometimes, but that's about all.

EC. And the bees are in Tugen country for five or six months of the year?

JN. Yes, though very often the beekeepers take too much honey from their

hives, and that is mostly why the bees abscond. But there are areas where there is literally no water except in the rains, and the bees will also abscond under those conditions. I've sometimes stopped for a picnic in that area, and before you know where you are the bees are drinking your coffee - the whole cup is surrounded, they are so desperate for water. In conditions like this the colonies eventually give up and abscond to another place, in the same area or farther away. Lack of water is the limiting factor in much of the area. But provided water is available, and the hives haven't been over-robbed, the bees will stay. Absconding occurs when conditions get impossible for the bees; it is a form of survival that the bees have evolved, whereas European-type bees would just sit there and die of starvation.

EC. Do the Tugen do anything with the beeswax from the hives?

JN. I think in the past they just threw it away. They don't make a practice of keeping wax even now, but they may collect odd pieces here and there and do a bit of trading. The traders have never got into Tugen country, so there's no market for beeswax.

EC. And the people themselves have no use for it? This surpises me, because in many parts of the world beeswax was valued as an adhesive to stick things together, or for other purposes.

JN. As far as I know there has been no use at all for wax in primitive Africa. I believe it's used for tie-dying in West Africa, and for bronze casting. They had types of civilization that could use it. In our part of Africa they were just past the Stone Age into the Iron Age. But they kept bees in hives and got honey from them. In the early days the bees' nests in rocks and trees would be unmolested. But nowadays, any tree that has bees in is chopped down. And nests have all been taken from the rocks, by people who are not genuine beekeepers. Beekeepers have often been blamed for starting fires, but this wasn't done by the tribal beekeepers so much as the entrepreneurs who took the honey.

POKOT TRIBE

JN. The Pokot are neighbours of the Kalenjin people, but they are not Kalenjin themselves. Their hives are much better made; they seem to take more trouble. They also use the Tugen split-log method, but half way along the side they cut out a window about 6 inches by 3 or 4 inches. This window is closed by a cushion they make of bark, filled with vegetable material. After manufacture they bind the hive with reeds to quite a large thickness, up to 2 inches sometimes, to protect the hive and keep it cool, because they live in a very hot area. The reeds are placed longitudinally all over the hive. They have a traditional way in which the reeds must be bound, using strips of fibre they collect. They make so many rings on one end, and so many on the other, to hold the reeds in place. There are two binds, one on either side of the window, and then one at each end and one exactly between these, so there are three binds on each side of the

window. The Pokot scoop the honey out through the window by hand, and it comes out as a sticky mess. But they have a tradition not to take honey from beyond the first binding at the brood side of the hive; The rest belongs to the bees. This is a higher level of beekeeping, and the hives themselves are better made and better finished; the beekeepers take the trouble to bind them in these reeds, and they last much longer. The brood would normally be at one end of the hive, but sometimes it is in the middle, and then taking the honey becomes rather complicated.

EC. And what about the ends of the hive, are they an integral part of it?

JN. Yes, the same as with the Tugen, but in the Pokot hives the entrances are definitely at the ends of the hives, and nowhere else.

EC. And these are holes?

JN. Yes, holes as in any other African hive, drilled through with a hot iron. The interesting thing with the Pokot hive is that they don't lever the hive open - everything is done through that central window. It is quite difficult in some ways. I've been out with the bee-keepers: they work all day starting off at 9 in the morning, robbing many, many hives, all in full daylight. We went from one hive to another, leaving undisturbed the hives in between, so that we were far enough away from the last hive to be out of range of its angry bees. Next day the beekeeper came round and did another lot of hives, the intermediate ones. On this occasion I met an old bee-keeper and after a long talk with him, he said why don't you come with me? I jumped at the chance, so I told the rest of our party we are going to camp here another day - they should just enjoy them-selves. I started off alone with him, but after we'd gone about a mile a younger man came out of the bush with bow and arrows, and he joined us; he was the eldest son of my first companion. We went a bit further, and others turned up, and eventually we were a party of 14 or 15 people. Work was started.

Before operating a hive, they consulted the old man, the owner of the hives and the father of the family, so to speak. He no longer climbed trees, so he made the smoker (a bundle of sticks) and lit it, but he disdained the use of matches, he rubbed two sticks between the palms of the hands, and had a smouldering fire within seconds. He knew what sticks to pick up, and he collected more as he travelled to the next hive to start a new smoker. He used a new bundle of sticks each time; he had it made within seconds, and bound with fibre which he picked up there and then. Everything was found on the spot.

The person chosen to operate a hive would shin up the tree, one hand holding the smoker, burning nicely and ready for use. And then he would stand on the convenient perch set up previously, wearing a skin bag with the strap round his neck; the opening of the bag would be about opposite his navel and level with the window of the hive. This is the reason why they are able to operate in daylight; they use the same system for subduing the bees that I use on my top-bar hives. He takes the smoker and waves it around at either end in the wind; he spends 5 or 6 minutes doing that, and the smoke drifts over

the entrance of the hive and causes the guard bees to go back in and take up honey. He goes on doing that for ages; they are great talkers, and they chat away to each other while the smoking goes on, time seems to be no object. But eventually all the guard bees would be subdued - without actually blowing smoke into the hive - and the next operation was to remove the cushion, and blow smoke by mouth into that window. He would keep on blowing smoke in, until the bees deserted the combs and formed a big cluster at each end of the hive. Any bees with aggressive tendencies would soon join one of the clusters, and cease to be a nuisance.

Very few bees were buzzing around, and from then on he would discard the smoker, and scoop out the honey from the honey end of the hive, with his hand. He pulled it out and stuffed it into the skin bag. He might conceivably get some brood as well, but this large group of people had come without any food, and they were out all day, so anything with grubs in it was thrown down onto the ground and the others picked it up and ate it there and then. When I talked about this they said: "We don't need food when we're out doing bees, because there's plenty in the hives; that is our food." Having taken out all the honey to the first bind on both sides of the window, that would be the limit. He wouldn't go any further, but put the cushion back. The cushion was held in place by a springy stick tucked into the binding on either side of the window, over the cushion.

EC. This is a very elegant system.

JN. I was very impressed with the beekeepers, and the way they operated, when I'd seen the very crude methods used by other tribes. It was very advanced, both in the hive operation and in the way they selected hives for working that were a good distance apart. I suppose we walked about 8 miles altogether.

EC. When the beekeeper does the next hive, does he take up the same bag, which already has honey in?

JN. If it's not full, yes. When we came back at the end, everybody was loaded with a heavy bag of honey.

EC. What, all your 14 or 15 people?

JN. Yes, but some of the younger ones were children, and they didn't carry very much. But they were all there to join in; it was a family operation.

EC. And a rewarding one.

JN. Yes, but they had no good market; it was one of the things they kept talking to me about. "We've got nowhere to sell this honey, except to beer shops", so it was all being used up locally by the tribe for making beer.

EC. Earlier you said that honey would also be sold to people for bride prices and so on. Would that not apply here?

JN. Yes, but more recently I've been through the same area, and they were suffering from lack of bees. They are not getting the bees from the hills as they used to.

EC. Because of the changes in vegetation?

JN. In their own area this is still the same as it ever was. I think that in that Pokot area early arriving swarms built up very quickly and swarmed again, so helping to recolonize the empty hives. And I've been in the Pokot area and found no bees at all, even in the season when they ought to be there.

EC. Did the Pokot know anything above the queen?

JN. Not really. They knew there was a bee queen, but they were very hazy about its function. Their knowledge seemed to be more or less the same as that of the Kikuyu as far as the make-up of the colony.

EC. But they learned through generations of beekeepers that you must leave some brood combs behind?

JN. Yes, that's right.

EC. And what other tribes have you been with?

JN. I don't think I know of any others, except I mentioned earlier the people at Taveta; they were very like the Kamba in the way they kept their bees. Taveta is to the south, on the Kenya/Tanzania border, on the way from Mombasa to Kilimanjaro where it is very hot and dry for most of the year.

NAKURU REGION

EC. What about the Nakuru region, where you live now? What was the situation here when you first came. Was there beekeeping here then?

JN. A lot of Kikuyu had put up hives here when the country was first opened up. It was uninhabited country originally, all the way from Limuru in Kikuyu country right to the Tugen; many people don't seem to realize this. The main reason was a cobalt deficiency in the soil, which meant that livestock could not live for any length of time. Nomads would pass through, grazing their cattle. The Masai would go through from Laikipia to Narok, but they wouldn't stay permanently because the cattle would die. In the early days Europeans called it Nakuru-itis (after Lake Nakuru); they didn't know what it was, but it was worse in the area of the Nakuru. It wasn't until cobalt deficiency was identified in New Zealand soils that they realized it was the problem here as well. We use cobalt in all our mineral licks now, and this keeps the cattle alive. It doesn't affect the vegetation, but it did keep the people out. Also the climate in this part of the Rift Valley wasn't really conducive to African agriculture. And throughout East Africa the people still have livestock even if they are agriculturalists. Anyway, it did

seem to be empty country in the early days, but into it came the Dorobo who would have hives, and on this side of the Rift they would have been Dorobo with Kalenjin affinities. They had their own language originally, but they quickly took on the customs of other tribes because they would trade their honey and their animal meat and that sort of thing, in order to get other essentials from the tribes around. The same thing happened on the other side of the Rift Valley, to the east; the Dorobo there acquired an affinity with those tribes. The Kikuyu actually came in and puchased their land from Dorobo in the very early days, long before the Europeans arrived. Verbal agreement was drawn up with the Dorobo, to allow the Kikuyu to come in and cultivate. The Dorobo, being a peaceable people, just retired further and further into the forests; they could live there because they were hunter-gatherers.

EC. And they kept bees wherever they went?

JN. Yes. Basically, I think their economy was a hunter-gatherer one, but they did need other things, and honey was something they could use for bartering, trading with the infiltraters from the other side - because that's what the other tribes were: they infiltrated into what was originally Dorobo country.

EC. I'm still confused in that you say the country round here was empty because cattle couldn't thrive, and then you talk about the Dorobo coming in, and then the Dorobo selling land to the Kikuyu.

JN. I've been talking about pre-history. It's now Kikuyu country between say Mount Kenya and the Aberdares. This part of the Rift Valley had nobody living in it, except for Masai passing through with livestock, until the Europeans came - particularly from the Kalenjin to the borders of the Kikuyu country. The whole of the Kinangop plateau was uninhabited where we lived. It was too cold for any Africans to survive up there - they couldn't grow crops. The Masai would go up for 2-3 months when they had disease problems with their cattle in the valley. They would try to cleanse the cattle that way, but they would come away again; they weren't permanent residents.

Periodically, every so many years when the cirumcision period came round, the Masai used to go up onto the Kinangop with their livestock and so on. They held their ceremonies up there because the water was very cold and they used that as an anaesthetic. The initiates would have to sit in the water for half a day, to be thoroughly chilled, before the operation was carried out. When the area was opened up for white settlement, about 10 000 acres were set aside as the Masai Circumcision Reserve. But when "civilization" came, and with it cattle disease quarantine regulations, the Masai were always finding themselves being put in quarantine and unable to bring their diseased cattle up there. So they were never able to use the Circumcision Reserve, and when the Kinangop was eventually sold, it was taken over for closer settlement by Africans. The Masai then got concerned, and asked: "What about this land that belonged to us, the Masai Circumcision Reserve?" So there had to be some negotiations; a group of Masai elders came up, but they couldn't remember where the Reserve was, and they had to come to me to be reminded, and get me to confirm where it was.

EC. And you remembered?

JN. I knew because my parents knew, and they had passed the knowledge on to me; we talked about it, and it was actually demarcated on the maps. It's about half way long the Aberdare Mountains, along the Tulaga River.

EC. And so was this kept for the Masai?

JN. No, they decided it was no use to them, they didn't want it after they had had a look at it. They had gone to new areas for their ceremonies, and this Reserve was something in their distant past.

EC. What happens about beekeeping on the west side of the Rift Valley, going towards Kericho?

JN. I know a bit about the area itself, although I'm rather hazy as to how the African beekeepers operated there. I used to take my own bees there in the very early days. I fitted out a lorry for them, because it's one of the best beekeeping areas in the country. There is Hibiscus, which produces a very nice honey, water-white, which crystallizes rapidly - almost at once. Then there is Dombeya, both the shrub type and the tree type, and a tremendous amount of Labiatae and Vernonia. Vernonia is very extensive, and produced a honey with a flavour rather like butterscotch, and very, very thick. It's wonderful bee country from the top of the escarpment for miles and miles, right down into the Masai country.

EC. And what tribes were there?

JN. In the old days we called them Mugwa and the Kipsigis. There was a tremendous trade in honey in the early days, and it was always very nice water-white honey that crystallized into an almost butter-like consistency, very finely. There was a big trade in it; the Asians were the chief entrepreneurs. But, again, owing to excessive overpopulation the flora has been interfered with, and beekeeping has dwindled over the years; it is no longer the big industry that it was at one time.

EC. What about round Lake Magadi. Can there be any beekeeping in the hot country round that alkaline lake?

JN. No. That was mostly Masai country, and they have never been traditional beekeepers. I'm sure there's always been plenty of honey to be got at the right time of year. I don't think there's an area in East Africa without a honey flow at some time of the year. It's a question of being able to take advantage of it. But in the old days, there was no question of moving hives of bees from one place to another.

EC. But the bees did their own moving from place to place?

JN. Yes, and hives had to be put in the right place for the swarms.

THARAKA TRIBE

EC. Where else can we go? Do you know anything about beekeeping in the Meru area down on the Tharaka plains north of Mount Kenya?

JN. No, I only know from hearsay that it's a good area for beekeeping, and I've travelled through there and been most impressed with the flora.

PP. There certainly seems to be quite a lot of traditional beekeeping practised in the Meru area, both high up in the mountain forests (5000 - 6000 ft), but perhaps especially in the lower parts of the country, going down to the edge of the Tana River. The Tharaka people keep hives through this area. The vegetation is largely thick thorn-bush scrub, with quite a lot of larger acacia trees, and the type of beekeeping practised uses the traditional log barrel hive, which is supported in a tree by means of a hooked stick. The beekeepers collect the honey after dark, I think invariably just after sundown, 7-8 o'clock in the evening. They don't lower the hive, but climb up into the tree. They go out in a team of at least two; one person will climb up into the tree taking with him a rope, a smoker-torch, and a container for putting the honey in. This container is a wooden cylinder with a hide strapped around the base and hide lid to form a cover that fits quite closely. The smoker is made from a single branch of a selected tree, with a local knife such as a panga: it is cut, and feathered at one end, which is then lit, and taken into the tree as it is smouldering. It is rather effective, because by blowing hard on this smoker-torch the beekeeper will get a flame that he can see by, and then when he wants smoke he gets the flame to go out, and there is a vast amount of smoke, which he then blows all around the hive, and opens the barrel at one end. It can be opened at either end, and they seem to work out the end where the brood is, and take the honey from the other end. The smoke is blown in from the end opposite to the brood, and the bees go down to the brood end of the hive, and the beekeeper is able to open the honey end, take out the honey and put it into the container, which has been tied onto the end of the rope. When all the honey to be had from that hive has been taken, the honey container is lowered on the rope to his attendant waiting at the bottom of the tree. He can then shut the hive up, and during the whole process he may have had no more than two or three stings.

EC. Yes, how many stings do the other people you've described get, Jim? And which of the peoples are cleverest at avoiding being stung?

JN. I would say the Pokot.

EC. The ones who seemed to be most advanced in general?

JN. Yes, in their method, first subduing the bees guarding the entrances, working by day, and forcing the bees away from the window towards the two ends. And once clusters of bees have formed there, there's no question of bees rushing round to sting anybody. From your description, Peter, I suppose in the night operation bees are blown down through the hive to the far end, where they cluster because its dark, and they can't fly.

PP. That's right.

JN. And they are getting a similar effect, obviously. But I would imagine the way the Kamba do it, lowering the hive to the ground and so on, must be a very poor method. Although it's after dark, quite a lot of bees would land on the beekeepers. The Kikuyu that I saw operating tended to strip down to practically nothing, and I believe the Kalenjin do the same thing. But the Pokot I went with didn't bother to strip, and they weren't getting badly stung.

EC. But how much would they wear in the way of clothing?

JN. The people I went around with had quite a bit of clothing on, often European type, and they didn't bother to take it off. There was no question of stripping down to nakedness, as a lot of the tribes used to do. I'm pretty certain that if the bees are buzzing round you, all over the place, they are more nuisance if you wear clothes than if you have nothing on. Bees can crawl inside clothes, and get squashed and pressed against you and sting.

LAIKIPIA AND TURKANA

EC. And what happens even farther north still, towards Lake Turkana?

JN. North of here you come to the Laikipia Plains, and I had school friends who lived in that area. I had a wonderful time finding bees' nests in holes in the ground - and in hollow trees as well.

EC. And these were honeybees' nests on the ground? Was it because there weren't enough trees?

JN. There was not enough trees, and there were no hives, because there were no beekeeper-type Africans on those plains.

EC. When you say no "beekeeper-type Africans", do you mean they were all nomadic?

JN. That was when I was talking about Masai country, and as far as I know there weren't beekeepers there. A lot was taken over for European settlement; it was more or less empty country, but there were bees, and I know from my later observations that there was a fantastic amount of acacia thorn-tree flora. At Nuaromora, on the edge of that sort of area, they have now started a bee co-operative that's been very successful, and produces a very high quality honey. As you go north again you get into the Matthews Range, and there have always been beekeepers in that area, although I don't know much about them. And farther north still you come to Mount Kulal, which is just east of the southern end of Lake Rudolph (Turkana). There are beekeepers there, and I would presume that they are Dorobo-type people. I have actually had honey brought to me from there, and it is very good. That's about all I know of the bees in that sort of area. All round the edge of the Laikipia Plains towards Mount Kenya there's a lot of bee flora that we don't get on this side, which produces a very good honey indeed.

INDEX TO PLACES AND TRIBES*

MAP OF KENYA SHOWING LOCATION OF PLACES AND TRIBES