Milho, Meixoeira and Other Foodstuffs of the Sofala Garrison, 1505-1525.
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Résumé
P. E. H. Haïr — Milho, meixoeira et autres aliments de la garnison de Sofala, 1505-1525. Les archives du comptoir portugais de Sofala nous éclairent quelque peu sur la nature des plantes alimentaires utilisées au XVIe siècle sur la côte orientale. Les termes milho et meixoeira paraissent désigner respectivement le sorgho et le pennisetum, plutôt que le sorgho et le maïs, comme on l'avait supposé d'abord. Il est certain qu'après 1800 meixoeira s'applique bien au pennisetum, et il y a de fortes présomptions pour que les références antérieures doivent être interprétées de même. Les références au milho dans les récits de naufrages au Natal doivent très probablement s'appliquer au sorgho. Les autres aliments mentionnés sont les haricots, les pois et pois de terre, et les huiles végétales locales.

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The records of the Portuguese garrison at Sofala during its first two decades throw some light on the foodstuffs in contemporary use along the coast of South-East Africa. Rations of staple foods were provided for the entire garrison and rations of special foods for the sick. Provisions were often difficult to obtain locally and had to be brought from a distance, sometimes by expeditions organised for this purpose. Hence the extant garrison accounts include many references to foodstuffs. The foodstuff earliest mentioned was rice, though this was apparently not consumed in large quantities later. From 1506, the principal staple was *milho.* Cows, goats and hens provided meat. The staple foods were purchased locally when available, but not infrequently they had to be brought from Mozambique and points further up the coast. Other foods consumed included beans, 'peas' (grãos), oil, wine, vinegar and salt, all of which could be procured on the coast; and certain delicacies usually reserved for the sick, honey, coconuts, almonds and eggs, which were bought on the coast, and wheat-flour, sugar, tins and cheese, which were brought from Portugal or Madeira. We shall discuss some

1. On the Portuguese in Sofala, see Alexandre Lobato, *A expansão Portuguesa em Moçambique de 1498 à 1530* (Lisbon, 3 vols., 1954-1960). The installation of the garrison and its subsequent vicissitudes are described in the first two volumes: the third volume refers at length to the problem of victualling the garrison, and quotes many previously unpublished documents from the Portuguese archives. A selection of these documents has since appeared in *Documentos sobre os Portugueses em Moçambique e na África Central 1497-1840* (National Archives of Rhodesia/Centro de Estudos Históricos Ultramarinos, Lisbon, 7 vols., 1962-1971).

2. *Documentos, 1: 332 (20.12.1505: the note to this document is incorrectly translated in the English version), 504 (19.5.1506), 605 (25.8.1506); Lobato, 3: 73 (25.8.1506), 180-189 (small purchases in 1516 at Sofala and Beira). The reference is always to 'unhusked rice'.

3. *Lobato, 3: 74 (23.11.1506), 5 (25.1.1507), 171, 180-181, etc.


6. *Lobato, 1: 143: 3: 171 (sugar, cheese, conserves, vinegar, coconuts, honey), 180 (oil), 197-199 (honey, etc., for hospital), 203 (salt), 285 (wheat, almonds, wine, 1516), 287 (grãos brought on coast, 1516), 293 (grãos from Kilwa and Mozambique,

of these lesser foodstuffs after dealing with the problem of the identity of *milho*. Finally, in 1511, during a period of local trouble and specifically because of a scarcity of *milho*, rations of *meixoeira* were provided instead; and this foodstuff was regularly purchased thereafter, both at Sofala and up the coast. *Milho* and *meixoeira* were undoubtedly grains: which were they?

The editors of the Portuguese records have translated *meixoeira*, in the 1511 and later documents, as ‘Kaffir corn’, a term which normally designates sorghum (and very occasionally millet). *Milho* in the Sofala records they translate ‘maize’. But most scholars accept that ‘there is no record of maize in southeastern Africa in the first part of the sixteenth century’. In medieval Portuguese, *milho* indicated the millet *Panicum miliaceum*: it came to mean ‘maize’ only after the Discoveries and the introduction into Portugal of the new grain. What *milho* did, or conceivably could, mean when applied to a grain in South-East Africa in 1506-1525 is a point better dealt with after we have discussed the meaning of *meixoeira*. However, it is worth noting that though the editors consider that the *milho* at Sofala from 1506 was maize, the *milho* mentioned in the account of Vasco da Gama’s landing on the Natal coast in 1497 is translated ‘millet’.

*Meixoeira* (or *mexoeira*) is a term still widely employed in Lusophone Southern Africa, and it now denotes millet. In contemporary Mozambique two of the most important crops are *mexoeira* and *mapira*, that is, pennisetum, otherwise bulrush millet (*Pennisetum typhoides*), and sorghum. Earlier in the present century,

1516-1518), 333; *Documentos*, 1: 504 (beans and lentils, 1506). At Kilwa in 1506, the general rations were flour, *milho*, rice, honey, vinegar and oil; and the sick also received wheat-bread, chickens and fruit; ibid., pp. 466, 468. Between 1507 and 1513, the garrison at Mozambique received the following provisions, some presumably from Europe: sugar, ‘oil’, ‘sesame oil’, flour, hens, *milho*, rice, beans, grãos, sesame, vinegar and wine, Lobato, 3: 132.


8. The etymology of *meixoeira* does not appear to be known (no entry in S. R. Dalgado, *Glossário Luso-Asiático*, Coimbra, 1919-21). Perhaps the original term was assimilated to Port. *ameixeira* ‘plum tree’. An early source on South-East Africa stated that a dark kind of ambergris was also called *meixoeira* (Dos Santos, liv. 1, cap. 28, in Theal, 7: 66): the connection between the two terms possibly lay in the colour, and this might throw some light on the etymology. As regards the meaning of ‘Kaffir corn’, one source of confusion is that sorghum is sometimes misleadingly described as a form of millet, ‘panicle millet’, ‘great millet’.

9. Whereas Theal and Boxer invariably translate unqualified *milho* as ‘millet’, the former in records extending through the 16th century and including some of the same Sofala documents, the latter in later 16th-century records (C. R. Boxer, *The Tragic History of the Sea*, 1589-1622, Hakluyt Society 112, 1959). The editors of the *Documentos* seem determined to trace maize in South-East Africa: when a Spanish document of 1512 refers to ‘much arroz e miojo’ in the Sofala region, they translate *mijo* as ‘maize’, though in modern Spanish ‘maize’ is *maiz* and *mijo* means ‘millet’ (*Documentos*, 3: 598).


in 1913, the missionary ethnographer, Junod, stated that *mexoeira* or *ameixoeira* nowadays designates the small grey Kafir corn in Lourenço Marques. Though Junod’s use of the term ‘small Kafir corn’ is confusing, the darkness of the grain and the small size of both the grain and the plant stem—in contrast to the larger white or pink grains and the longer stem of normal ‘Kaffir corn’, i.e. sorghum (specifically the local *S. caffrorum*)—undoubtedly indicate *pennisetum*. Elsewhere, the same writer supplied two terms in Tsonga (the main language of southern Mozambique), *maphila* ‘sorghum’ and *mabele* ‘millet’. The first term is cognate with *mapira*, the term for sorghum in certain of the Bantu languages spoken a little further North, in Zambesia. Travelling in this region in the 1860’s, Livingstone noted that *mapira*, ‘known as Kaffir corn or Guinea corn in the south and west, as dura in Egypt, as badjery in India’, otherwise *Holcus sorghum* (a classification term now replaced by *Sorghum vulgare* or *Sorghum bicolor*), ‘may be called the corn of the country [. . .]’. The grain is round and white, or reddish-white, about the size of the hemp-seed given to canaries. Several hundred grains form a massive ear, on a stalk as thick as an ordinary walking staff, and from eight to eighteen feet high’. Livingstone further stated that maize was known as *mapira manga*, ‘foreign *mapira*’, which indicated its non-indigenous origin.

What appears to be the same term (*maxwele*) is found today in Transvaal Tsonga with an altered meaning, ‘porridge of grain other than maize’, R. Cuenod, *Tsonga-English Dictionary* (Johannesburg, 1967).

14. H. A. Junod, *The Condition of the Natives of South-East Africa in the Sixteenth Century*, according to the Early Portuguese Documents’, *Report of the South African Association for the Advancement of Science*, Lourenço Marques 1913 (Cape Town, 1914): 137-161, on p. 156, note. In his *Life of a South African Tribe* (2nd ed. 1927, 2: 10), Junod defined ‘millet or Kafir corn’, or *mabele*, as ‘the well known millet which we give to birds in cages, small round blackish grains, which grow on a stem 3’ to 5’ high, in elongated cylindrical ears’, apparently a description of *pennisetum*. In the article cited, Junod argued that in certain 16th- and early 17th-century Portuguese texts (mainly from the *Historia Trágico-Marítima*) the term *ameixoeira* meant, not *pennisetum*, but sorghum: ‘there must have been a confusion of terms’. But the confusion was Junod’s: this mis-identification arose because he had earlier argued that another term in the texts (*nachenim*) referred to *pennisetum*, which he here called ‘the actual Kafir corn or millet’. Boxer quotes Junod and concludes cautiously that in the 16th-century *ameixoeira* meant either sorghum or the ‘small grey Kaffir corn’ (Boxer: 82, 150).

15. Junod, 1927, 2: 10-11: cf. *ma-phila* ‘o milho miúdo [sic], o sorgo, o *mapira*, *ma-bele* ‘o milho miúdo, o mais pequeno dos cereais cultivados pelos Thongas’, R. de Sá Nogueira, *Diccionário Tsonga-Portugês* (Lisbon, 1960). Junod noted that *dji-phila*, plural *ma-phila*, referred to the commonest form of sorghum cultivated in Tsongaland, one with reddish and white grains: other forms included *matimba* ‘sweet sorghum’. At the present day, sorghum is found in ‘hundreds of different varieties’, partly because of local breeding in Africa but mainly because of recent intensive breeding in America (producing, for instance, dwarf varieties for mechanical harvesting); hence, considerable difficulty arises in matching early and vague descriptions to modern, precise global classifications—and intermediate local descriptions such as those of Livingstone and Junod are particularly valuable (L. S. Cobley, *Botany of Tropical Crops*, 1956: 14-18; H. Doggett, *Sorghum*, 1970).

Livingstone reached his Makololo friends near the Victoria Falls, he noted three crops cultivated by these migrants from the South: ‘mapira or mabele (Holcus sorghum), lobelebele or meshwera (pennisetum),’ and maize.17 A generation earlier, the Portuguese traveller Gamitto had collected among the ‘Marave’ immediately north of Tete similar terms for the three grains—mapira (sorghum), chepira-manga (maize), meixeure (pennisetum).18 A term in the Zambesian language Sena, ma-ch’were or masewere, was recorded in the 1840’s and in 1900: though unhelpfully defined as ‘milho miúdo’ (i.e. ‘little corn’) and as mixoera (sic), there can be little doubt that it denoted pennisetum, and the vernacular term was possibly a cognate of meixeira.19 To sum up, sources of the last one hundred and fifty years supply the names employed in various regions of South-East Africa.

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17. Livingstone, 1865: 278. With mabele, cf. the following terms for ‘Kaffir corn’ or sorghum: Tebele ama-bele (W. A. Elliot, Tebele and Shona Dictionary, 1897); Lozi mabele (J. P. Burgher, English-Lozi Dictionary, Sefula, 1960); Sotho mabele (A. Mabille, H. Dieterlen and R. A. Paroz, Southern Sotho-English Dictionary, Morija, 1959); Zulu i(1-)bele, plural ama-bele (C. M. Doke and B. W. Vilakazi, Zulu-English Dictionary, 1938). With lobelebele, cf. Tswana lebelebele ‘pennisetum’ (I. Schapera, Livingstone’s African Journals 1853-1856, 1903, 1: 74). In his journal Livingstone erroneously equated ‘lotsa or lobelebele’, i.e. pennisetum, with ‘douryha’ (dura), i.e. sorghum; but in his published account he referred instead to ‘Pennisetum typhoidium or the lotsa of the Balonda’ (Livingstone, 1857: 312, 639). (Though it is unlikely that this explains Livingstone’s slip, the term dura was very occasionally employed by medieval Arabic writers to refers to pennisetum rather than to sorghum, T. Lewicki, West African Food in the Middle Ages, 1974: 24.) Livingstone’s companion Kirk noted ‘Mishuera’ at various points in Zambesia (Foskett: 184, 284).

18. The original text refers to four grains (for the last, see our next paragraph) and reads: ‘O seu alimento ordinario e da farinha de milho grosso (Zea Maiz), em Marave Chepira-manga; de milho fino, especie de Panicum, em Marave Mapira; de Meixeure, variedade de pienco; de Naxenim, em Marave Murrumbi’ (A. C. P. Gamitto, O muata Casembe, 1854, 2nd. ed. Lisbon, 1937, cap. 2:7: 100; A. C. P. Gamitto, King Kazembe, English translation by I. Cunhixson, Lisbon, 1960, 1: 83). Gamitto’s definition of ‘milho fino’ i.e. sorghum, as ‘especie de Panicum’ was inaccurate, but as we have seen other earlier writers included sorghum among the millets. The English translation, faced with the vague term ‘milho fino’, wrongly translates it as ‘finger millet’, i.e. Eleusine córocan (or naxenim). With these terms, cf. mapira ‘sorghum’, chimanga ‘maize’, mohewere ‘kind of millet, head a foot long on a stalk six feet high’ (i.e. bulrush millet, pennisetum) (D. C. Scott, A Cyclopaedic Dictionary of the Mang'anja Language, 1802). Chimanga, presumably a shortened form of chepira-manga and meaning ‘the foreign (one)’, was already in use among the Maravi in the 1830’s (S. W. Koelle, Polyglotta Africana, 1854: 113). In a closely related language (Cewa?), (ma)pira, chipere-manga and muchewere were recorded in 1899 (V. J. Courtois, Dicionário Portuguez-Cafre-Tetense).

19. Torrend; W. H. J. Bleek, The Languages of Mosambique (1856). Even if the terms are cognate, it is not clear whether meixeira was a borrowing into Afro-Portuguese from a term of Bantu origin, or whether the Zambesian languages borrowed from Afro-Portuguese, during the centuries of contact after 1500, a term of more exotic origin.
particularly those under Lusophone influence, for the three grains sorghum, maize and pennisetum; and meixoeira has, during this period, always denoted pennisetum.

As well as sorghum, maize and pennisetum, a fourth grain was occasionally mentioned in 19th-century sources, and it will be wise to dispose of this, in a brief digression, before turning to the task of tracing the other three through earlier sources. Gamitto saw and described a grain among the Maravi which they called murrumbi and he called nachsenim; and Livingstone’s companion in Zambesi, Kirk, mentioned nitchini (‘eleusine nitchini’). A dozen earlier references to nachsenim have been collected by Dalgado. Nachenim was first recorded in South-East Africa in 1554; later accounts described it as a small, hard, black grain, like mustard or rye, and used only as a hunger food. This closely fits Gamitto’s description; and a source of 1573 gave the same vernacular name as he did, murume. It can be accepted therefore that the term continued to refer to the same plant. Dalgado shows that the name derived from Hindi natcheeni (or from derivatives in other Indian languages), and that it similarly designates Eleusine Corocana, or ‘finger millet’.

We have seen that since the 1830’s meixoeira has denoted pennisetum. Was this also the meaning of the term in the 16th century? When the Jesuit Father Monclaro journeyed up the Zambesi to Sena in 1572, he noted: ‘... the land only yields milho and little of that, and meixoeira, which is like the linseed of Portugal, like it in shape and colour, which birds eat and which in Lisbon black women sell to children [presumably for their birds] as [they sell] sesame and other small seeds.’ Monclaro also mentioned nachenim, that is, eleusine. The term meixoeira also appeared in accounts of the shipwrecks on the coast of Natal in 1589 (account written c. 1610), in 1593 (account published 1597), and in 1623 (account published 1625). In the 1593 account, ameixoeira was described as a grain ‘of the size and colour of our milho’, used for making bread-cakes; and it was contrasted with the local milho, which was ‘white, of the size of a peppercorn, growing on a macaroa (tight ear) of a plant the shape and size of a reed’, whose flour was also used for

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20. Gamitto: 100 (English translation, p. 83): ‘a round grain, smaller than lead shot, and very hard, which produces no bran as it has no husk. . . . the plant is two palms or more in height. . . . three varieties are known, white, black and red’. The glossary in the English translation wrongly suggests ?bulrush millet’.


22. Dalgado. In the 1554 account, the alpiste (small seed) encountered at a later stage and described as the ‘best food in the land’ was, in our view, pennisetum and not the same as the nacharre or nechinim described earlier (Theal, 1:167/234, 204/271). Junod however thought that the two were the same (Junod, 1914: 156). A ‘reed’, commonly found on the coast near Cape Delgado and resembling a Portuguese hedgerow plant, which produced every second or third year a grain like rye, suitable for making bread, is unidentified: perhaps it was a wild form of eleusine (Dos Santos, liv. cap 13 in Theal, 2:224/271). Junod however thought that the two were the same (Junod, 1914: 156). A ‘reed’, commonly found on the coast near Cape Delgado and resembling a Portuguese hedgerow plant, which produced every second or third year a grain like rye, suitable for making bread, is unidentified: perhaps it was a wild form of eleusine (Dos Santos, liv. cap 13 in Theal, 2:224/271).

23. ‘. . . a terra não dá milho e desse pouco e Meixoeira, que como linhaça de Portugal, na feição e na cor como a linhaça, comem os passaros e as negras vendem em Lixim aos meninos, ao modo de Gerdelim, e alguns poucos legumes. Outro mantimento ha a que chama Nachenim e os negros Murume que ha da feição da Mostarda. . . . é a maior copia he deste . . . que na sustancia corresponde ao painço de entre Douro e Minho, e este he mais baixo mantimento’ (Theal, 3: 176/224-225, and further references, pp. 178/227, 192/242). Monclaro added that the milho had been spoilt by locusts. The painço (millet) in Portugal with little feeding was probably Setaria italica (foxtail millet), used mainly for animal feed.
bread-cakes while the grain was used for making beer. In the 1623 account, the survivors were reduced to eating, specifically because of lack of milho, ‘a foodstuff which is the same as in Lisbon they give to canaries and call alpiste, which is called by the Kaffirs amechueyra’. Each of the points in these references calls for some interpretation. Perhaps the surest clue is the colour of meixoeira. Linseeds are brownish-yellow, therefore the 1572 meixoeira was a darkish grain, in contrast to white milho (hence, ‘our milho’ in Portugal was also a darkish grain, presumably Panicum miliaceum, common or hog millet, in some of the many varieties which produce brownish or grey seeds). Pennisetum seeds are yellowish-grey, whereas sorghum, though in some varieties producing yellow or brown seeds, in the traditional and most commonly grown varieties of South-East Africa (especially S. caffrorum), produces white and pink seeds—as Livingstone and Junod indicated. In shape, linseeds and pennisetum seeds have some resemblance in that both are obovoid and flattened. In size (and inasmuch as we can rely on the figures given in modern botanical accounts), pennisetum seeds are somewhat bigger than the seeds of common millet (3.4 mm × 2.25 mm against 2.25-2.5 mm × 2 mm); but both are much smaller than sorghum grain (3.5-6.0 mm × 3.5-5.0 mm), which is nearer the size of peppercorn.

The smaller size of millet grain explains the references to bird-seed. Cage-birds are normally fed on small seeds; alpiste (canary-grass, or small seeds in general), linseed, the millets. Junod described pennisetum, the smallest grain cultivated by the Tsonga, as ‘the well known millet which we give to birds in cages’; and the modern Ronga-Portuguese dictionary offers alpiste as a gloss on the term for pennisetum (mabele). An 18th-century English writer described pennisetum as ‘a very small grain like Canary seed in shape, only larger’ (his ‘Canary seed’ was perhaps common millet grain). In the 1850’s, a collection of Mozambique vocabularies gave the Portuguese for millet as ‘milho fino, milho miúdo, alpiste’. In the same decade, Livingstone referred to ‘a meal made from fine bird seed [ . . . ] that article which is sold in England as the lesser bird seed’; and he reported that in a district where Africans kept canaries in cages they fed them on loba, that is, pennisetum. Two and a half centuries earlier, the account of the 1593 Natal shipwreck described the small round seed of elusine as ‘a seed like alpiste’; but

24. ‘. . . bolos feitos da farinha de huma semente do tamanho e cor do nosso milho, chamada delle Ameixoeira . . . a lavroura he de milho, o qual he branco, do tamanho de pimenta e dasse em huma maçaroca de huma planta de feiço e tamanho de caníco’ (Theal, 2: 234/293, 256/317; Boxer, 122, 150). The account referred separately to nechenim (Theal, 2: 257/318; Boxer, 151). Since we shall assume hereafter that the white milho of this account was sorghum, it is necessary to point out that the older view that any reference to maçaroca indicated maize has been challenged by Porteres and Tavares (Tavares: 13-14).

25. ‘. . . por irmos faltos de milho . . . não achamos mais que um mantimento, que he o mesmo, que em Lisboa dão aos canários, e que chamão alpiste, e os cafres amechueyra’ (Theal, 8: 44/112; Boxer, 243).

26. For the colours, shapes and sizes of grain and other seeds, see Cobley, 92; Doggett, 34, 94; W. H. Leonard and J. H. Martin, Cereal Crops (New York, 1963): 669, 746, 757. In view of the many modern varieties of grains, some reservations must be expressed as to whether the general statements in modern texts provide a sufficiently precise description of the local varieties grown in South East Africa some centuries ago; and the conclusions in the text may be subject to revision in the light of detailed local knowledge, obtained from fieldwork or from sources not available to us.

27. Junod, 1927, 2: 10; Quintão; F. Moore 1738, cited in A. Teixeira Da Mota and A. Carreira, ‘Milho zaburu and milho maçaroca in Guinea and in the Islands of Cape Verde’, Africa, 30, 1966: 73-84, on p. 82; Bleek, item 470, with ‘Mixoeira’ a separate item, curiously; Schapera, African Journals: 257; Livingstone, 1857: 292 (‘dourrha or lotsa’, but as seen in note 17, at this point Livingstone used the term dura wrongly).
when the account of the 1554 shipwreck referred to a grain called *alpiste* which was ‘the best food in the land’, this was most probably not *eleusine* but *pennisetum*. Finally, at the present day, American supermarkets sell heads of Italian millet (*Setaria italica*) as feed for cage-birds.** Thus, it appears that the *alpiste* of cage-birds is normally the smaller grain of the millets and not the larger grain of sorghum. We have come across only one reference which suggests that sorghum grain cannot be totally excluded as bird-seed. Livingstone described the grain of sorghum as ‘about the size of the hemp-seed given to canaries’. Though it is uncertain which ‘hemp’ is indicated, the remark presumably explains why Livingstone compared *pennisetum* with ‘the lesser bird-seed’: hemp provided ‘the greater bird-seed’.

Another way of investigating the meaning of *meixoeira* is to consider its vernacular equivalents in African languages which had non-cognate terms for all the grains. One of the accounts of the 1593 Natal shipwreck gave *mabere* as the vernacular equivalent of *ameixoeira*.** The shipwreck survivors who collected the term passed through territories now occupied by speakers of two Bantu languages, Nguni (Zulu-Xhosa) and Ronga/Tsonga; and the vernacular terms in the accounts appear to derive from the 16th-century forms of both of these modern languages (which may have been more closely related lexically four hundred years ago than they are now). In modern Ronga, *mabele* means ‘*pennisetum*’. But Nguni has a different term for *pennisetum*, and *ama-bele* (plural of *i(ti)-bele*) means ‘sorghum’.** This semantic contrast is unfortunate for our inquiry, but hardly surprising, since the changing meaning of crop-terms is its basic problem.*** We conclude that the term *mabere* may represent either a term for ‘*pennisetum*’ or one for ‘sorghum’; hence, that it neither proves nor disproves the view that *meixoeira* was *pennisetum*.

Despite the inconclusive nature of the final inquiry, the trend of the evidence presented above raises doubts whether the editors of the *Documentos* were correct in translating *meixoeira*, in the Sofala records, as ‘Kaffir’; that is, sorghum. If they were wrong, and if *meixoeira* was *pennisetum* in the early 16th-century—as it apparently was in the later 16th century and in the modern period since 1830—what then was the other staple grain, *milho*? We suggest that *milho*
was sorghum. In the 1500's, Kilwa was said to have 'muwto milho como de Guinee' ('much corn as in Guinea', or, 'much milho like milho de Guinee'). This milho provided canes like sugar-canes for fences; and it has recently been pointed out that the local variety of sorghum provides thick canes. Indeed, Livingstone, travelling near Lake Nyasa, saw 'eighty-five slaves [. . .] in a pen formed of dura stalks [Holcus milho]'. That sorghum was widely grown in Upper Guinea c. 1500 is indisputable, and it seems highly likely therefore that the Guinea corn referred to by the Portuguese was sorghum. If sorghum was the milho of Kilwa, it is likely that it was also the milho which contemporaneously was brought from Mozambique to Sofala. Since sorghum was known both in Portugal and in Guinea, its culinary processing was understood by the Portuguese, and it therefore provided a foodstuff acceptable to the garrison.

There is need of a detailed study (based on the Portuguese archives and other colonial sources not easily available to a British historian) of when exactly the term milho came to be used in Africa (and in Asia) to denote maize. Meanwhile we draw attention to one small piece of evidence which might suggest that in South-East Africa milho still denoted sorghum at the end of the 16th century. In the vocabulary of vernacular terms supplied in one of the accounts of the 1593 Natal shipwreck, both milho and meixoeira are given among the glosses, their vernacular equivalents being stated to be masimba and mabere respectively. We have seen that mabere might represent either Nguni ama-bele 'sorghum' or Ronga ma-bele 'pennisetum'. However masimba would seem to represent only Nguni ama-zimba, the cognate term in Ronga being ma-timba. In Ronga the term indicates 'sweet sorghum', as it does in one of the constituent languages of Nguni, Zulu ('ear of sweet sorghum'); but in the other constituent language, Xhosa, ama-zimba is said to refer to sorghum in general. It would seem very unlikely that milho

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32. Documentos, 1: 524, where the translation offered is, 'a great deal of maize like Guinea'.
33. '... cercadas com stacadas de paos e canas do milho que som como canavaes' ('... circled with stakes of wood and milho canes which are like reed-stalks') — comment in TAVARES: 18. It is worth noting that another early 16th-century Portuguese author made a similar comparison with regard to the milho in Ethiopia, 'fortes milharadas altas como grandes canavaes', Francisco ÁLVARES, Verdaadeira Informaçao, 1540, cap. 49, cited in C. F. BRICKHAM and G. W. B. HUNTINGFORD, The Prester John of the Indies (Hakluyt Society 114-115, 1961): 136, 161. The British editors argue that this size of cane indicates maize not sorghum, but Tavares disputes this (p. 21) and contends that here too milho means sorghum.
35. TEIXEIRA DA MOTA and CARREIRA, passim.
37. A feature of the relationship between modern Nguni and modern Ronga is that 'z' in the former corresponds to 't' in the latter. But of course we cannot be sure that even this important feature existed in the 16th-century forms of the languages, though it is perhaps likely that it was so. As regards the meaning of ama-zimba, we have followed A. T. BRYANT, The Zulu People as they Were before the White Man (1949): 308, perhaps a less than wholly convincing source; and we note that DÖKE and VILAKAZI gloss ama-zimba in Zulu as '(1) ear of corn (2) avoidance term for whole corn plant (of maize, sorghum, sweet-reed, etc.)'. Since the Ronga cognate denotes sweet sorghum, even if it should transpire that in modern Nguni the term does not have the meanings stated by Bryant but only the very general meaning given by Döke and Vilakazi, it might still be argued that it is likely that it once denoted in Nguni some form of sorghum.
and *meixoeira* were employed to distinguish sweet sorghum (Zulu-Nguni *ama-zimba*) from plain sorghum (Zulu-Nguni *ama-bele*); or that in a shipwreck survivor's vade-mecum vocabulary of a dozen terms, sweet sorghum would be one of the two cereals listed. We are thus inclined to think that the terms refer to the contrast sorghum/pennisetum, and that they therefore represent Nguni *ama-zimba* (Xhosa 'ear of sorghum') and Ronga *ma-bele* ('pennisetum'). The vocabulary is almost certainly a mixed one, hence, though it is curious that the terms should be contrasted in separate languages, it is not an altogether unacceptable supposition. However, the whole linguistic argument is subject to one qualification. Even if we have correctly related the 16th-century forms to terms in modern lexical sources, we cannot assume that the meaning of the terms has remained unchanged over the centuries. As *milho* has changed its meaning, so may *ma-bele* and *ama-zimba* have changed theirs. Nevertheless, it may be significant, and may tend to confirm the identifications suggested above, that neither of these vernacular terms resembles the terms adopted for 'maize' in these or neighbouring Bantu languages.38

The evidence presented above is less than fully conclusive—not surprisingly, since it has proved very difficult to find conclusive evidence on the botanical identity of the Portuguese terms employed before 1600 to describe the grains of Guinea. (Granted that European observers in Africa between the 15th and the 20th centuries faced various practical and conceptual problems, it is nevertheless impossible not to feel some irritation at the casual and inexact way in which they so often referred to African food-crops.) However, as regards the term *meixoeira*, the overwhelming balance of evidence indicates that it has always denoted 'small *milho*' or millet, and specifically *pennisetum*. Even the linguistic evidence of the 1593 shipwreck vocabulary, perhaps the most difficult evidence to interpret, at least leaves it open for *meixoeira* to denote *pennisetum*. There is much more uncertainty about the meaning of *milho*, though it does seem that the unqualified term has never referred to *pennisetum*. Whereas *meixoeira* most probably never changed its meaning, *milho* certainly did; furthermore, *milho* was always liable to be used in a loose sense (cf. 'corn' in British-English). Thus, while there appears to be no positive evidence that in South-East Africa before the 17th-century *milho* was ever used to denote maize, it has to be admitted that the references to *milho* in the later 16th century are so few and so vague that it is not possible to be sure that they consistently denote sorghum.39 However, if we can assume that *meixoeira* meant *pennisetum*, then, when only two grains *milho* and *meixoeira* are listed or said to be in general use, it is unlikely that the two were maize and *pennisetum*,

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38. Contrary to what has been argued in the text, there is one point about the 1593 evidence which raises doubts whether the *milho* was sorghum. The account states that *milho* flour made bread-cakes; but because it lacks gluten, sorghum is not normally used by itself for bread, but is eaten in a porridge or gruel (Coble: 18). As Livingstone stated—'They seldom, if ever, bake *mapira* meal into cakes, like oatmeal; for though finely ground and beautifully white, it will not cohere readily. *Maize meal is formed into dough more readily* (Livingstone, 1865: 170). There can be no doubt that bread-cakes were seen in 1593—the term *sincoa* 'bolos de milho' (cf. Zulu *isi-nkwa*, plural *isi-nkwa*, bread, pl. loaves) was collected. But the witnesses may have been mistaken about the grain used, which may have been *pennisetum*—or conceivably maize. However the description of *milho* in other respects, particularly its whiteness, suggests sorghum.

omitting sorghum, and more likely that they were the traditional crops, sorghum and pennisetum, omitting the newcomer maize. Therefore it is much more probable that the milho and meixoeira of the early Portuguese documents were sorghum and pennisetum than that they were maize and sorghum.48

Thus, in our view, the staples consumed by the garrison at Sofala in the early 16th century were sorghum and, less commonly, rice and pennisetum. We can now turn to the lesser foodstuffs, whose identification raises fewer problems. We have seen that beans, peas and oil were consumed: the receipts list fairly large quantities regularly bought. In 1560, the Jesuit missionaries further South at Inhambane stated: '... in the land there are milho, meixoeira, good beans, mungo [the bean Phaseolus aureus] and other grãos which grow below the soil.'41 The shipwreck survivors of 1593 used beans called in the vernacular unheua, probably Ronga nyawe, glossed in the modern dictionary as 'feijão verde', i.e. French beans.42 But in 1593, and again in 1623, the survivors also consumed jugo, described as 'the size of small beans [fava]' or 'like grãos'.43 The term jugo was probably taken into Afro-Portuguese from Swahili njugu 'groundnut'. But it probably also covered the Bambara groundnut, otherwise 'Kaffir pea', Voandzeia subterranea.44 The modern Ronga dictionary lists 'feijão jugo' as well as 'feijão verde', and it is likely therefore that the 'beans and peas' of the Sofala garrison included earth nuts.45

40. One grain-term in the Portuguese sources remains to be discussed. The term milho zaburro appeared in the account of the 1554 Natal shipwreck and in the reports of the Jesuit mission advancing inland from Inhambane in 1560. In the 1554 account, nachenim was referred to separately and described. In the Jesuit reports, meixoeira was referred to separately, but nachenim was not mentioned. Both sources referred to milho separately, but without making it clear whether it was the same as, or distinct from, milho zaburro (THEAL, 1: 167/234, 170/237-238; 2: 58/64, 80/85, 110-122, 129/140; Documentos, 7: 468, 492, 514). The only descriptive comments came from the Jesuits, who said that milho zaburro was 'also eaten in Lombardy', and that it was accustomed food for the Kaffirs but 'unwholesome for the Portuguese'. It is possible that the Lombardy grain was Setaria italica, the millet later known in Portugal as milho-da-Itália, in which case the reference was to some similar inferior African millet. Since the Jesuits referred separately to meixoeira, pennisetum is excluded, but the reference may have been to cleusine. Some confirmation of this possible explanation is provided by the fact that in 1573 another Jesuit spoke disparagingly of cleusine (nachenim) which he compared to an inferior millet grown in Northern Portugal, perhaps Setaria italica (see note 23). But this interpretation cannot apply to the 1554 account reference, since nachenim was referred to separately.

A derived possibility is that milho zaburro referred loosely to any unfamiliar millet, and this might fit the argument that in 16th-century Guinea milho zaburro was pennisetum (TEIXEIRA DA MOTa and CARREIRA). In this case, the 1554 account was referring to pennisetum, while the Jesuits, who already knew the local term meixoeira, applied milho zaburro to cleusine. However, another possibility is that milho zaburro was either a variant of milho and referred to plain sorghum; or else that it referred to a variety of sorghum, sweet sorghum: both types were in fact found in Italy (TAVARES: 10). But neither type ought to have been 'unwholesome for the Portuguese'. A final possibility is this. The term milho zaburro was used very infrequently in South East Africa, and apparently only by newcomers: it may therefore have had no precise meaning, that is, it may have used to refer to any unfamiliar edible grain before the accepted local term was acquired.

41. THEAL, 2: 58/64; Documentos, 7: 468. Grãos are grains, seeds, or peas.
42. SANTos; 52; QUINTÃO; cf. Chopi nyavea 'small beans': SMYTH and J. MATTHEWS, Vocabulary of Kilenge (1902).
43. THEAL, 2: 256/317: 8: 62/133; BOXER: 150, 263.
44. JOHNSON; SACLEYN. In one Swahili dialect, Voandzeia subterranea is nyawe mawe.
45. QUINTÃO, nyume or ndluho 'feijão jugo': according to Junod, this is the 'Kaffir pea' which grows underground like a groundnut (JUNOD, 1921, 2: 11) -it
Finally, the azeite consumed by the garrison is considered by the editors to have been invariably 'olive oil'. But several African plants supply edible oils, the most important being sesame, and we have seen that sesame was being brought to Sofala as early as 1507. Duarte Barbosa noted in 1516 that sesame oil was used by the inhabitants of Monomotapa. The vocabulary of the 1593 shipwreck account includes a term unhona, glossed as 'gergelim', i.e. sesame, but this appears to be rather the Swahili term for the seeds (and perhaps any products) of the castor-oil plant (unyono), another oil-producer. With these local sources of oil available, it seems unlikely that the Portuguese for long imported all their oil from Europe. In 1518, the garrison records refer to sesame-oil; and in 1530 a regulation laid it down that the normal ration was to include only sesame oil, olive oil being reserved for the sick.

is presumably Voandzeia subterranea. Apart from earth nuts, the grãos of the Sofala garrison may have denoted 'chick peas' (Documentos, 5: 2). The 'beans and lentils' which reached Sofala in 1506 (see note 6) were probably not from the African coast but from Europe.

46. Theal, 1: 90/96. The production of sesame oil at Sofala c. 1590 was described and commented by Dos Santos (liv. 1, cap. 4, in Theal, 7: 7/189).

47. Santos: 53; Johnson.

48. Documentos, 5: 302; 6: 412. The Mozambique accounts of 1507-13 (see note 6) distinguish between 'oil' and 'sesameoil', the former presumably being olive oil from Europe.

P. E. H. Hair — Milho, meixoeira et autres aliments de la garnison de Sofala, 1505-1525. Les archives du comptoir portugais de Sofala nous éclairent quelque peu sur la nature des plantes alimentaires utilisées au xviᵉ siècle sur la côte orientale. Les termes milho et meixoeira paraissent désigner respectivement le sorgo et le pennisetum, plutôt que le sorgo et le maïs, comme on l'avait supposé d'abord. Il est certain qu'après 1800 meixoeira s'applique bien au pennisetum, et il y a de fortes présomptions pour que les références antérieures doivent être interprétées de même. Les références au milho dans les récits de naufrages au Natal doivent très probablement s'appliquer au sorgo. Les autres aliments mentionnés sont les haricots, les pois et pois de terre, et les huiles végétales locales.