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# ANIMAL HUSBANDRY AMONG MEDIAEVAL AGRICULTURAL PEOPLE OF WESTERN AND MIDDLE SUDAN (ACCORDING TO ARAB SOURCES)

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The settled tribes of Western and Middle Sudan<sup>1</sup> which subsist primarily by agriculture, have also developed animal husbandry which provide a significant though subsidiary supplement to the products of tillage. The origins of domestic animal breeding belong undoubtedly to a very early age although an exact date is impossible to define. In the present thesis we shall deal with the period which corresponds to our late Middle Ages and Early Modern History (i.e. from the end of the 10th to beginning of 16th century). There are no written sources concerning earlier periods.

Those are the last ages of purely African agriculture and native African economy based on it. Towards the end of the 15th century, the economy of the world and hence also of Africa changes as a result of enormous geographical discoveries — Portuguese in the East and Spanish in the West. Portuguese influences moving from factories built on the Atlantic coast of Africa further inland, carry with them plants imported from Asia and America. African agriculture soon adopts such crops as Maize, Cassava, Sweet Potato, Cotton, Sugar Cane, Ground Nuts, which begin to replace many traditional African plants (with the exception of Millet which retains its place).<sup>2</sup> These changes must have in turn affected animal breeding. On the other hand West Africa sees at

<sup>1</sup> By this I understand an area with borders difficult to define, lying south of the Sahara, and including the basin of Senegal and upper Niger, further the middle reaches of that river and also lands lying east of the Niger and reaching around Lake Chad. In the Middle Ages this land formed part of the territory known to Arab writers as "Bilad as-Sūdān" i.e. "Land of Negroes". The northern borders of the "Land of Negroes" followed roughly the 17th parallel, whilst the southern border never crossed the 10th parallel, and inside the arc of the Niger went up to the 15th.

<sup>2</sup> At the Third Conference of African History and Archaeology, organized by the School of Oriental and African Studies in London in 1961, A. W. EXELL discussed the appearance of new edible plants in Africa after European discoveries in the 15th century. He stressed the importance of the role played there by Portuguese. Ten years ago, the eminent French Africanist H. MAUNY dealt in his article (*Notes historiques autour des principales plantes cultivées d'Afrique occidentale*, Bulletin de l'Institut Français d'Afrique Noire, t. XV, 1953, 684—730) with the history of edible plants in Western Africa. The author of the present article deals with references to edible plants in Western and Middle Sudan according to mediaeval Arab sources, in his Polish paper *Food of Western African Population in the Light of Mediaeval Arab Sources*. This paper will appear in the 7th volume of the periodical "Polish Ethnography".

that time new varieties of domestic animals imported by the Portuguese from Europe, Asia or South America. When discussing in the present article animal husbandry, we have in mind conditions pertaining to this field before the breakdown of West African isolation.

The principal sources for the history of Western and Middle Sudan, which are also extremely interesting for our problem, are undoubtedly reports by Arab travellers in those regions, and works by Arab geographers. Arab travellers penetrated those regions on commercial and diplomatic missions or out of pure passion for travelling so typical of Arabs of that period. Information collected during those travels was either reported at length as in the description of IBN BATTŪTA's journeys in the 14th century, or utilized in geographical treatises (LEO AFRICANUS in 1526) or finally there were short notes or even information passed on by word of mouth, later exploited by writers who themselves did not know Africa from personal experience.

Mediaeval Arab sources describe Western and Middle Sudan in the period prior to the great economic changes between the 15th and 16th centuries. They are of immense value to the student of the culture of that country as they mention a multitude of small details of daily life which give us some insight into the cultural past. The Arabs were keen observers and precise and truthful reporters. Nevertheless the information is fragmentary and often haphazard and makes the reproduction of a complete picture difficult if not impossible. We shall therefore not attempt a full description of animal breeding by agricultural communities in Mediaeval Sudan, but limit ourselves to certain information passed on by Arabs from that period.

Before dealing with the actual problem let us devote some attention to the sources and their authors. We shall mention here only the most pertinent facts, referring the reader for further details to the books of C. BROCKELMANN<sup>3</sup> and I. KRACHKOVSKY.<sup>4</sup>

The earliest Arab source of information concerning animal husbandry in agricultural regions of Western and Middle Sudan is "Kitāb-al-Masālik wa'l-mamālik" *Book of Ways and Provinces* by ABŪ 'OBAYD AL-BAKRĪ. It was written in Moslem Spain in 1068. Only fragments of this work exist today. Unfortunately AL-BAKRĪ never visited Sudan himself, and his book is based on some older, now lost, geographical treatises from the second half of the 10th century, and on newer information conserved in the archives in Cordova, being the work of political delegates of the Ommiads of Spain together with reports by travellers and merchants.<sup>5</sup>

<sup>3</sup> C. BROCKELMANN, *Geschichte der Arabischen Literatur*, Bd. I—II, Weimar—Berlin, 1898—1902 (= BROCKELMANN, GAL) and Supplementband, I—III, Leiden, 1937—1942 (= BROCKELMANN, Suppl.), passim.

<sup>4</sup> I. KRACHKOVSKY, *Izbrannye sochineniya*, IV: *Arabskaya geograficheskaya literatura*. Moscow—Leningrad 1957 (= KRACHKOVSKY, Arab. geogr. liter.), passim.

<sup>5</sup> BROCKELMANN, GAL, I, p. 476; Suppl., I, pp. 875—876; KRACHKOVSKY, *Arab. geogr. liter.*, pp. 257—280.

Valuable information concerning domestic animal breeding by agricultural Sudanese living near Senegal, near the upper and middle Niger and near Lake Chad is to be found in a geographical treatise written by AL-IDRĪSĪ. This has the form of a commentary to his world atlas. The treatise was written in 1154 in Palermo at the court of the Sicilian King Roger II (hence the title: *Book of Roger*). It is a completely original book based on reports by travellers and merchants and only exceptionally referring to older written sources.<sup>6</sup>

The geographical dictionary "Mu'jam al-buldān" by YĀQŪT, an author active in Central Asia, Iran and Syria (died in 1229) is of less importance for our purpose.<sup>7</sup> Passages dealing with lands, cities and peoples of Western and Middle Sudan are largely based on a now lost treatise by AL-MUHALLABĪ from the 10th century.<sup>8</sup>

Especially important for our problems is the geographical treatise by AL-'OMARĪ "Masālik al-abṣār". The author lived in the first half of the 14th century (1301—1349) in Syria and Egypt and collected information about Sudan from travellers, merchants, scholars and pilgrims arriving from that country in Cairo. He mentions his informants by name, notes their remarks faithfully but with a good dose of criticism.<sup>9</sup>

Of considerable importance is also the report of travels by IBN BAṬṬŪTA, an Arab scholar, and native of Morocco, who visited many countries of Asia, Europe and Africa and in 1352—1353 reached the land of the Niger. He gives a detailed narrative about lands and cities of Sudan which he visited and about the life and customs of the inhabitants. He has something to say also about animal husbandry. He dictated his work to IBN JUZAY and entitled it "*Tuhfat an-Nuzzār*". This was completed in 1356. IBN BAṬṬŪTA proves to be an acute and honest observer.<sup>10</sup>

Apart from those sources I have also made use of information about animal husbandry found in the *Description of Africa* by LEO AFRICANUS. This work from the 16th century was written in Italian, but its first draft was probably in Arabic, and I have decided to include it here. It is true that it was written after the great Spanish and Portuguese discoveries of the 15th cent. but it deals with the situation as found in Western and Middle Sudan early in the 16th cent., i.e. before the results of these discoveries could have made themselves be felt in the economy of Western Africa. LEO AFRICANUS was an Arab from Granada, domiciled in Fez. His original name was al-Ḥasan ibn Muham-

<sup>6</sup> BROCKELMANN, GAL, I, p. 477; Suppl., I, pp. 876—877; KRACHKOVSKY, *Arab. geogr. liter.*, pp. 281—299.

<sup>7</sup> BROCKELMANN, GAL, I, p. 479; Suppl., I, pp. 880—881; KRACHKOVSKY, *Arab. geogr. liter.*, pp. 330—342.

<sup>8</sup> About AL-MUHALLABĪ and his work see KRACHKOVSKY, *Arab. geogr. lit.*, pp. 234—236.

<sup>9</sup> BROCKELMANN, GAL, I, p. 141; Suppl., II, pp. 175—176; KRACHKOVSKY, *Arab. geogr. liter.*, pp. 405—411.

<sup>10</sup> BROCKELMANN, GAL, II, pp. 256—257; Suppl. II, pp. 365—366; KRACHKOVSKY, *Arab. geogr. liter.*, pp. 417—430.

mad al-Wazzān az-Zayyātī al-Fāsī. In his two journeys in 1511–1512 he visited the upper and middle reaches of the Niger and the Lake Chad. During his travels in the Mediterranean he was captured by Italian pirates and taken to the court of Pope Leo X. He became converted to Christianity and in 1526 he wrote in Italian his *Description of Africa*. This treatise is based on his notes made during journeys, which he fortunately had on him when taken prisoner.<sup>11</sup>

We shall now analyze information about animal husbandry among Negro peoples inhabiting Western and Middle Sudan as found in the works of the above-mentioned Arab writers. It appears that these peoples bred cattle, sheep, goats, camels, donkeys, mules, dogs and poultry. It is probable that some were familiar with bee keeping. Before dealing with the evidence concerning each kind of animal I would like to mention some general references to animal husbandry and to the products of it.

Here it is necessary to quote information by LEO AFRICANUS about the large quantities of cattle in countries near the Niger. He writes that these countries "have excellent soil where corn grows in abundance; there is also a vast quantity of cattle".<sup>12</sup> There is also general information by AL-BAKRĪ about raising domestic animals by the inhabitants of the Ayūnī peninsula near the estuary of the river Senegal.<sup>13</sup> AL-QAZWĪNĪ, an Arab geographer of the 13th cent. who collected information about Western Sudan from two Barbary travellers,<sup>14</sup> mentions butter in Takrūr (on either bank of the lower Senegal) but omits to say what kind of milk was used in the manufacture of that butter.<sup>15</sup> It could not have been exclusively cows' milk because, as we shall see, in the neighbouring country Mālī, butter was made out of ewes' milk and to the present day there are tribes in southern Sahara who use butter made of goats' milk. LEO AFRICANUS mentions a great shortage of meat early in the 16th cent. in the town Gualata (Walata) in the northern provinces of Mālī.<sup>16</sup> This would point to a decline in animal husbandry in a city which in the middle of the 14th cent. was still well supplied with meat. IBN BAṬṬŪṬA notes animal breeding of a high standard and a large consumption of milk in the state of

<sup>11</sup> KRACHKOVSKY, *Arab. geogr. liter.*, pp. 445–450; JEAN-LÉON L'AFRICAIN, *Description de l'Afrique*. Nouvelle édition traduite de l'italien par A. EPAULARD, TH. MONOD, H. LHOÏE et R. MAUNY, Paris 1956 (= JEAN-LÉON L'AFRICAIN, *Description*), I, pp. V–XI and II, pp. 468, 479, 483, 567.

<sup>12</sup> JEAN-LÉON L'AFRICAIN, *Description* I, p. 54.

<sup>13</sup> *Description de l'Afrique septentrionale* par ABOU-OBEÏD-EL-BEKRI. Texte arabe. Deuxième édition, Paris 1911 (= EL-BEKRI, *Description*, texte ar.), p. 171; EL-BEKRI, *Description de l'Afrique septentrionale* par EL-BEKRI traduite par MAC GUCKIN DE SLANE. Édition revue et corrigée, Alger 1913 (= EL-BEKRI, *Description*, trad.), p. 323.

<sup>14</sup> BROCKELMANN, GAL, I, pp. 481–482; Suppl., I, pp. 882–883; KRACHKOVSKY, *Arab geogr. liter.*, pp. 358–366; Folia Orientalia III, 1962, pp. 231–241.

<sup>15</sup> ZAKARIJA BEN MUHAMMED BEN MAHMUD EL-CAZWĪNĪ's *Kosmographie*, ed. Fr. Wüstenfeld, Göttingen, 1848, II, p. 17.

<sup>16</sup> JEAN-LÉON L'AFRICAIN, *Description*, II, p. 464.

Māli. He observes that travellers from Īwālātan (Walata) to the city Māli (Niani, Nyeni), capital of a state of the same name, were offered sour milk in every village. Still there is no mention of the animal whose milk it was.<sup>17</sup> AL-BAKRĪ says that the inhabitants of Zāfqū offer sour milk to snakes which they worship. It is not known whether it was cows' milk or some other animal's.<sup>18</sup> We have no further details concerning the milk consumed, according to IBN BATTŪTA, in the city of Māli,<sup>19</sup> nor about the very cheap milk consumed in Ghinea (Jenne) as mentioned by LEO AFRICANUS.<sup>20</sup> Nothing is known about the origin of sour milk consumed in territories inhabited by the Songhai people (mentioned by IBN BATTŪTA).<sup>21</sup> There was an abundance of meat, milk and butter in Cabra (Kabara) near Timbuktu — according to the author of *Description of Africa*.<sup>22</sup>

All this information, notwithstanding its general character, proves beyond any doubt that in the Middle Ages there existed a well developed husbandry of cattle and possibly also sheep, goats and camels near the rivers Senegal and upper and middle Niger.

We shall now deal with more detailed information and start by analyzing sources concerned with the breeding of *cattle*.

According to AL-BAKRĪ, the inhabitants of the city of Sillā lying near the river Senegal, south-east of the country of Takrūr, were breeding a lot of cows.<sup>23</sup> Sillā was the capital of a kingdom of the same name, which spread from Takrūr to the western borders of the kingdom of Ghāna. To this day cattle breeding plays an important role in the economy of the agricultural people of Senegal and beef is a favourite dish even in the fishing community Guet N'Dar inhabited by the tribe Wolof.<sup>24</sup>

Further East, AL-BAKRĪ notes numerous herds of cows in the country Malal i.e. Māli,<sup>25</sup> whose then centre was west of upper Niger between Bamako and Jeriba, and which was inhabited by the Mande (Mandingo) people. AL-BAKRĪ stresses also the importance of cows as sacrificial offerings in pre-Islamic times in Māli. This custom persists to this day among some non-Moslem Mandingo speaking people.<sup>26</sup> AL-ʿOMARĪ also notes well developed cattle hus-

<sup>17</sup> *Voyages d'Ibn Batoutah*. Texte arabe accompagné d'une traduction par C. DEFRÉMERY et le DR. B. R. SANGUINETTI, I—IV, Paris, 1893—1922 (= IBN BATOUTAH, *Voyages*), IV, p. 394.

<sup>18</sup> EL-BEKRI, *Description*, texte ar., p. 173; trad., p. 326. The Wolof of Senegambia of to day still enjoy drinking sour milk. See P. GAMBLE, *The Wolof of Senegambia*, London 1957, p. 37.

<sup>19</sup> IBN BATOUTAH, *Voyages*, IV, pp. 400—401.

<sup>20</sup> JEAN-LÉON L'AFRICAIN, *Description*, II, p. 465.

<sup>21</sup> IBN BATOUTAH, *Voyages*, IV, p. 433.

<sup>22</sup> JEAN-LÉON L'AFRICAIN, *Description*, II, p. 470.

<sup>23</sup> EL-BEKRI, *Description*, texte ar., pp. 172—173; trad., p. 324.

<sup>24</sup> GAMBLE, *The Wolof*, p. 100; N. LECA, *Les pêcheurs de Guet N'Dar*. Bulletin du Comité d'Études Historiques et Scientifiques de l'Afrique Occidentale Française, XVII, 1934, p. 309.

<sup>25</sup> EL-BEKRI, *Description*, texte ar., p. 178; trad., p. 333.

<sup>26</sup> H. LABOURET, *Les Manding et leur langue*. Bulletin du Comité d'Études Historiques et Scientifiques de l'Afrique Occidentale Française, XVII, p. 40.

bandry in Mālī and observes that cows here are of a dwarf breed.<sup>27</sup> This appears to be correct observation as in Western Africa we see, even to-day, besides longhorned yellow Mandingo breeds and Moroccan breeds, also a dwarf short-horned breed of cattle.<sup>28</sup> IBN BAṬṬŪṬA was offered in the capital of Mālī two heads of cattle, undoubtedly destined for food. It follows however from his further notes that beef was eaten but rarely in Mālī, usually at some ceremonial feast, which custom persists with the Mandingo tribes.<sup>29</sup> Finally, LEO AFRICANUS refers to the ancient state of Mālī when he writes about enormous herds in the city of Ghinea (Jenne).<sup>30</sup> Unfortunately it is not clear whether mediaeval Mandingoes kept cattle for prestige purposes (as it is done nowadays), for slaughter or for milk. At present cows are not milked in territories occupied by Mande tribes. According to S. M. X. GOLBERRY members of this ethnic group, inhabiting Bambuk in the upper reaches of Senegal, used at the end of the 18th cent. cows' butter in the preparation of various dishes.<sup>31</sup> It is conceivable that the fresh butter bought by the French explorer R. CAILLIÉ from native Negroes was made of cows' milk. This took place during CAILLIÉ's journey from Jenne to Kabara early in the 19th cent.<sup>32</sup> It is obvious that more research is needed to clarify the question of milking cattle in the case of various ethnic groups in Western Sudan through the ages.<sup>33</sup>

According to LEO AFRICANUS cattle breeding flourished in the city of Tombutto or Timbuktu which belonged originally to the state of Mālī and later to the kingdom of Songhai.<sup>34</sup> It must be noted, however, that the inhabitants of that city were largely Tuareg, hence non-Sudanese and not agricultural. LEO AFRICANUS mentions also cattle breeding in the Hausa lands of Guber (Gober) and Cano (Kano); in the former the cattle was of a dwarf breed.<sup>35</sup> To

<sup>27</sup> IBN FADL ALLAH AL-'OMARĪ, *Masālik el Abšār fi mamālik el amšār*. I. L'Afrique, moins l'Égypte. Traduit et annoté avec une introduction et 5 cartes par Gaudefroy-Demombynes, Paris, 1927 (= AL-'OMARĪ, *Masālik*), pp. 63, 70.

<sup>28</sup> H. BAUMANN, R. THURNWALD, D. WESTERMANN, *Völkerkunde von Afrika*, Essen 1940 (= BAUMANN, THURNWALD, WESTERMANN, *Völkerkunde*), pp. 323, 352.

<sup>29</sup> IBN BATOUTAH, *Voyages*, IV, p. 398.

<sup>30</sup> JEAN-LÉON L'AFRICAIN, *Description de l'Afrique*, II, p. 465.

<sup>31</sup> LABOURET, *Les Manding*, pp. 40-41; *Reise nach Senegal in den Jahren 1784 und 1787 von G. Lajaille*. . . Anhang: Beschreibung des Goldlandes Bambuk nach Golberrys afrikanischer Reisebeschreibung. Transl. M. C. SPRENGEL, Weimar 1802, p. 110. It should be noted that according to the French explorer R. CAILLIÉ, the pagan tribe Bambara belonging to the Mande group did not milk cows in the beginning of the 19th century. See R. CAILLIÉ, *Journal d'un voyage à Temboctou et à Jenné dans l'Afrique centrale* Paris 1830 (= CAILLIÉ, *Journal*), II, p. 65.

<sup>32</sup> CAILLIÉ, *Journal*, II, p. 269, 271.

<sup>33</sup> About the problem of milking cows by the population of Western Africa see G. P. MURDOCK, *Africa. Its people and their culture history*. New York-Toronto-London, 1959, passim.

<sup>34</sup> JEAN-LÉON L'AFRICAIN, *Description*, II, p. 468. If R. CAILLIÉ is to be believed, a similar situation obtained in the early 19th century. He says that the Tuareg near Timbuktu had large herds of cows whose meat and milk served them as food.

<sup>35</sup> JEAN-LÉON L'AFRICAIN, *Description*, II, pp. 472, 476.

day, the tribe Yoruba in southern Nigeria, south of Hausa breeds dwarf cattle, resistant to the tse-tse fly. This breed is slowly being replaced by zebu cattle imported from the North.<sup>36</sup>

Finally, LEO AFRICANUS found cattle in the mountain regions of Borno (Bornu).<sup>37</sup> This was confirmed by the first European explorers in the 19th cent., who stress the importance of cattle breeding in the economy of that country. Beef is regarded there as meat of inferior quality compared to mutton or goats' and camels' meat.<sup>38</sup> This prejudice may have been accepted by the natives of Bornu from Arabs who dislike beef. On the other hand it may be a form of residual taboo accepted from ancient Eastern Lybians who refrained from eating beef and drinking cows' milk.<sup>39</sup>

Sheep were equally important in the economy of Western and Middle Sudan. They were bred for their meat as well as for their milk. AL-BAKRĪ reports that near the western borders of that region sheep were kept by the inhabitants of the peninsula Ayūnī, mainly fishermen, whose staple diet was the meat of giant turtles.<sup>40</sup> Mutton is still popular with the Senegaleze inhabitants of the coast and is frequently eaten by fishermen of Guet N'Dar belonging to the agricultural tribe of Wolof.<sup>41</sup> On the other hand, if AL-BAKRĪ is to be believed, the people of Sillā, a country lying between Takrūr and Ghāna, near the middle Senegal, had cattle but no sheep at all.<sup>42</sup>

In the 14th cent. sheep were also bred in Walata on the northern fringe of Western Sudan, belonging then to the kingdom of Mālī. According to IBN BATTŪTA lamb was a basic food there.<sup>43</sup> As we have already mentioned, sheep breeding in Walata must have later gone into decline, because LEO AFRICANUS who visited that country in 1511 or 1512 noted an acute shortage of meat.<sup>44</sup> Sheep breeding flourished also in other regions inhabited by Mandingoes especially in central Mālī — as observed by AL'OMARĪ. He writes that sheep in Mālī did not keep to pastures but wandered all over the city, rummaging for food in refuse and dung heaps. Butter was made out of the milk of those sheep, which, however went rancid very quickly. AL'OMARĪ blames this on the inferior fodder.<sup>45</sup> MALFANTE from Genua (1477) who collected some information

<sup>36</sup> W. BASCOM, *Yoruba food*, Africa (London), XXI, 1951, p. 42.

<sup>37</sup> JEAN-LÉON L'AFRICAIN, *Description*, II, p. 480.

<sup>38</sup> H. BARTH, *Reisen und Entdeckungen in Nord- und Central-Afrika in den Jahren 1849 bis 1855*, Gotha 1857—1858 (= BARTH, *Reisen*), IV, p. 33; G. NACHTIGAL, *Sahara und Sudan*, Berlin—Leipzig, 1879—1889, I, pp. 577, 658 and II, p. 602.

<sup>39</sup> See about these customs of Ancient Libyans: ST. GSELL, *Textes relatifs à l'histoire de l'Afrique du Nord*. Fasc. I. HÉRODOTE. Alger—Paris, 1916, pp. 175—176.

<sup>40</sup> EL-BEKRI, *Description*, texte ar., p. 171; trad., p. 323.

<sup>41</sup> LECA, *Les pêcheurs de Guet N'Dar*, p. 309.

<sup>42</sup> EL-BEKRI, *Description*, texte ar., pp. 172—173; trad., pp. 324—325.

<sup>43</sup> IBN BATOUTAH, *Voyages*, IV, p. 387.

<sup>44</sup> JEAN-LÉON L'AFRICAIN, *Description*, II, p. 464.

<sup>45</sup> AL'OMARĪ, *Masālik*, pp. 63, 70. Elsewhere (op. cit., p. 61), AL'OMARĪ states that sheep bred in Mālī are small. Dwarf varieties of sheep are bred to this day in some parts of Western Africa, as e.g. in the territory occupied by the Gagu tribe (see BAUMANN, THURN-

about Sudan in the oasis Tuat in northern Sahara, also alludes to butter made of sheep's milk.<sup>46</sup> It should be noted that sheep together with cattle, goats, donkeys and horses form to this day the basis of pastoral economy of Mande tribes. It appears that rams played in the past some role in the customs and beliefs of Mālī, where they may have been symbols of royal power. I am basing this supposition on two passages by IBN BATTŪTA who says that during ceremonial receptions by the Mālī king two saddled horses and two rams are led in. It was explained to IBN BATTŪTA that the rams were there to divert the evil eye.<sup>47</sup> This may be an instance of the influence of Libyan culture (where rams were of prime importance) on Mande customs.

Sheep were also bred in Gago (Gao), capital of the Songhaï empire. This can be deduced from a passage in the *Description of Africa* by LEO AFRICANUS stating that shepherds in that country dress sheep skins.<sup>48</sup> This same author also mentions large flocks of sheep in the Hausa countries Guber (Göber) and Cano (Kano).<sup>49</sup> This has remained unaltered until modern times and European explorers of the 19th cent., like H. BARTH and G. ROHLFS, stress the importance of sheep breeding in those regions. Nowadays there is a considerable demand for the meat of these animals. The sheep are fattened and eaten on feast days.<sup>50</sup>

Let us now consider *goat* breeding. It is most probable that this animal was kept in the whole of Western and Middle Sudan, where, as in the rest of Western Africa, it was the oldest and most popular domestic animal. Unfortunately Arabic mediaeval sources have but few references concerning goat breeding in the area from the Atlantic ocean in the West to Lake Chad in the East. AL-IDRĪSĪ mentions that the inhabitants of the kingdom of Takrūr kept goats, as did their neighbours in Sillā where, however, a century earlier goats were unknown (this we know from a different source).<sup>51</sup> According to AL-BAKRĪ the inhabitants of the city of Barīsā (Īrasnī in some manuscripts) situated between Takrūr and Sillā on one side and Ghāna on the other, kept a breed of very small goats. New born male kids were killed, possibly for meat, whilst females were kept.<sup>52</sup> AL-BAKRĪ's is the only evidence of dwarf goat breeding

WALD, WESTERMANN, *Völkerkunde*, p. 320) and in the Hausa lands (see G. ROHLFS, *Quer durch Afrika*, Leipzig 1874—1875, II, p. 216).

<sup>46</sup> R. MAUNY, *Notes historiques autour des principales plantes cultivées d'Afrique Occidentale*, BIFAN, XV, 1953, p. 705.

<sup>47</sup> IBN BATOUTAH, *Voyages*, IV, pp. 404, 407.

<sup>48</sup> JEAN-LÉON L'AFRICAIN, *Description*, II, p. 471.

<sup>49</sup> *Ibid.*, II, pp. 472, 476.

<sup>50</sup> BARTH, *Reisen*, V, p. 329; ROHLFS, *Quer durch Afrika*, II, p. 216; A. MISCHLICH, *Über die Kulturen im Mittel-Sudan*, Berlin, 1942, pp. 31—32; HAROLD D. GUNN, *Pagan peoples of the central area of Northern Nigeria*, London, 1956, p. 70 (the Katab tribe on the border of the district of Kano).

<sup>51</sup> *Description de l'Afrique et de l'Espagne par Edrîsî*. Texte arabe publié . . . avec une traduction, des notes et un glossaire par R. DOZY et M.J. DE GOEJE, Leyde, 1866 (= EDRĪSĪ, *Description*), Arab part, p. 3; French part, p. 3. See GAMBLE, *The Wolof*, p. 34.

<sup>52</sup> EL-BEKRI, *Description*, texte ar., p. 177; trad., p. 332.

by Mandingoes in the Middle Ages. AL-IDRĪSĪ speaks of goat breeding in the land Malal or Mālī where the population drank goats' milk.<sup>53</sup> AL-'OMARĪ notes that goats in the land of Mālī found their food on rubbish heaps (similarly to the above-mentioned sheep) and in spite of this poor nourishment they were very fertile producing each time a litter of 7—8 kids.<sup>54</sup>

Mediaeval Arab sources do not mention goat breeding at all in the Hausa region where nowadays goats are kept in almost every dwelling and where goat meat is a favourite dish.<sup>55</sup> We can assume that a similar situation obtained in the Middle Ages. In any case, early in the 16th cent., LEO AFRICANUS observed goat breeding in southern Air, in the kingdom of Agades, bordering Hausa provinces.<sup>56</sup> It is, however, certain that at that time goats were kept in the mountain regions of the kingdom of Bornu,<sup>57</sup> where 300 years later the African explorer H. BARTH found goats to be kept and their meat very popular among the natives.<sup>58</sup>

The breeding of *camels* was not unknown to the agricultural population of Western Sudan who had learned about it in earliest Middle Ages from their northern Berber neighbours. According to AL-IDRĪSĪ, herds of camels were kept in the city of Takrūr (now Podor), capital of the kingdom of Takrūr and in the cities of Sillā and Ghayāro (Gadiaro) near the middle and upper Senegal river.<sup>59</sup>

The population of Malal or Mālī also bred camels as evidenced at least by the passage in AL-IDRĪSĪ's book where he mentions drinking camels' milk.<sup>60</sup> AL-'OMARĪ relates that the inhabitants of Mālī did not know how to saddle their camels.<sup>61</sup> LEO AFRICANUS, on the other hand, says that the inhabitants of Timbuktu rode their camels;<sup>62</sup> they also ate camel meat. The use of camel meat is confirmed by the Portuguese VALENTIM FERNANDES (1506) who says that when caravans brought salt from the country of Ygild (Sebkha Ijil in Mauretania), the camels were killed and the meat eaten.<sup>63</sup>

<sup>53</sup> EDRĪSĪ, *Description*, Arab part, p. 6; French part, pp. 6—7.

<sup>54</sup> AL-'OMARĪ, *Masālik*, pp. 63, 70. Similarly, goats kept by Nomads in the Sahara are not fastidious when it comes to their food. See L. C. BRIGGS, *Tribes of the Sahara*, Cambridge (USA), 1960, p. 19.

<sup>55</sup> MISCHLICH, *Über die Kulturen im Mittel-Sudan*, p. 33. According to ROHLFS (*Quer durch Afrika*, II, p. 212), in the second half of the 19th century the population of Hausa countries bred dwarf varieties of goat.

<sup>56</sup> JEAN-LÉON L'AFRICAIN, *Description*, II, p. 474.

<sup>57</sup> *Ibid.*, II, p. 480.

<sup>58</sup> BARTH, *Reisen*, II, p. 249; see also NACHTIGAL, *Sahara und Sudan*, I, p. 658.

<sup>59</sup> EDRĪSĪ, *Description*, Arab part, pp. 3, 9; French part, pp. 3, 11.

<sup>60</sup> *Ibid.*, Arab part, p. 6; French part, pp. 6—7.

<sup>61</sup> AL-'OMARĪ, *Masālik*, p. 67.

<sup>62</sup> JEAN-LÉON L'AFRICAIN, II, p. 468.

<sup>63</sup> P. DE CENIVAL ET TH. MONOD, *Description de la côte d'Afrique de Ceuta au Sénégal* par VALENTIM FERNANDES (1506—1507), Paris, 1938 (= V. FERNANDES, *Description*), pp. 84, 85.

*Donkeys* were also bred in the country of Mālī. This is mentioned by AL-'OMARĪ who adds that it was a very small breed of donkey.<sup>64</sup> IBN BATTŪTA noticed donkey's flesh used for food by the Mālī which he, as a good Moslem, found shocking.<sup>65</sup> Donkey's flesh was also eaten by the Berber inhabitants of Ygild in Mauretania—this we know from FERNANDES' treatise.<sup>66</sup> I have unfortunately not been able to ascertain if donkeys' meat is still part of the Mande diet. It is still consumed by part of the population of southern Nigeria e.g. in the Busa Emirate in the province Ilorin, where donkey carrion is eaten (not meat of animals purposely slaughtered). We may add that donkey carrion used to be served as a delicacy at the court of the king of Yoruba in southern Nigeria.<sup>67</sup>

The next subject to be considered is the breeding of *horses* in Western and Middle Sudan. The earliest mention is to be found in two passages in *Kitāb al-Masālik wa'l-mamālik* by AL-BAKRĪ. Both passages concern Ghāna, a then powerful state in Western Sudan. The ruins of its ancient capital of the same name can still be seen in Kumbi Saleh near the southern border of Mauretania. According to the first of these passages the king of Ghāna possessed horses which stood in magnificent caparison near the pavillion in which the king was giving audience to his subjects. AL-BAKRĪ mentions elsewhere that Ghānaian horses were rather small.<sup>68</sup> AL-IDRĪSĪ, a hundred years later notes that the king of Ghāna never rode any other animal but a horse.<sup>69</sup> According to AL-'OMARĪ horses were bred in the state of Mālī which became hegemonic in Western Sudan after the fall of Ghāna. These horses were weak and small (as were other animals bred there) and may have been a variety of Tartar breed (?).<sup>70</sup> They seem to have been bred in large numbers as AL-'OMARĪ stresses that the king of Mālī had at his disposal as many as 10,000 riders.<sup>71</sup> IBN BATTŪTA mentions several times horses being ridden in Mālī by the king, his courtiers, officers, soldiers and even ordinary citizens. He goes on to say that during official royal receptions given by the king of Mālī, two saddled and caparisoned horses were standing by, similarly to the arrangement at Ghāna (see above). Horses may have been an attribute of royalty.<sup>72</sup> AL-'OMARĪ mentions also that horses, donkeys and mules were fed on millet.<sup>73</sup>

Horses of a local dwarf breed were also kept in the city of Timbuktu which early in the 16th cent. belonged to the kingdom of Gao or Songhai and

<sup>64</sup> AL-'OMARĪ, *Masālik*, p. 61.

<sup>65</sup> IBN BATOUTAH, *Voyages*, IV, pp. 423—424.

<sup>66</sup> V. FERNANDES, *Description*, pp. 76, 77.

<sup>67</sup> HAROLD D. GUNN and F. P. CONANT, *Peoples of the Middle Niger Region, Northern Nigeria*, London, 1960, p. 35; ROHFELS, *Quer durch Afrika*, II, p. 256.

<sup>68</sup> EL-BEKRI, *Description*, texte ar., p. 176, 177; trad., p. 329, 332.

<sup>69</sup> IDRĪSĪ, *Description*, Arab part, p. 7; French part, p. 8.

<sup>70</sup> AL-'OMARĪ, *Masālik*, pp. 61, 70.

<sup>71</sup> *Ibid.*, pp. 66—67.

<sup>72</sup> IBN BATOUTAH, *Voyages*, IV, pp. 404, 405, 407, 410.

<sup>73</sup> AL-'OMARĪ, *Masālik*, p. 61.

was ruled by a powerful viceroy. LEO AFRICANUS in his *Description of Africa* says that these horses were used both by merchants in their travels and by courtiers of the viceroy parading in the city. There must have been a good number of horses in the country because the king had 3,000 horsemen in his army. The best horses were imported to Timbuktu from Barbary.<sup>74</sup> Horses were also owned by native Songhai (let us not forget that the inhabitants of Timbuktu were mostly of Berber origin).

According to LEO AFRICANUS, the king of Gao commanded a large unit of cavalry. Horses were imported into the country and were therefore very expensive. LEO AFRICANUS says that a horse which cost 10 ducats in southern Europe fetched 40—50 ducats in Gao (i.e. golden Arab dinars).<sup>75</sup> It is possible that these horses were all imported from Barbary as were the best horses known in Timbuktu.

The only mention of cavalry and hence of horses in territories further East comes from the small kingdom of Guangara, near Katsina corresponding to the present district of Tessaoua. LEO AFRICANUS gives the number of horsemen at 500 and says they were foreigners.<sup>76</sup> It is therefore conceivable that both riders and horsemen were of foreign origin.

The next mention of horses comes also from LEO AFRICANUS and concerns the country Bornu. The king of Bornu used to obtain horses from Berber merchants in exchange for slaves, the rate being fifteen to twenty slaves for one horse. The king's cavalry numbered 3,000 horsemen.<sup>77</sup>

The country Kānem was situated on the other side of Lake Chad. Towards the end of the Middle Ages Bornu and Kānem formed one state, known by either of their names. The Arabe author AL-MAQRĪZĪ, writing in the 15th cent., says that the king of Kānem (or Bornu-Kānem), a sovereign over five princes, had horses of a dwarf, probably native breed.<sup>78</sup> Horses had been known in those regions for a long time. YĀQŪT quotes in his "*Mu'jam al-buldān*" a fragment of a lost geographical treatise by AL-MUHALLABĪ which in the description of the country Zaghāwa (North-East of Lake Chad) mentions sheep, cows, camels and horses as local livestock.<sup>79</sup>

According to AL-ʿOMARĪ, the neighbouring Berber tribes from Awda-ghast, Tadmekka and Air south of Sahara had at that time no horses and rode camels only.<sup>80</sup>

<sup>74</sup> JEAN-LÉON L'AFRICAIN, II, 468.

<sup>75</sup> Ibid., p. 471.

<sup>76</sup> Ibid., p. 478.

<sup>77</sup> Ibid., p. 480.

<sup>78</sup> AL-ʿOMARĪ, *Masālik*, p. 86.

<sup>79</sup> JACUT's *geographisches Wörterbuch* . . . hrsg. von Fr. Wüstenfeld, Leipzig, 1866—1870, II, pp. 932—933.

<sup>80</sup> AL-ʿOMARĪ, *Masālik*, p. 94.

*Mules* were also bred in Western Sudan. I have only come across two mentions of this fact, both of them by AL-'OMARĪ and both concerning Mālī.<sup>81</sup>

*Dogs* were common in the agricultural lands of Western and Middle Sudan. AL-BAKRĪ writes about watch-dogs in royal palaces in Ghāna,<sup>82</sup> and LEO AFRICANUS notices dogs in the palace of the king of Bornu.<sup>83</sup> IBN BATTŪTA makes a more interesting remark — he reports that Negroes (inhabitants of Mali belonging to the Mande group) often eat dogs' flesh, of which custom IBN BATTŪTA as a Moslem strongly disapproves.<sup>84</sup> The custom persisted until recent times. The French explorer R. CAILLIÉ noted in the 19th century that the pagan tribe Bambara (belonging to the Mande group) often ate dogs. Dogs destined for consumption were fattened and then eaten at a meal during which beer was drunk and which had all appearances of a ritualistic orgy.<sup>85</sup> Moslems among the Mandingoes would not eat dogs.<sup>86</sup> It appears that the Mande people have accepted the custom of eating dogs' flesh together with certain religious and magic beliefs from the neighbouring Berbers. Dogs were eaten, for instance, by the Berber population of Sijilmāsa in southeast Morocco. Sijilmāsa had lively commercial and possibly also cultural contacts with Western Sudan, which would facilitate the transplanting also of this custom. The contacts are noted by AL-BAKRĪ,<sup>87</sup> by ABŪ ḤĀMID AL-ANDALUSĪ AL-GHARNĀTĪ — an Arab traveller in the 12th cent.<sup>88</sup> and by ABU 'L-FIDĀ' — an Arab geographer in the 14th cent.<sup>89</sup> AL-BAKRĪ mentions that dogs' flesh is eaten by Berber inhabitants of the city of Quastiliya (or Tozeur) in southern Tunisia.<sup>90</sup> This custom has persisted to this day in some oases in central Sahara — as observed by the eminent scientist C. L. BRIGGS, who stresses the ritualistic, magic and medicinal character of this dish among the Berber inhabitants of Sahara oases (e.g. Mzab).<sup>91</sup> It appears that Berber influences are responsible for this custom among the Yoruba in southern Nigeria (as observed by R. BASCOM).<sup>92</sup>

<sup>81</sup> Ibid., pp. 61, 70.

<sup>82</sup> EL-BEKRI, *Description*, texte ar., p. 176; trad., p. 329.

<sup>83</sup> JEAN LÉON L'AFRICAIN, *Description*, II, p. 481.

<sup>84</sup> IBN BATOUTAH, *Voyages*, IV, p. 423.

<sup>85</sup> R. CAILLIÉ, *Journal*, II, pp. 79, 149 and passim.

<sup>86</sup> Ibid., II, p. 4.

<sup>87</sup> EL-BEKRI, *Description*, texte ar., p. 148; trad., p. 284.

<sup>88</sup> *Extraits inédits relatifs au Maghreb (géographie et histoire)*. Traduits de l'arabe et annotés par E. FAGNAN, Alger, 1924, p. 28.

<sup>89</sup> *Géographie d'Aboulféda*. Texte arabe, ed. M. REINAUD et MAC GUCKIN DE SLANE, Paris, 1840, pp. 136, 137; transl. M. REINAUD, II, 1, Paris, 1848, p. 189.

<sup>90</sup> EL-BEKRI, *Description*, texte ar., p. 49; trad., p. 104.

<sup>91</sup> C. L. BRIGGS, *Tribes of the Sahara*, pp. 24–25, 239.

<sup>92</sup> W. BASCOM, *Yoruba food*, p. 42. We have also information about the consumption of dog flesh by Nigerian tribes such as Achipawa (Atshefaó, Kagora), and by the inhabitants of the Busa Emirate in the province Ilorin. The last mentioned eat dogs almost exclusively at ritualistic feasts. See HAROLD D. GUNN and F. P. CONANT, *Peoples of the Middle Niger Region*, pp. 35–57; H. D. GUNN, *Pagan peoples of the central area of Northern Nigeria*, p. 70. It may be added that dogs are together with sheep, goats and chickens among the oldest known domestic animals in Africa. See BAUMANN, THURNWALD, WESTERMANN, *Völkerkunde*, p. 323.

Next let us consider medieval Arab references to *poultry* breeding in Western and Middle Sudan.

The most important domestic birds are *chickens*. They are a popular dish, often however reserved for women and children, so that there may be a form of taboo attached to them. This is the position for instance in Bornu.<sup>93</sup> There is little information in mediaeval sources concerning chicken breeding and it relates to two countries only: Mālī and Gao. IBN BAṬṬŪṬA speaks about chicken breeding in Gao (in the text: Kawkaw).<sup>94</sup> He also mentions that in the country of Mālī the villagers on the route Walata — Mālī (Niani) offered hens for sale to travellers.<sup>95</sup> AL-ʿOMARĪ also mentions chicken breeding in Mālī.<sup>96</sup>

Geese were also kept in Mālī. AL-ʿOMARĪ quotes on this subject Mansā Mūsā, a king of Mālī who came to Cairo early in the 14th cent. during his pilgrimage to Mecca.<sup>97</sup> Geese are nowadays scarce in Western Africa and are known to be bred only in territories occupied by Songhai.<sup>98</sup> It is conceivable that a mistake has been made and that what AL-ʿOMARĪ had in mind were in fact ducks which are indeed bred now in Jenne on the territories of the ancient state of Mālī and in neighbouring Timbuktu.<sup>99</sup>

Some information has been preserved concerning *pigeon* keeping, again through AL-ʿOMARĪ quoting king Mansā Mūsā.<sup>100</sup> This information appears to be correct as pigeons are kept to this day by the population of Jenne. H. BARTH who visited the upper reaches of the Niger in the 19th cent. saw pigeons among livestock in Timbuktu and Kabara i.e. within the borders of the state of Mālī in the period of its greatest development.<sup>101</sup>

Finally let us say a few words about a rather uncertain problem, namely about possible *bee* keeping in Western and Middle Sudan. There is no doubt as to the importance of honey in the Middle Ages, when it was used both as a sweetening agent and in the preparation of beverages (also alcoholic ones). Numerous references found in writings of Arab authors confirm it. AL-QAZWĪNĪ, an Arab geographer of the 13th cent. quotes ʿALĪ AL-JANAHĀNĪ, a traveller in Western Sudan and stresses the cheapness of honey in Takrūr in the lower reaches of the Senegal river.<sup>102</sup> There is no definite information as to

<sup>93</sup> NACHTIGAL, *Sahara und Sudan*, I, p. 659.

<sup>94</sup> IBN BAṬṬŪṬA, *Voyages*, IV, p. 435.

<sup>95</sup> *Ibid.*, IV, p. 394.

<sup>96</sup> AL-ʿOMARĪ, *Masālik*, pp. 63, 70.

<sup>97</sup> *Ibid.*, p. 70.

<sup>98</sup> S. LAGERCRANTZ, *Contribution to the ethnography of Africa*. Studia Ethnographica Upsaliensia, I, Lund, 1950, p. 83.

<sup>99</sup> *Ibid.*, p. 75; Barth, *Reisen*, IV, p. 403.

<sup>100</sup> AL-ʿOMARĪ, *Masālik*, p. 70.

<sup>101</sup> BARTH, *Reisen*, IV, p. 403. See also LAGERCRANTZ, *op. cit.*, p. 68. Pigeons are also kept in the lands of Hausa (see ROHLFS, *Quer durch Africa*, II, p. 212), in Bornu (see NACHTIGAL, *Sahara und Sudan*, I, p. 669) and in the oasis of Sahara where there is a favourite dish cooked in couscous (see BRIGGS, *Tribes of the Sahara*, p. 239).

<sup>102</sup> ZAKARIJA BEN MUHAMMED BEN MAHMUD EL-CAZWĪNĪ's *Kosmographie*, II, p. 17

whether the honey was collected from wild bees or whether the bees were kept for this purpose. There is no doubt, however, that bees were already bred in the 18th cent.<sup>103</sup> AL-BAKRĪ describes the city of Awdaghost in the southern regions of western Sahara on the plateau Rkis (now Southern Mauretania) and says that honey was imported from the Negroes but does not say how it was obtained.<sup>104</sup> It appears certain that bee keeping was known in the country Mālī between the capital and the city of Walata. IBN BATTŪTA, when travelling from Walata to Mālī noticed hollow baobab trunks along the road which served as beehives, from which honey was being removed.<sup>105</sup> This could easily be an instance of planned bee keeping. H. BARTH observed similar methods in the 19th cent. in the country of Musgu (belonging to Bornu) where beehives were, made out of hollowed out trunks placed inside moldered trees.<sup>106</sup> West African tribes Bayot and Tulup hang up basket weave beehives inside hollows in trees.<sup>107</sup> H. BARTH noticed beehives also among the people of Hause in the province of Kano. There they were made out of hollow tree branches.<sup>108</sup> The Mediaeval Arab sources mention also the use of honey in Walata<sup>109</sup> and in territories between Timbuktu and Gao inhabited by Songhai.<sup>110</sup> They stress its cheapness in Ghinea (Jenne)<sup>111</sup> and its abundance in Gober,<sup>112</sup> but never make it plain whether bees were kept there or lived wild. However, to-day in the province of Gurma belonging to the tribe Songhai bee keeping is known. The hives are hung in the trees.<sup>113</sup>

This is the information concerning animal husbandry in Western and Middle Sudan available from medieval Arab sources. This does not exhaust all the existing sources, as considerable information can undoubtedly be found in European writings from the 14th to the 16th cent. The investigation of those sources is however beyond the scope of this article and must be left to research workers better qualified to deal with it.

<sup>103</sup> See HERRN ADANSONS *Reise nach Senegal*. Aus dem Französischen übersetzt . . . von F. H. W. MARTINI, Brandenburg, 1773, pp. 119—121.

<sup>104</sup> EL-BEKRI, *Description*, texte ar., p. 158; trad., p. 300.

<sup>105</sup> IBN BATOUTAH, *Voyages*, IV, p. 391.

<sup>106</sup> BARTH, *Reisen*, III, p. 215.

<sup>107</sup> BAUMANN, THURNWALD, WESTERMANN, *Völkerkunde*, p. 323.

<sup>108</sup> BARTH, *Reisen*, II, p. 105.

<sup>109</sup> IBN BATOUTAH, *Voyages*, IV, p. 386.

<sup>110</sup> *Ibid.*, IV, pp. 432—434.

<sup>111</sup> JEAN-LÉON L'AFRICAIN, *Description*, II, p. 465. In the beginning of the 19th century honey was still imported in enormous quantities from Jenne to Timbuktu. See R. CAILLIÉ, *Journal*, II, p. 313.

<sup>112</sup> JEAN-LÉON L'AFRICAIN, *Description*, II, p. 472. To this day honey plays an important part in lands inhabited by the Hausa people, and in neighbouring Nigeria bee keeping is well developed. See H. D. GUNN, *Pagan peoples of central area of Northern Nigeria*, p. 70; H. D. GUNN and F. P. CONANT, *Peoples of the Middle Niger region*, p. 35.

<sup>113</sup> J. ROUCH, *Les Songhay*, Paris, 1954, p. 31.