The archaeology of post medieval Timbuktu

*Timothy Insoll**

Riassunto

Quasi tutti conoscono il nome di Timbuktu, eppure è soltanto negli anni più recenti che si sono avviate nella città antica delle ricerche archeologiche condotte in maniera sistematica. L'articolo presenta i risultati di un programma di saggi di scavo, completati nel settembre del 1998 in molti punti della città. Il materiale raccolto è di diversi tipi - ceramiche, pipe per tabacco, perline, braccialetti, metalli, conchiglie, vetro e fusi da tessitura. Questi reperti sono descritti e situati nel contesto storico. Vengono presentate le informazioni che i vari ritrovamenti forniscono sul commercio e sulle vicende della città tra il diciottesimo e il ventesimo secolo. Infine, si propone una soluzione per i problemi che si devono affrontare allo scopo di completare le ricerche archeologiche a Timbuktu, per permettere di raccogliere elementi che aiutino a determinare le origini della città.

Summary

Timbuktu, a city whose name is familiar to most, has only recently begun to be investigated systematically through archaeology. This paper presents the results of a programme of trial excavation which was completed in several parts of Timbuktu in September 1998. These excavations recovered assemblages of various types of archaeological material - pottery, tobacco pipes, beads, bracelets, metals, shell, glass, and spindle whorls. This material is considered and placed in context as regards the information it provides on trade and the history of the city between the eighteenth and twentieth centuries. Finally, a solution to the problems of completing archaeological research in Timbuktu and to assessing the origins of the city is proposed.

Résumé

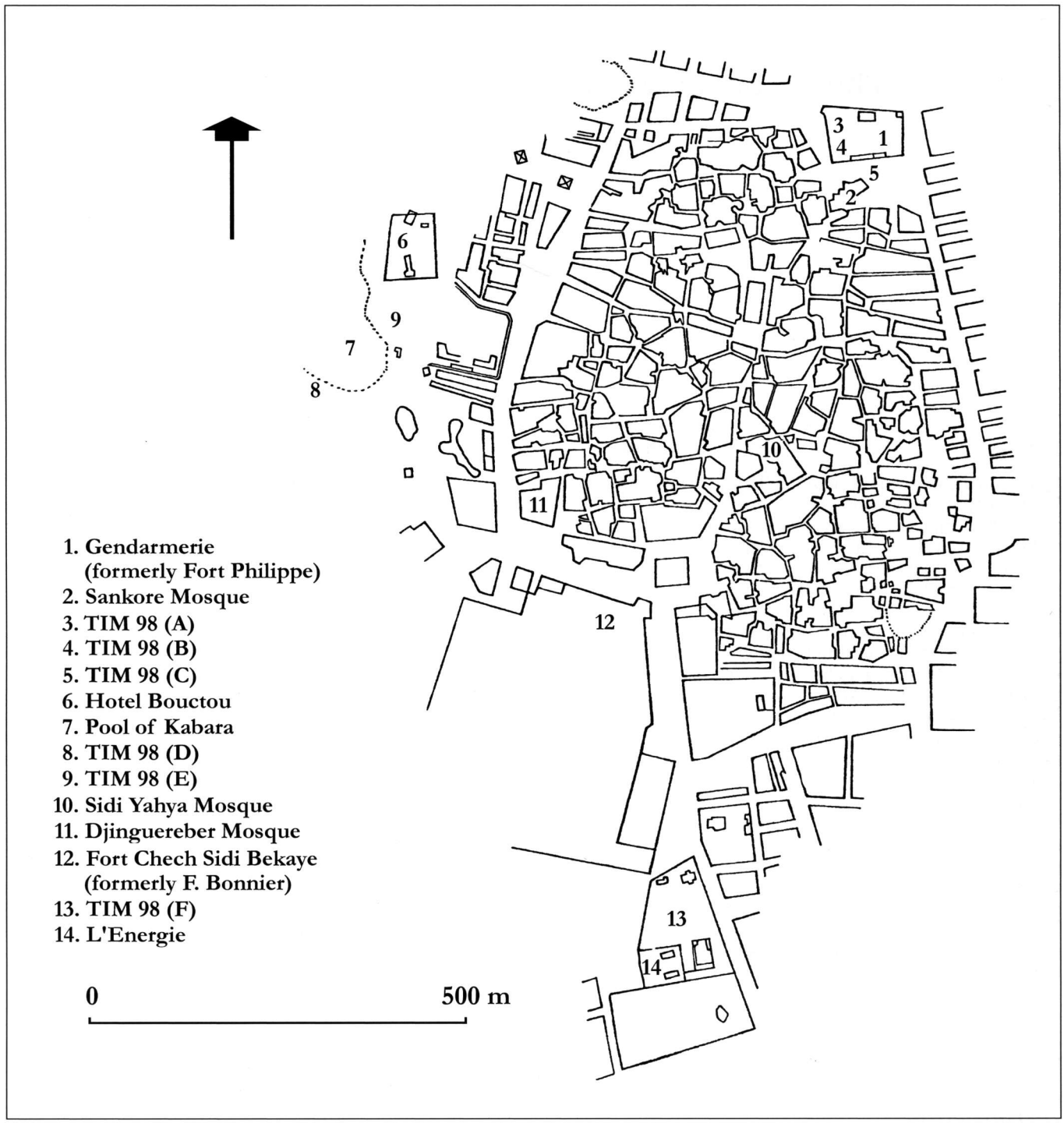
Tombouctou, dont le nom est familier à la plupart d'entre nous, n'a été étudiée systématiquement, sur le plan archéologique, que tout dernièrement. Cet article présente les résultats de fouilles tests menées à bien dans divers emplacements de la ville en 1998. Ces travaux ont permis de mettre en évidence des ensembles de matériaux archéologiques variés - poteries, pipes à tabac, perles, bracelets, pièces métalliques, coquilles, verre et navettes. Ce matériel est discuté et replacé dans le contexte des échanges commerciaux et de l'histoire de la cité entre le 18e et le 20e siècles. Enfin, nous avançons des propositions pour la suite des recherches archéologiques à Tombouctou, et pour remonter aux origines de la cité.

Introduction

Saad (1983: 3) makes the point that «Timbuktu became famous merely for being famous», and it is with this notion in mind that an exploratory archaeology programme was initiated in Timbuktu in 1996 and 1998. The results of the test excavations completed in the latter season are the focus of this paper (see Insoll, 1998 for a discussion of the 1996 survey). Results which give an insight into Timbuktu between the eighteenth and twentieth centuries, the era when Timbuktu was the focus of a European rush to be the first to «discover» the city, and also when it fell under colonial rule.

Yet surprisingly a city as renowned as Timbuktu has never been the focus of systematic archaeological investigation. Prior to the recent excavations, the sum total appears to consist of a largely conjectural map produced by Pefontan (1922), and a brief survey, largely of the standing monuments, completed by Raymond Mauny (1952). More recently, a survey of parts of the surrounding region has also been completed by Susan Keetch McIntosh and Rod McIntosh (1986). The results of these

**School of Art History and Archaeology*
University of Manchester
Oxford Road
Manchester, M13 9PL (U.K.)



few explorations are referred to, where necessary, later, but it is pertinent to note that it is the above ground monuments, notably the three «medieval» mosques of Djinguereber, Sankore, and Sidi Yahya, which have been concentrated upon both in terms of restoration and publication (see for example Insoll, 1999; Joffroy, 1997; Mauny, 1952; Prussin, 1986; Wieczorek, 1990). Thus a second reason behind the archaeological work in Timbuktu was an attempt to rectify the imbalance in archaeological investigation which exists in the region in favour of earlier urban centres such as Gao (Insoll, 1996), Tegdaoust (Devisse *et al.*, 1983), Koumbi Saleh (Berthier, 1997), or further to the south, Djenne and Jenne-jeno (S.K. McIntosh, 1995). Further rationale guiding the fieldwork in Timbuktu included the need to establish reliable artifactural and chronological sequences for the city, and to delimit areas of archaeological significance following procedures utilised elsewhere (see for example Insoll, 1996, 2000a). Therefore the excavations completed were

Fig. 1. Plan of Timbuktu illustrating the principal monuments and positions of the excavations (after Timbuktu Town Plan, *Direction Nationale de l'Urbanisme et de la Construction, République du Mali*).

exploratory in nature, rather than more leisurely larger-scale research excavations and the results should be regarded accordingly.

The degree of success in approaching the aims just outlined was varied. Not least for the peculiar problems which undertaking archaeological research in Timbuktu is accompanied by. Primary amongst these is the degree of rebuilding and destruction the city has undergone through its often turbulent history (see below), as well as the climatic factors it has been exposed to through being situated at the interface between the Sahara and the River Niger. Sand encroachment, for example, has been a recurring problem in the city. Rene Caillié (1968: 75) describes how during his visit in 1828 he saw near the Sankore mosque, «a small hillock of sand, and some buildings overwhelmed by the sand blown up by the east wind». Similarly, Mauny (1952: 907) records that within the Sankore mosque itself, the floor level was raised by a metre of sand during 1952. Whilst during restoration work in the same mosque in the mid-1990s, sixty lorry loads of sand were removed (Joffroy and Moriset, n.d.: 88). This ensablement being further attested both during the recent survey and excavations (see below).

Periodically, flooding has also been of significance. A factor due in part to the deliberate situation of Timbuktu astride a seasonal channel, now dry, running from Korioume on the River Niger, to Kabara, the former port of Timbuktu, and onto the pool of Kabara to the west of Timbuktu itself (Fig. 1). Heinrich Barth (1890: 345) even refers to the flood reaching within 500 m of the Djinguereber mosque in January 1854. Besides being situated astride this channel which remained navigable by smaller craft into the twentieth century, a further body of water appears to have once been situated between the original component parts of Timbuktu which were situated astride two parallel longitudinal dunes. This is the area represented by the Badjindé quarter, meaning «stream of the Hippos» in Songhai (S.K. and R.J. McIntosh, 1986: 305).

The third factor of significance in creating and altering the archaeological record in Timbuktu is the history of the city itself. Both historical sources and explorers accounts contain references to the periodic destruction of parts of the city for various reasons. Dubois (1897: 240) describes how the quarters in the north of the city built during the Askia period of the sixteenth century were falling into ruin during the time of his visit in the late nineteenth century, in part a consequence of Tuareg incursions. Whilst Barth (1890: 316, 325) mentions that the groundwork and elevation of the Sankore area, one of the areas recently investigated, was composed of rubbish mounds due to «the repeated ruin which seems to have befallen this quarter» (Barth, 1890: 325). Mauny (1952: 907) also refers to another levelling of the Sankore area which occurred between *ca.* 1894-7 during the building of the French Fort Philippe (later re-named Fort Hugueny).

The net result of these processes is that what have been termed «islands of archaeology» (Insoll, 2000b: 484) have been created sitting amidst the areas of modern occupation. Areas of archaeology where the occupation sequences can be considerably deeper than can be safely investigated by conventional test excavation, and where occupation deposits are separated by substantial lenses of seemingly sterile waterlain and wind-blown deposits.

The excavations

With these considerations in mind, five trial excavations of 2 x 2 m size were completed in various areas of Timbuktu in September 1998 (Fig. 1). The excavation units were assigned the code TIM (Timbuktu), 98 (1998) and a letter code denoting which excavation unit they were (A to E).

TIM 98 (A)

All deposits removed dated from the last 100 years. The stratigraphy consisted of ash, sand and dung with several layers of rubbish interspersed (Fig. 2). Various modern structural remains were also recorded, but these appear to have been largely the residue of construction material being dumped rather than the remains of more recent occupation in this actual area. Building debris included fragments of cement and

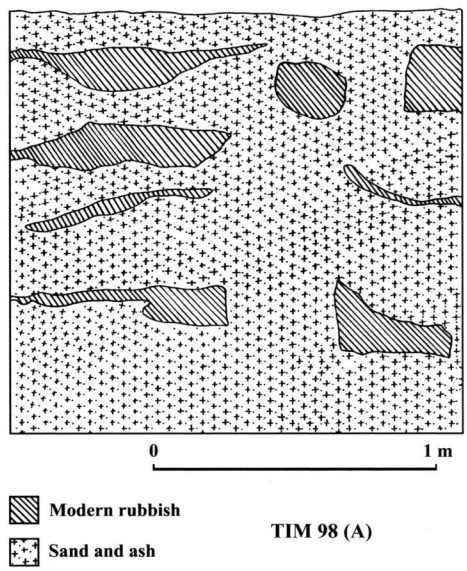


Fig. 2. TIM 98 (A) stratigraphic profile.

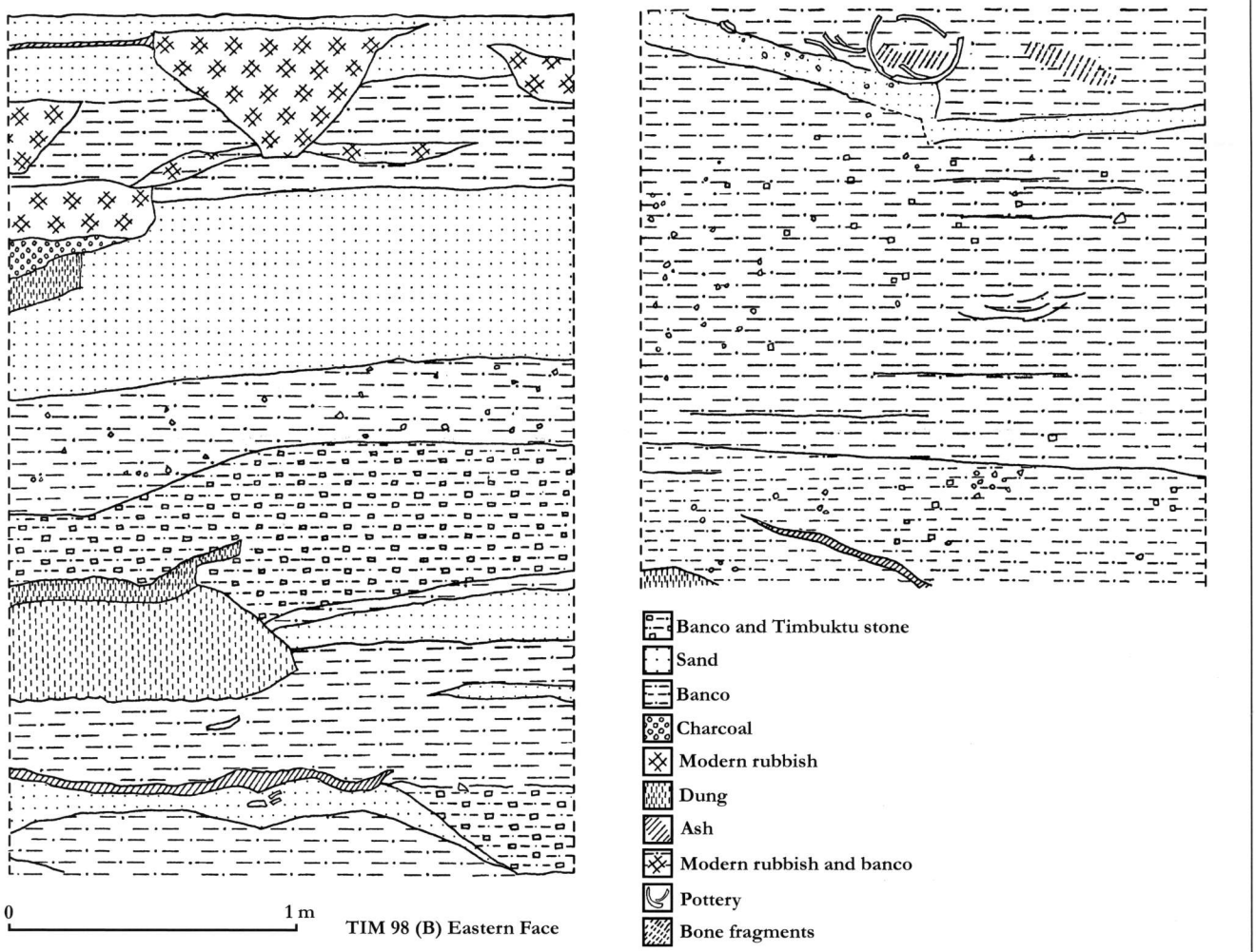


Fig. 3. TIM 98 (B) stratigraphic profile.

lumps of Timbuktu «stone» a hard lake clay mined at El Horgoussou, 18 km north of Timbuktu (Mauny, 1952: 902). Excavations were finished at a depth of *ca.* 150 cm owing to the unstable nature of the deposits. The final layer was composed of dung. The interpretation which can be suggested to explain the sequence at TIM 98 (A) is that it was sunk into a slope of rubbish which had built up against the wall of the former Fort Hugueny, the current Gendarmerie.

TIM 98 (B)

TIM 98 (B) was excavated lower down the slope, and slightly to the north of TIM 98 (A). Layers of modern rubbish, dune sand, banco and

Fig. 4. View of Fort Philippe - to the west of which TIM 98 (A) and (B) were situated (from Dubois, 1897: 363).

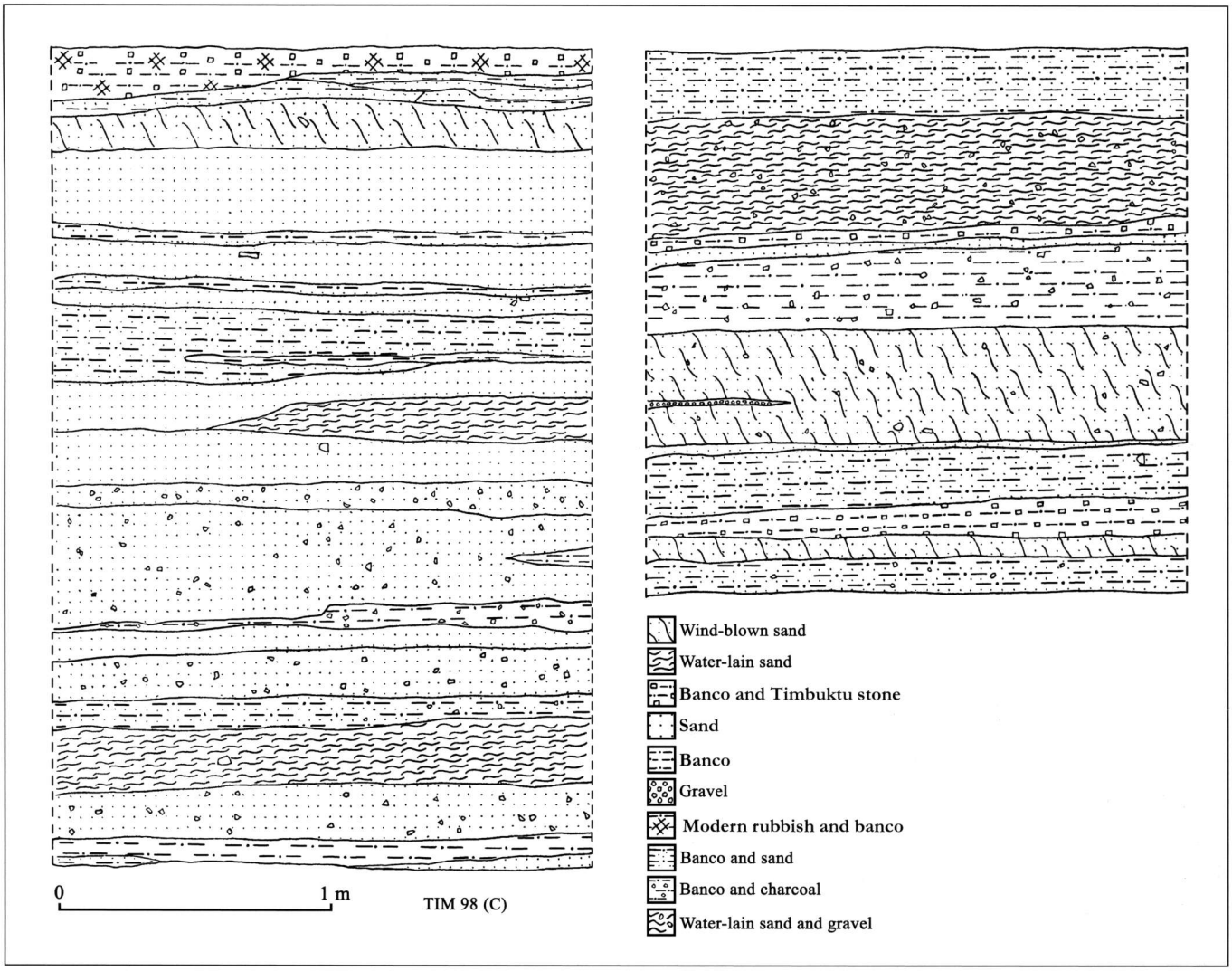


Fig. 5. TIM 98 (C) stratigraphic profile.

building rubble were recorded to a depth of approximately 2 m where a distinct layer of dung was encountered forming a break with the more recent deposits (Fig. 3). This was possibly associated with dumping by the Spahi detachments based at the former French Fort (Fig. 4). Below the base of the dung layer, varying layers of banco and ash were recorded interspersed by a layer of possibly fluvially laid sand. Banco, sand and ash deposits then continued, representing a significant occupation phase. The only possible sign of discontinuity in this block of deposits was a thin layer of windblown sand at approximately 4 m depth. Mixed sand and banco deposits continued thereafter, with excavation being halted for safety reasons at a depth of *ca.* 5 m, with no sign of the archaeological material ending. The base of the final layer provided an AMS date from a charcoal sample of 170 ± 40 BP or 1780 ± 40 AD (GX-24763-AMS). The deposits at TIM 98 (B) can be interpreted as initially derived from modern rubbish dumping and mixing during the twentieth century with the break with the earlier deposits signalled by the dung layer of what appears to be early twentieth century date. Below this occupation deposits are intermixed with occasional sand layers representing the build-up of either water or wind-lain sand - themselves representing climatic episodes and perhaps short related periods of abandonment. These would appear to date from the late eighteenth through to the late nineteenth centuries.

TIM 98 (C)

A third 2 x 2 m sondage was situated approximately 100 m east of TIM 98 (A) and (B) and immediately adjacent to the northern wall of the Sankore mosque. To a depth of *ca.* 150 cm, thin layers of archaeological material interspersed with layers of wind blown sand were encountered (Fig. 5). Below this, a layer of water-lain gravel was present, and there-

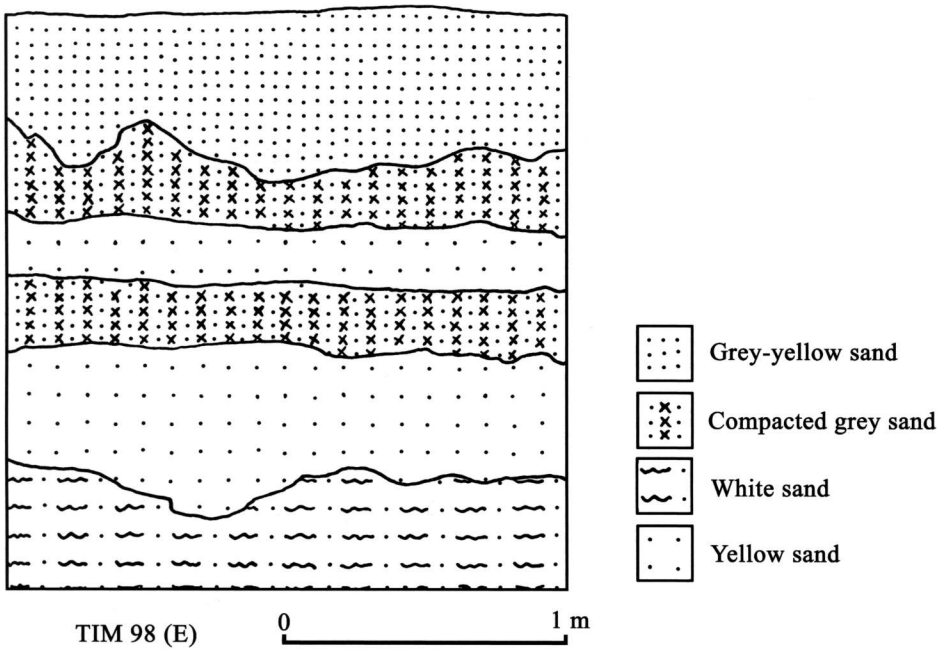


Fig. 6. TIM 98 (E) stratigraphic profile.

after modern debris was absent. A further 30 cm layer of water-lain sand containing large quantities of shell was encountered at a depth of 250 cm. This was the residue of a significant event and appeared to form a clean break with the deposits below. These comprised various layers of sand and banco, banco, a flood deposit, and a floor made of Timbuktu stone and banco. Excavation was again terminated for safety reasons at a depth of 5 m and the final level also provided an AMS date of 240 ± 40 BP or 1710 ± 40 AD (GX-24764-AMS). Thus the sequence dates from the late twentieth to the early eighteenth centuries. Otherwise subdivision of the sequence into neat chronological blocks is impossible, though it is apparent that the episodes of dumping of archaeological material/and or use of the area were punctuated by episodes of flooding and sand being deposited by the wind. A picture reinforced by the abraded condition of the pottery sherds recovered from this trench in comparison to those from TIM 98 (B).

TIM 98 (D)

The deposits excavated were modern with some earlier material intermixed. TIM 98 (D) was situated on a large mound near the pool of Kabara which superficially looked like a tell site (Insoll, 1998) (Fig. 1). The top 60-80 cm of deposits removed were of rubbish intermixed with sand. Below this point clean dune sand was encountered and excavations were terminated at a depth of 100 cm. The material in the uppermost levels was a mixture of both modern and earlier artifacts, but all levels were contaminated. The area continues to be a dumping ground for the Bella population living in the vicinity. It is possible, but not proven that earlier deposits lie underneath the dune formation.

TIM 98 (E)

The fifth 2 x 2 m sondage was excavated to the west of TIM 98 (D) (Fig. 1). The top layer of greyish-yellow sand contained no modern artifacts or rubbish contrary to the other excavations (Fig. 6). Similar sand layers continued to a depth of 2 m when sterile deposits were reached. The date of this sequence is unclear. However, tobacco pipes were found in all levels containing artifacts indicating a post late sixteenth century date (see below). Similarly the absence of any modern material suggests no twentieth century usage or contamination either. Thus it is tentatively postulated that this site was an area of intermittent, possibly temporary occupation between the late sixteenth and late nineteenth centuries.

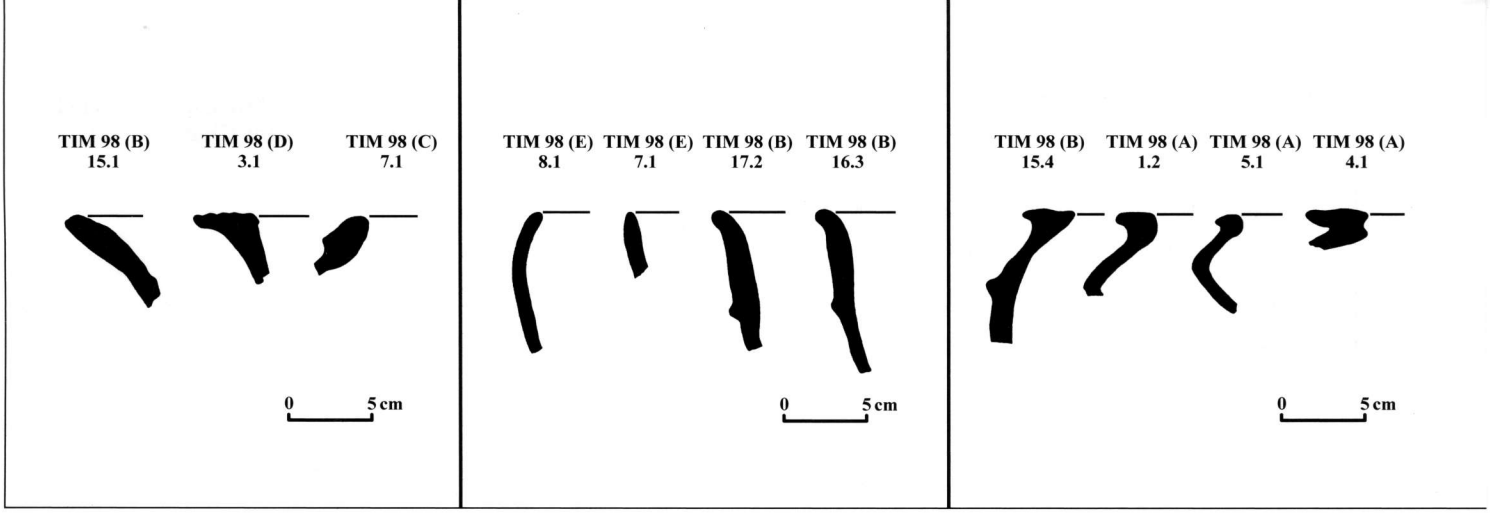


Fig. 7. Rim profiles of Timbuktu pottery.
Left L-R. Everted, Lipped Everted, Thickened Out-Turned Closed.
Centre L-R. Simple Closed, Simple Open, Out-Turned Open, Out-Turned Open.
Right L-R. Out-Turned Lip, Carinated with Out-Turned Lip, Carinated with Out-Turned Lip, Out-Turned Lip.

The finds

Pottery

The lack of discernible phasing in the stratigraphy of the trial trenches was also evident in the broadly homogeneous pottery assemblages recovered. All the pottery is representative of what S.K. and R.J. McIntosh (1986) define as «recent» assemblages, i.e. post late sixteenth century and the introduction of tobacco pipes. In total 1335 sherds were recorded, comprising 50% of the sample recovered (non-prejudicely selected) (excluding TIM 98 (A) where 100% were recorded). The dominant ware types across all the sites were - Red-slipped (RS), Steamer or couscousiere fragments (S), Unidentified/undecorated (U), Painted (P), Coarse Black wares (CB), Cord/Twine decorated wares (CT), Combed wares (C), Punctate decorated wares (Pu), and legs of Tripod Stoves (TSL) (**Pl. A**). During the recording of the pottery it was evident that the range of decorative variables was considerable, above and beyond the general categories just defined, and what was present depended upon breakage patterns. This for example was indicated by the presence of derivative wares such as Painted/Punctate/Cord/Twine (4 sherds) or Cord/Twine/Comb (20 sherds) (Insoll 2001a) (**Pl. A**). These serve as a warning to future researchers as the classification of their presence would solely depend upon the size of the sherds found, and thus the coincidence of the decorative variables being present on the same sherd.

Likewise, portraying these assemblages as necessarily representative of all Timbuktu «recent» rim forms is misleading based upon the sample currently available. However, general trends and broadly representative rim categories can be isolated. These included Simple Closed (SC), Simple Open (SO), Out-Turned Open (OTO), Everted (E), Carinated with Out-Turned Lip (COTL), Lipped Everted (LE), Out-Turned Closed (OTC), Out-Turned Lip (OTL), and Thickened Out-Turned Closed (TOTC) types (Fig. 7). Functional differentiation between the sites based upon the presence and absence of certain wares and rim types is also not overly informative owing to the size of the available assemblage. Though the predominance of Coarse Black wares at TIM 98 (B) (19.8% or 143 sherds) would seem to correlate with its interpreted function as an area of rubbish dumping and domestic occupation. Whilst by contrast at TIM 98 (C) Coarse Black wares were only the fourth most common ware present (6.2% or 39 sherds), with RS predominating (24.1% or 153 sherds) (Insoll, 2001a).

Other than broad generic parallels including the use of red slip as a sole decorative treatment or certain similarities in rim forms such as the use of the Simple category, the Timbuktu material little resembles that from earlier urban centres such as Gao (Insoll, 1996, 2000), or Koumbi Saleh (Berthier, 1997). This is perhaps unsurprising owing to geographical distance and chronological difference. More convincing in terms of parallels are some of the ceramics recovered during excavations at Hamdallahi near Mopti. This was the Fulani jihad capital founded in 1818 by Sékou Hamadou and destroyed in 1864. It is thus comparable chronologically, and it was from here that Timbuktu was controlled in the mid-nineteenth century, as during Barth's (1890) stay in the city.

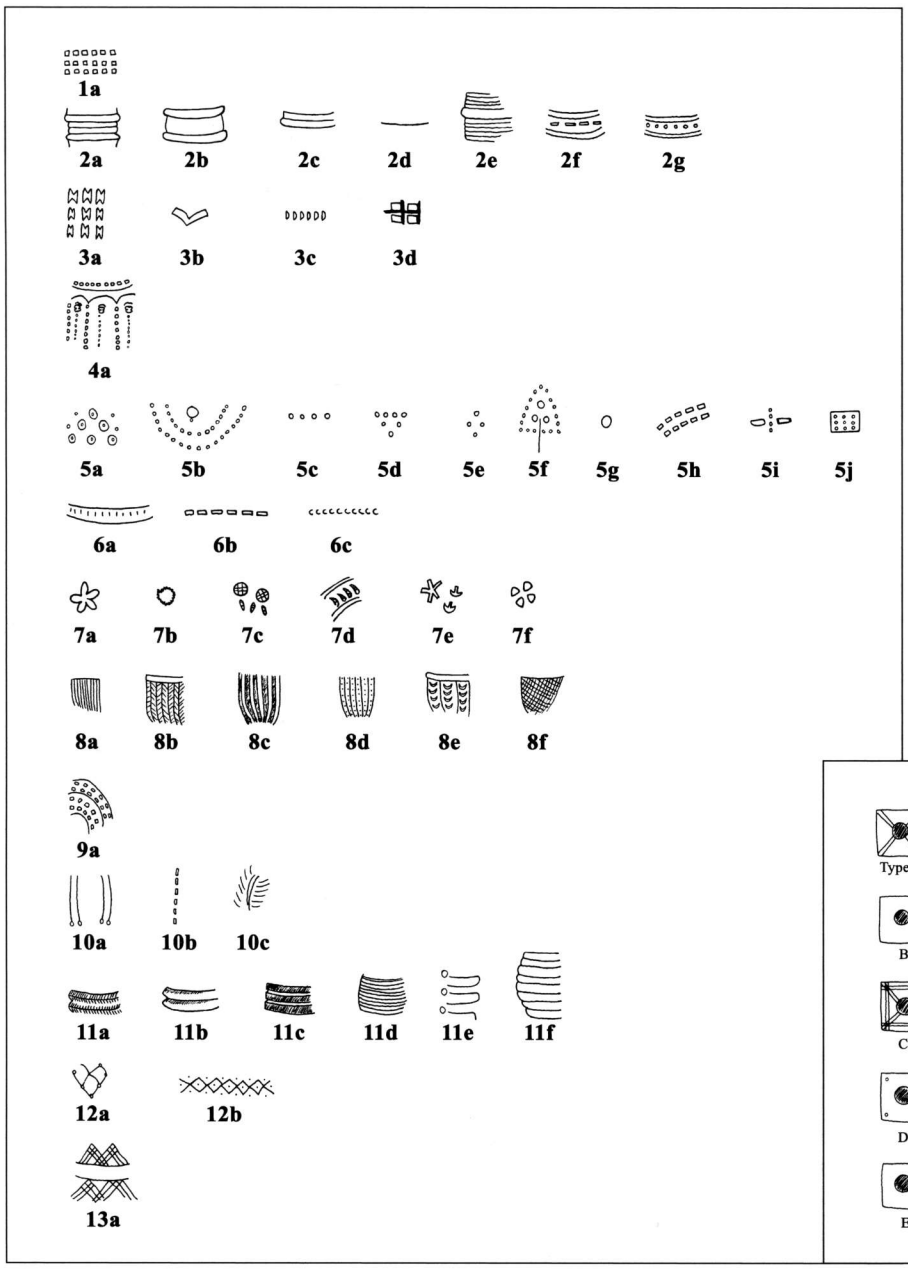


Fig. 8. Types of tobacco pipe bowl decoration (after Clague, 2000).

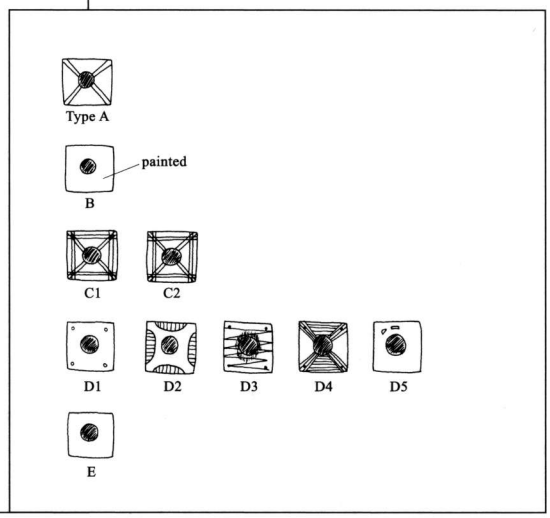


Fig. 9. Tobacco pipe stem end decoration (after Clague, 2000).

Hamdallahi has been extensively investigated by the *Mission Ethnoarchéologique Suisse en Afrique de l'Ouest* (MESAO) (Gallay *et al.*, 1990; Huysecom, 1992). Examples of similarities in the pottery assemblages include the Fulani (Peul) ceramics illustrated as coming from Concession 1 at Hamdallahi (Gallay and Huysecom, 1991: 103, fig. 26) which resemble Punctate/Painted wares of the Thickened Out-Turned Closed rim form at Timbuktu. Similarly, parallels exist between the Timbuktu Simple Open Combed/Cord/Twine wares and those described as «*décors de type Somono*» (Gallay and Huysecom, 1991: 109, fig. 29). Owing to the comparatively late date of the Timbuktu assemblages, possibilities certainly exist in further exploring, though based upon a larger assemblage, ethnic affiliations and pottery types along the lines of research completed at Hamdallahi and elsewhere in the Inland Niger Delta (see for example Mayor, 1991-92; Huysecom, 1992). The possibility also exists that Timbuktu received pottery from areas further to the south, as it certainly did with foodstuffs. For it appears never to have been a major centre of manufacturing and was dependent upon centres such as Djenne, as well as the northerly directed Moroccan trade for a large proportion of its goods and commodities. The city functioned, in the words of Dubois (1897: 259), as «a temporary dépôt, situated between the borders of the desert and the copiously watered valleys of the south».

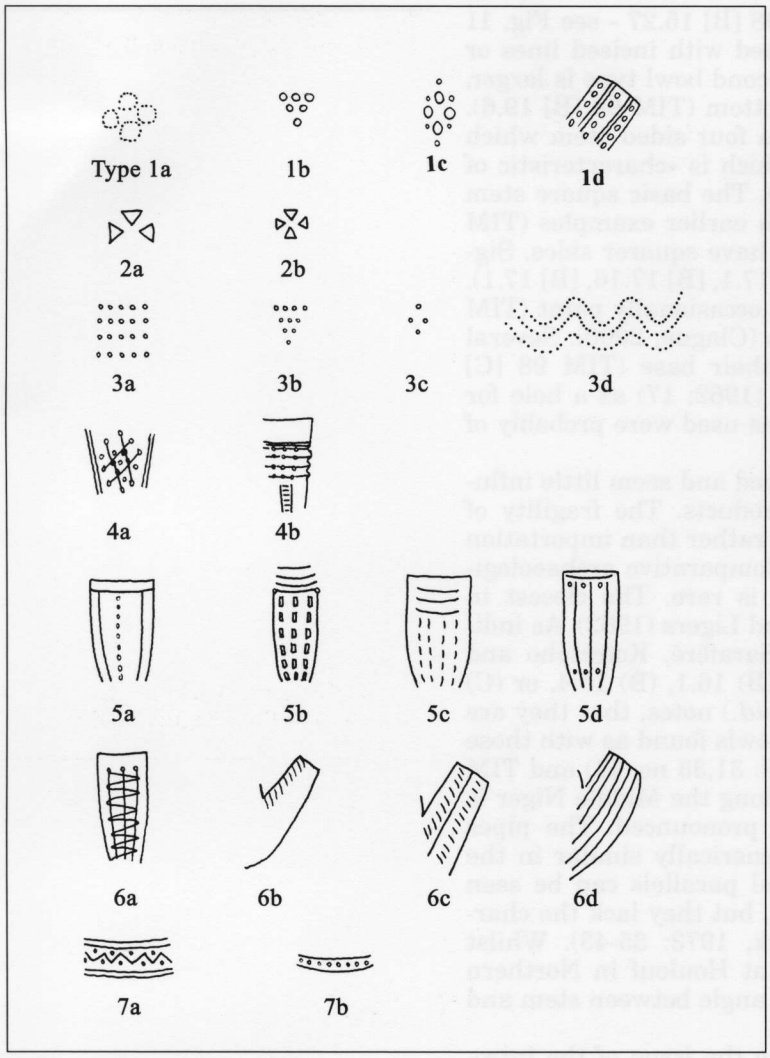


Fig. 10. Tobacco pipe stem decoration (after Clague, 2000).

Fig. 11. Tobacco pipes from Timbuktu. *Top row* L-R. TIM 98 (B) 14.1. TIM 98 (B) 14.2. TIM 98 (B) 15.27. TIM 98 (B) 21.10. *2nd row* L-R. TIM 98 (B) 19.6. TIM 98 (C) 18.14. TIM 98 (C) 21.17. TIM 98 (C) 20.40. *3rd row* L-R. TIM 98 (B) 17.1. TIM 98 (B) 17.16. TIM 98 (B) 21.11. TIM 98 (C) 18.15. *4th row* L-R. TIM 98 (C) 19.45. TIM 98 (B) 16.1. TIM 98 (B) 16.4. TIM 98 (C) 16.9. *5th row* L-R. TIM 98 (B) 18.5. TIM 98 (E) 3.5.

Tobacco Pipes

The other major class of ceramic artifacts recovered were tobacco pipes. These have been well-studied by Alison Clague (2000) and the results of her analysis are drawn upon here. In total 306 pipe fragments were recovered with by far the largest assemblages from TIM 98 (B) (151 examples) and TIM 98 (C) (238 examples). The identifiable fragments were divided into three main categories, bowl, stem, and conjoined bowl and stem, using terminology derived from Robinson (1985) and Daget and Ligers (1962). The pipes are what are termed «elbow-bend pipes» (Philips, 1983: 303). Colour classification was assigned using a Munsell chart and the vast majority of the assemblage «fell into the Munsell ranges of 2.5 YR 5/6 and 10R 5/8 which are both classified as red» (Clague, 2000: 12). Thirteen types of bowl decoration were also isolated (with 51 subtypes therein) (Fig. 8), along with five types of stem end (and ten subtypes therein) (Fig. 9), as well as seven types of stem decoration (and 22 subtypes therein) (Fig. 10). Within the TIM 98 (B) assemblage only two pipe fragments post-dated the dung layer providing a convenient marker for the remainder of the pipe fragments of the late eighteenth to late nineteenth centuries. Whilst at TIM 98 (C) painted pipes were present in lower levels which Clague (2000: 15) suggests were «the earliest examples within the whole Timbuktu 1998 assemblage».

The pipe fabric is predominantly fine. The majority would appear to be made in moulds but lack seams which would make such an identification more secure. Carving pipes from a single piece of leather hard clay has been recorded, as in Sierra Leone (Hill, 1977), but this seems unlikely in Timbuktu. Bowls being more fragile survived less frequently than stems, though two main types of bowl were recorded. The first is a thin «eggshell» fine ware with a small flat base often not much more

than a point. These could be burnished (TIM 98 [B] 15.27 - see Fig. 11 for all pipes referred to in the text) or decorated with incised lines or moulded clay ridges (TIM 98 [B] 21.10). The second bowl type is larger, more thickly made and utilises a broad flat bottom (TIM 98 [B] 19.6). Both of these bowl types are associated with a four sided stem which seems square when viewed from above and which is «characteristic of the assemblage as a whole» (Clague, 2000: 19). The basic square stem type is found throughout the sequences though earlier examples (TIM 98 [C] 18.14, [C] 21.17 or [C] 20.40) appear to have squarer sides. Significant size variation is found (see TIM 98 [B] 17.1, [B] 17.16, [B] 17.1). Surface treatment utilises a very fine red slip, occasionally paint (TIM 98 [B] 21.110), as well as geometric decoration (Clague, 2000). Several examples also have a hole pierced through their base (TIM 98 [C] 18.15). This is described by Daget and Ligers (1962: 17) as a hole for suspending the pipe while not in use. The stems used were probably of reed or hollowed wood.

The pipes would appear to be locally produced and seem little influenced by either Ottoman or North African products. The fragility of pipes would encourage their local manufacture rather than importation via long distance trade (Clague, 2000: 24-5). Comparative archaeological material from reliable stratified contexts is rare. The closest in terms of parallels is that described by Daget and Ligers (1962). As indicated, for example, by stems of pipes from Saraféré, Koïrétaho and Guindio in the Timbuktu region and TIM 98 (B) 16.1, (B) 16.4, or (C) 16.9. The parallels could suggest, as Clague (*ibid.*) notes, that they are of the same «school». Similarities also exist in bowls found as with those from Kami near Mopti (Daget and Ligers, 1962: 31,33 no. 11) and TIM 98 (B) 18.5. As with pottery, a trade in pipes along the Middle Niger is possible. Further afield, similarities are less pronounced. The pipes from Accra described by Ozanne (1962) are generically similar in the use of incision, and flat bases. Similar general parallels can be seen with the pipes from New Buipe, also in Ghana, but they lack the characteristic four sided stems of Timbuktu (York, 1973: 35-43). Whilst those from the uppermost levels and surface at Houlouf in Northern Cameroon appear cruder and have a less acute angle between stem and socket (Holl, 1988: 206-10).

The pipes from Timbuktu do not illuminate the issue of the introduction of tobacco to West Africa. However, it should be noted that Timbuktu has been ascribed a pivotal role in such processes. Mauny (1961: 59) mentions that the Tarikh el-Fettach records that *«l'usage de fumer cette plante fut introduit à Tombouctou en 1594-1596»*. Ozanne (1969: 37) goes one stage further and argues that «Timbuktu, between 1594 and 1596.....must be considered as a probable initial diffusion centre of the practice of smoking in West Africa». With the initiatory role ascribed to the soldiers of Al-Mansur's invading Moroccan army who carried their habit and equipment with them. The pivotal role of Timbuktu in this matter remains an issue of debate. However, it is of interest that the tobacco pipe assemblages cover the period when tobacco was strictly speaking prohibited by the Fulani rulers of Timbuktu. Barth (1890: 357) who provides this information, also mentions that the best tobacco in Timbuktu in the mid-nineteenth century was imported from Wadi Nun, whilst second rate leaf was imported from Tuat. During Horace Miner's (1953: 60-1) stay in Timbuktu in 1940, tobacco was also grown at Bamba between Timbuktu and Gao and its local growth in Timbuktu had been recently discontinued.

Bracelets

An extensive assemblage of bracelet fragments was also recovered. These were made of clay, stone and glass. Excluding a couple of monochrome glass bracelet fragments they are absent from the more recent disturbed levels. Clay bracelets were recovered from TIM 98 (B) (9 examples), TIM 98 (C) (38 examples), TIM 98 (D) (2 examples), and TIM 98 (E) (2 examples). X-ray diffraction in the School of Earth Sciences in the University of Manchester showed that they were made of quartz and kaolinite (Argyle, 2000: 48). The clay bracelets are generally well-made though of coarse clay containing some gritty inclusions. The majority appear to have been burnished perhaps in imitation of stone

(**Pl. B**). The dominant shapes are what Spaer (1992: 47) refers to as pointed, either even or oblique, as well as circular, the latter dominating at the base of the sequences of both TIM 98 (B) and (C). Comparative examples have not been found, though Miner (1953: 29) refers to Hausa traders bringing in composition bracelets to Timbuktu. These could be of a similar type. The stone bracelets are, bar one pinkish white sandstone? example from TIM 98 (B) 15, made of chlorite (Argyle, 2000: 48). Besides the single example from TIM 98 (B), eight were recovered from TIM 98 (C). Pointed and rectangular shapes predominate (**Pl. B**). These, and possibly the bulk of the clay bracelets are of the type worn by the Tuareg on the upper arm. Nicolaisen and Nicolaisen (1997) record that the stone bracelets were produced by Tuareg blacksmiths, and it is feasible that the Timbuktu stone bracelets come from this source.

In contrast, the glass bracelets are very unlikely to have been locally produced, and were instead imported by trans-Saharan trade. The monochrome glass bracelets recovered from TIM 98 (B) (17 examples) and TIM 98 (C) (33 examples) are simply made, but concur with Spaer's (1992: 42) description of later (Ottoman) monochrome glass bracelet production at Hebron in Palestine. These are predominantly flat in cross-section and often have «a streaked surface, producing faint, narrow, horizontal ribs on the outside» (*ibid.*). The colours found include yellow, blue, brown and black, often weathered from burial (**Pl. B**). The multi-coloured glass bracelets could likewise be Hebron products, though equally Aden, a further major centre of glass bracelet production (Insoll, 2001b; Monod, 1978; Whitcomb, 1983), cannot be discounted.

A variety of types of multi-coloured glass bracelet are represented in the Timbuktu assemblages (**Pl. B**), and again TIM 98 (B) (5 examples) and TIM 98 (C) (11 examples) provide the majority. The single example from TIM 98 (D), of black opaque glass inlaid with white trails, is probably a West African product, possibly from Northern Nigeria, whilst that from TIM 98 (E), a single fragment of black glass overlaid with yellow and orange patches, though an import, likewise differs from anything else found (**Pl. B**). The majority of the Timbuktu multi-coloured glass bracelets are formed of a combination of trails and patches or solely of a patch pattern of fused glass colours over a translucent base (**Pl. B**). These are described by Spaer (1992: 55) as «mainly Ottoman» which agrees with the Timbuktu dating. In this instance close parallels can be found with bracelets from the site of Teghaza in the Malian Sahara described by Monod (1975: fig. 77). This site, though apparently abandoned by the late seventeenth century, would have been on the main supply routes to Timbuktu.

Beads

Further items of personal adornment which were recorded were beads. The assemblage of beads and bead fragments from TIM 98 (B) (9 examples) and TIM 98 (C) (7 examples) are representative of the types of trade bead available in the eighteenth - nineteenth centuries. These include probable Venetian products such as a red glass long cylinder from TIM 98 (B) 7. This is identical to an example illustrated by Dubin (1995: 41) as dating from between the 1830s-1860s, and used in the Africa trade (see **Pl. C** for all beads referred to). Similarly, a small yellow glass seed bead from the same level is probably a Venetian product, as is half a lamp-wound black opaque glass sphere with multi-colour decoration from TIM 98 (C) 16. Possible Czech manufactures are also represented, including a weathered translucent yellow glass faceted bead from TIM 98 (C) 20. This is similar to Czech examples illustrated by Francis (1994:66) as produced between *ca.* 1820-1900. Though the Timbuktu example is cruder. Whilst a carnelian sphere and a fragment of carnelian ring are probably Indian products from Khambhat in Gujarat (see Insoll, *in press*). To the imports can be added five beads which appear to be locally made. These include a crudely ground pebble which an attempt has been made to pierce, and two clay bicones and one barrel, as well as what appears to be a blue glass barrel made of powder glass. The beads, besides the clay examples, are not comparable to material recovered from the previously referred to earlier urban centres such as Gao (Insoll, 1996), or Koumbi Saleh (Berthier, 1997). Better

parallels can in fact be found with material from centres such as Benin, with a drawn cane Venetian cylinder bead from TIM 98 (C) 14 resembling beads illustrated by Connah as recovered from Benin (1975, Plate 40. nos. 10-12).

Metals

The metals recovered from all the test excavations were largely corroded and unidentifiable. Exceptions include a few iron nails, an iron leaf shaped arrow head, and a corroded finger ring from TIM 98 (C) (Fig. 12).

Lithics

The lithics were looked at by Dr Elizabeth Healey of the School of Art History and Archaeology at the University of Manchester and her comments are drawn upon here. As with many of the categories of material the majority of examples were recovered from TIM 98 (C). These included 41 lithics, and 3 fragments of colourant/pigment. TIM 98 (B) provided 1 stone grinder, 4 smaller lithics and 3 fragments of colourant/pigment. The small fragments of red and yellow clay? colourant/pigment could have served various purposes - as childrens' crayons, for makeup, for colouring houses, textiles, or pots (see Insoll, 2000: 132-3). Caillié (1968: 73) even refers to the use of red lead by Moors as a medicine.

The vast majority of the small lithics would appear to have been strike-a-lights/gunflints (Fig. 12). They are fragments of agate, flint, and carnelian which are all varieties, essentially, of the same thing, cryptocrystalline quartz (Dr Dave Polya, *pers. comm.*). These lithic flakes would benefit from further dedicated analysis looking at their use wear patterns in an attempt to differentiate possible firearm as opposed to fire-lighting use. This is a crucial distinction and one of relevance in Timbuktu where the absence of firearms ultimately meant the down fall of the Songhai empire in the late sixteenth century. This was because the forces of Askia Ishaq II, equipped as they were with swords, lances, and spears were no match against the Moroccan musketeers (Hunwick, 1999: 313). However by the mid-nineteenth century firearms were abundant (Fisher and Rowland, 1971: 239), and it is probable that the Timbuktu lithics represent this. It is also possible that, as at Banda in Ghana, some of the gunflints could be «unequivocally European» (Stahl, 1999: 55), and are thus evidence for a further item of trade brought into Timbuktu, in this instance from Morocco rather than the West African coast. Besides the smaller lithics, a stone pestle was recovered from TIM 98 (B). Interestingly, Dubois (1897: 248-9) remarks that stone pestles and mortars were preferred over wooden mortars in Timbuktu because the latter were too noisy to use and would «inevitably attract some marauding Touareg in search of a meal».

Fig. 12. Metals and lithics from Timbuktu.
Top row (L-R). TIM 98 (C) 16 (X2) - Iron nail, arrowhead.
2nd row (L-R). TIM 98 (C) 15 (X2) - Iron rings. TIM 98 (C) 14 - Iron ring. TIM 98 c 13 - Iron nail.
3rd and 4th rows (L-R). TIM 98 (C) 21, 18, 12, 14 - Gun flints/strike-a-lights.

Glass

Four fragments of glass were recovered from TIM 98 (B) and one from TIM 98 (C). These are otherwise uninformative and comprised two fragments of bottle glass and three fragments of flat glass.

Spindle Whorls

Eight spindle whorls and spindle whorl fragments were recovered. TIM 98 (A) (2 examples), TIM 98 (B) (3 examples), TIM 98 (C) (1 example), TIM 98 (E) (1 example). Besides a single soft stone example from TIM 98 (A) the others were made of clay - kaolinite and quartz according to the results of X-Ray Diffraction Analysis (Argyle, 2000). Spheres and so-called flattened spheres predominate, both decorated and undecorated, though incised decoration appears to be confined to the earlier examples (Fig. 13). The production of thread and cloth appears to have varied over time in Timbuktu. As already stated it was never a major manufacturing centre, though Leo Africanus records seeing many «weavers of cotton cloths» (Hunwick, 1999: 280) in Timbuktu during his visit to Songhai between *ca.* 1506-10. Whilst during Barth's (1890: 355) stay, cloth was not then being produced in Timbuktu but imported via North Africa from Manchester, or regionally from Kano.

The Shell
Dr Nicky Milner, Department of Archaeology, University of Newcastle

(TI Note: Owing to the exploratory nature of the excavations and their restricted size it was decided not to keep faunal remains other than shell, as a picture of diet and dietary change would be unlikely to be forthcoming based upon such a limited assemblage. However, shell was more abundant and could also provide information on trade and currency use - this was analysed by Dr Nicky Milner [2000a]. Owing to a lack of space it has proven necessary to summarise Dr Milner's report with an emphasis upon currency shells).

The majority of shells found are marine molluscs, which had been collected from the West African coastline and the Indian Ocean and imported into the region to be used as currency. The majority of the cowrie shells, *Cypraea moneta*, come from TIM 98 (B) (3 whole, 3 fragments). These would have been imported originally from the Maldive Islands (Hogendorn and Johnson, 1986). Two *Marginella* shells were also recovered. During the late eighteenth century there was inflation at Timbuktu. Possibly due to a disruption of cowrie supplies, substitute shells called *koroni* were used between the 1780s to 1790s. These were the *Marginella* shells of the West African coast. Rather than the typical cowrie rate of 3000 shells to one gold *mithqal*, the *koroni* were valued at about 100,000 shells to one *mithqal*. In 1795, however, the town chief ordered that all *Marginella* shells be buried and only cowries be used.

Fig. 13. Spindle whorls from Timbuktu. *Top row (L-R).* TIM 98 (A) 5 (X2), TIM 98 (B) 10, TIM 98 (C) 18. *2nd row.* TIM 98 (C) 22.

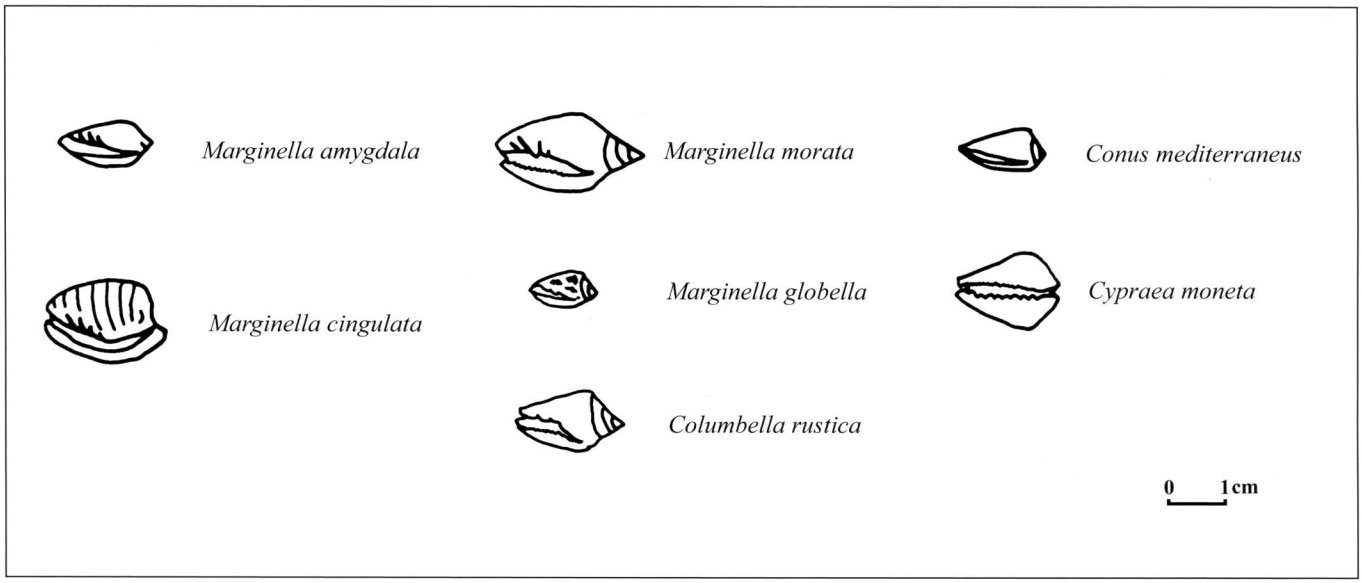


Fig. 14. Shell from Timbuktu (drawing by N.Milner).

The exchange rate normalised at the previous rate, and the price of goods dropped (Jeffreys, 1953; Mauny, 1957; Hogendorn and Johnson, 1986). Although the *Marginella* finds at TIM 98 (B) are difficult to correlate with these events, it is different at TIM 98 (C) where the majority of shells are *Marginella*. These were concentrated in levels 13 to 16 (178 examples) (TI Note: correlating with the water-lain sand and the «significant event» referred to above). Below this, in level 17 there are two *Marginella*, and subsequently in levels 18-20, a cowrie in each layer. It is likely that the *Marginella* layers date to the 1780s and 1790s when the *koroni* were used and the layers below this represent the cowrie currency of previous years. The numbers of *Marginella* shells found do not represent a fortune, and it is hard to say whether they were simply discarded or lost, or perhaps buried as ordered by the chief of the town once cowries were re-instated.

Besides the cowries and the *Marginella* shells, a variety of other shells were recorded (Fig. 14). These included *Columbella rustica* L. also used as a currency item (TIM 98 [C] 16 examples), and one weathered *Conus* sp. possibly *Conus ventricosus* from TIM 98 (C). Various fragments of nacreous shell, typical of the inner shiny shell of mussels or oysters were also present. These are unlikely to be anything to do with shell money, but instead may be the remains of freshwater shellfish gathered from the River Niger, possibly *Etheria elliptica* (Van Damme, 1984). Forty two fragments of ostrich shell were also noted, only one of which appears to have been worked. They might have been used as containers, alternatively they might simply have been discarded. It is also likely that the nacreous shell was simply discarded. If this shell is *Etheria elliptica*, it may have been collected for consumption or even used as fish bait. This species was also found in the Gao region where it was suggested that it may have been used for producing fish hooks, pendants, potters tools, or for lime (Milner, 2000b).

Summary and Conclusions

The results of the 1998 excavations, though limited in scale, give an insight into post-medieval Timbuktu. This is an important period for reasons already outlined, and also one often neglected by archaeologists in this region, where the emphasis remains upon investigating earlier urban centres, and the prehistoric period. One of the dominant themes which is represented in the archaeological evidence is the importance of trade - regional and long-distance - and by inference other contacts as well. The role of Timbuktu as an entrepot or depot has already been described and this is certainly reinforced archaeologically. The bracelets, pipes, ceramics, beads, glass and shell all attest to this. Furthermore, they provide material evidence for the lists of commodities contained in sources such as Barth (1890) or Dubois (1897). Something has also been

reconstructed of settlement history in the city. Though here it is apparent that once again the archaeology is in agreement with the written sources over the vicissitudes the city has undergone through its often turbulent history evident, for example, in the debris and water and wind lain deposits recorded. Yet archaeology has thus far contributed nothing to investigating the origins of the city, one of the initial, now revised aims of the current research project (Insoll, 1998). The established origin tradition remains intact. Namely, that the city was founded *ca.* AD 1100 as a seasonal nomad camp centred around a well under the charge of an old woman, «Tim» or «Tin-buktu» (Dubois, 1897).

The removal of five metres of deposits only reached back as far as the eighteenth century, and surface evidence for earlier periods, contrary to initial indications (Insoll, 1998) is absent. Destruction, sand, and water, as well as common problems associated with urban archaeology anywhere - such as inaccessibility through modern building - all conspire to hide early Timbuktu. Yet a solution is possibly offered through the future use of sub-surface coring apparatus, described as «the only feasible technique for deep evaluation in urban conditions» by Canti and Meddens (1998: 97). This is also a technique which has also been successfully applied elsewhere in this region, in Djenne and Jenne-jeno for example, as reported in this journal previously (McIntosh *et al.,* 1996). This is something which will be completed in the near future when investigations will also be focussed upon an as yet neglected element - because of its previous inaccessibility - the environs of the Djinguereber mosque in the south of the city (Fig. 1).

Yet it might also be necessary to admit that Timbuktu has never actually been that important in comparison to some of its neighbours, except in the western popular imagination. The medieval Arab sources do not build Timbuktu in importance (Levtzion and Hopkins, 1981), on the contrary, it is largely neglected in favour of its more important neighbours such as Gao and Walata. In fact its development appears to have been later and closer to the period investigated rather than the late eleventh century. For according to the Tarikh al-Sudan, it was only during the reign of Askia Dawud in the mid-sixteenth century, «that the entire space (of Timbuktu) was filled up with well-ordered buildings» (Hunwick, 1999: 30). The myth of Timbuktu (see Herbert, 1980) seems, thus far at least, to be reflected in the archaeology.

Acknowledgements

The author would like to thank Drs Togola, Sanogo, Dembele and Iam for allowing the research to take place. Grateful thanks are also offered to Nafogo Coulibaly, Ali Ould Sidi, Cheikh Kante, Arthur Jeffes, Oliver Owen and Eva Laurie for assistance in the field. Whilst a debt of gratitude is also owed to Drs Nicky Milner, Elizabeth Healey and Dave Polya, as well as Alison Clague and William Argyle for assistance with the post-excavation analysis. Funding for the research was kindly provided by the British Academy, St John's College, Cambridge, and the University of Manchester.

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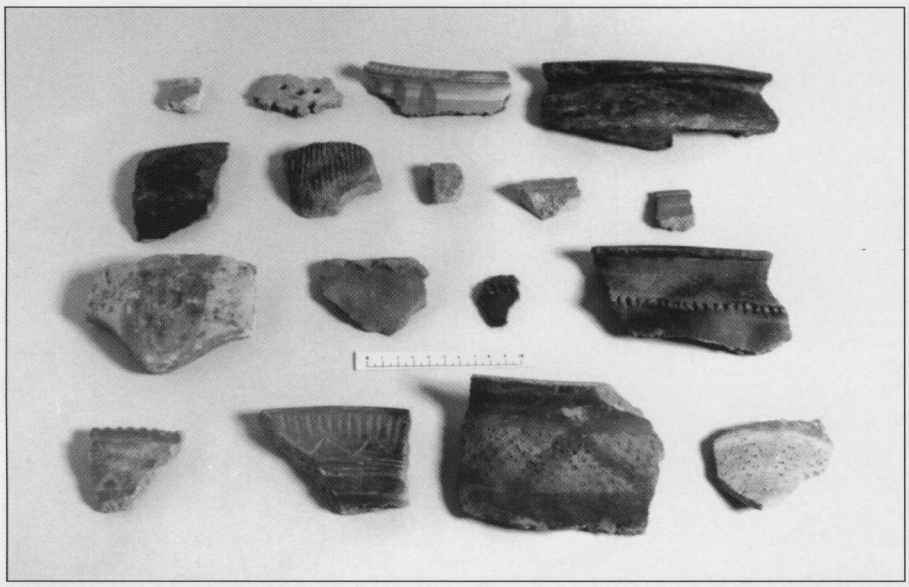
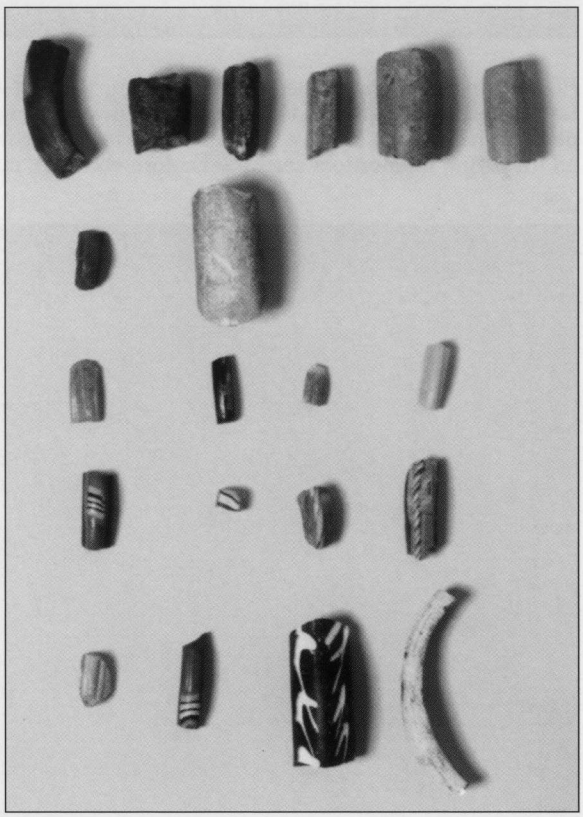
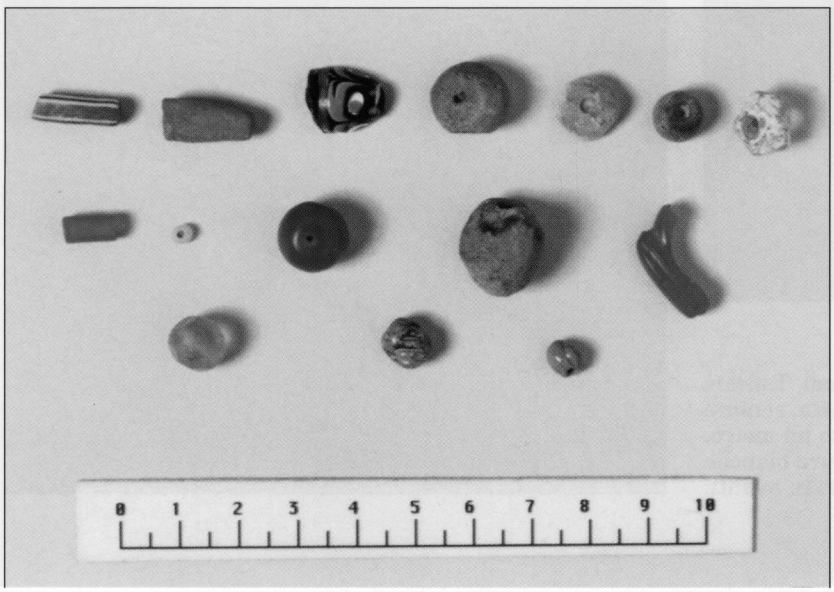


Pl. **A**. T. Insoll
Pottery from Timbuktu.
Top Row TIM 98 (C) 16.1 - RS. TIM 98 (D) 2.2 - S. TIM 98 (A) 3.1 - P. TIM 98 (A) 1.2 - CB.
2nd Row TIM 98 (B) 16.2 - CT. TIM 98 (C) 3.1 - CT. TIM 98 (B) 17.4 - CT. TIM 98 (C) 20.3 - C. TIM 98 (C) 6.2 - C.
3rd Row TIM 98 (B) 13.1 - TSL. TIM 98 (B) 18.2 - Pu. TIM 98 (B) 11.1 - Pu. TIM 98 (B) 15.4 - Painted/Punctate/Cord/Twine.
4th Row TIM 98 (B) 14.4 - Painted/Punctate. TIM 98 (B) 15.1 - Cord/ Twine/ Combed. TIM 98 (B) 15.2 - Painted/ Cord/ Twine. TIM 98 (E) 3.4 - Painted/ Cord/Twine/ Combed.

Pl. **B**. T. Insoll
Bracelets from Timbuktu.
Top row [TIM 98 (B) 14] Obliquely pointed clay. [TIM 98 (B) 25] Circular clay. [TIM 98 (C) 13 (X 4)] Obliquely pointed clay, rectangular stone, large obliquely pointed stone, small obliquely pointed stone.
2nd row [TIM 98 (C) 15 (X 2)] Semi-circular clay, evenly pointed stone.
3rd row [TIM 98 (B) 7] Flat opaque brown monochrome. [TIM 98 (B) 18] Semi-circular black monochrome. [TIM 98 (B) 21] Semi-circular light blue translucent monochrome. [TIM 98 (C) 19] Obliquely pointed yellow monochrome.
4th row [TIM 98 (B) 13] Semi-circular translucent black with green opaque overlay and red, yellow, white and black patches. [TIM 98 (B) 16] Flat translucent pale blue overlaid with white opaque glass and brown, yellow and orange patches. [TIM 98 (B) 18] Obliquely pointed clear glass overlaid with opaque green and yellow patches, and a twisted brown and white trail. [TIM 98 (C) 11] Obliquely pointed brown translucent glas overlaid with opaque green glass and yellow/orange chevron trails.
5th row [TIM 98 (C) 13] Obliquely pointed translucent glass overlaid with opaque orange/yellow trails. [TIM 98 (C) 19] Obliquely pointed opaque red glass overlaid with black, white, and yellow patches. [TIM 98 (D) 1] Obliquely pointed black opaque glass inlaid with white trails. [TIM 98 (E) 3] Obliquely pointed black translucent glass overlaid with yellow/orange patches.





Pl. **C**. T. Insoll
Beads from Timbuktu.
Top row [TIM 98 (C) 14 (X2)] Drawn glass cylinder, clay bicone. [TIM 98 (c) 16] Venetian lamp wound. [TIM 98 (c) 20 (X4)] Short clay bicone, pebble, blue glass medium barrel, yellow glass facetted.
2nd row [TIM 98 (B) 7 (X2)] Long red glass cylinder, yellow glass seed bead. [TIM 98 (B) 8] Red carnelian sphere. [TIM 98 (B) 13] Crude clay barrel. [TIM 98 (B) 14] Carnelian ring.
3rd row [TIM 98 (B) 15 (X2)] Yellow glass facetted sphere, moulded red glass melon. [TIM 98 (B) 18] Moulded blue glass melon.