

BURIAL FROM THE SEVENTEENTH CENTURY DUTCH FORT DE GOEDE HOOP AT THE CAPE*

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ABSTRACT

Excavations in 1991 on the Grand Parade in Cape Town yielded a complete articulated skeleton buried in an extended position on its back. There was no evidence of a coffin. The burial was found in the vicinity of the sick-comforter's room inside Fort de Goede Hoop which was located on the Parade site. From anatomical analysis the individual was identified as male, of European extraction, in his late forties or early fifties. A large pathological disorder of the distal femur is present on the left leg. A date of burial between 1652-1677 is considered.

INTRODUCTION

During excavations in January 1991, following on from previous work on the Grand Parade in 1983 (Abrahams 1993), the remains of a human skeleton were uncovered (Figs 1 & 2) (Argus 1991; Burger 1991; Cape Times 1991). Excavation by first author G. Abrahams-Willis and a dedicated crew including local and Earthwatch volunteers revealed a complete skeleton in an extended position on its back, with arms folded across the front of the body (Fig. 1). Orientation of the burial was with the head in a south-westerly direction. No associated artefacts were found nor was there evidence of a coffin, nails or handles. The outline of the burial pit could not be detected since the soil composition and compactness was the same all around the skeleton. A fossilised tooth was located on the chest of the skeleton, just above the folded arms (Fig. 1b).

Because the bones appeared to be very fragile and the allotted time on the site was running out, it was decided to remove the skeleton within its soil matrix (Fig. 1c) so that it could be excavated under more controlled conditions in the laboratory by co-author K. Fourshé. The skeleton is presently housed in the Anatomy Department, Medical School, University of Cape Town (UCT 457).

THE BURIAL CONTEXT

During the 1991 field season a thirty-two metre trench

was excavated across the rear section of Fort de Goede Hoop (Fig. 3). This long section cut across the outer embankment of the moat, the moat itself, the inner embankment, the foundation of the Oliphant Bastion, the first wall of buildings against the back of the Fort and one of the rooms inside these buildings (Fig. 3). The burial was found inside this room.

The burial was excavated from a very distinctive deposit consisting of grey sand mixed with an almost equal proportion of quartz grit (Fig. 4). This mixture formed a durable matrix which was not found in any of the other sections explored outside the Fort. It is therefore conceivable that this ground was laid down inside the Fort to form the surface of the courtyard terrain. In a test pit next to the burial, excavated down to about three metres (Fig. 5), this matrix was found to overlay beach sand deposits. Other test pits on the Fort foundations and just outside it (Fig. 6) revealed a black clay layer separating the indigenous artefact-bearing deposits in the beach sand from those above it in which European artefacts are present. In other words the black clay layer, replaced by the matrix of quartz grit in grey sand inside the Fort, introduces the first evidence of European activities on the site. Below this indigenous stone tools were found in the beach sand on bedrock.

Apart from a shallow deposit of sterile grey sand, the burial is located directly on the lowermost European-related deposit which, on this site, is associated with the first permanent European settlement of 1652. The over-



Fig. 1. Series of photographs showing, a) only the cranium exposed; b) the layout of the more complete skeleton and; c) final excavation stage before removal. (Photographs by G. Abrahams-Willis).



Fig. 2. The position of excavations next to the existing stalls on the Grand Parade, 1991. Photographed from the roof of the Golden Acre. (Photograph by G. Abrahams-Willis).

laying levels in the area immediately surrounding the burial contained a few datable artefacts from which it was possible to arrive at a *terminus post quem* date of 1790. The levels above this included various 19th and 20th century gravels, rubble, hardcore and tarmac.

The fossilised tooth found on the chest of the skeleton, was cleaned with dental picks and vibrator tools. It has subsequently been identified as that of a buffalo of the last Glacial Period dating to 60-70 000 years ago (Dr Graham Avery, pers. comm.). The tooth was found in the soil above the burial, possibly mixed in with shells from the surrounding soil when the burial was taking place. It may therefore not necessarily be related to the burial.

ANATOMICAL DESCRIPTION

Preservation

After having removed the burial from the Grand Parade the adhering matrix was cleaned from the bones

with dental picks and brushes, measured and photographed (Table 1). The skeleton was found to be complete, but the bones were very friable. All the long bones survived relatively intact, with the exception in certain cases of the epiphysial ends. The axial skeleton, in particular, is poorly preserved. Most of the vertebrae crumbled during laboratory cleaning and all of the ribs are fragmented. The pelvis is broken and extremely friable, but complete.

The cranium suffered post-mortem crushing on its right side resulting in the shattering of the right face and temporal region. Despite this, there is no distortion of the intact portion of the cranium (Figs 7, 8 & 9). Biometric points of the midline survive, permitting length measurements of the face (Table 1). Delicate features such as the nasal bones, nasal spine, palate and styloid processes are present. The mandible is in fairly good condition, having sustained only one major break at the mandibular symphysis.

Age

Less diagnostic age-determinants suggest an older adult. Cranial sutures are partly obliterated and all the epiphyses are closed. There are no signs of advanced osteophytic lipping and there is only moderate wear indicated on the teeth.

To obtain a more precise age estimate two further methods were used. The morphology of the pubic symphysis of this individual falls into the Suchey-Brooks Stage IV with a 95% range of 23-59 and a mean age of 36.8 (Suchey *et al.* 1986). In addition, radiographs of the proximal end of the left femur, using Bergot and Bocquet's method (1986), fall into stage IV with a range of 50-59 years old. These methods, along with the less diagnostic indicators, form a pattern consistent with an individual in his late forties or early fifties at the time of death.

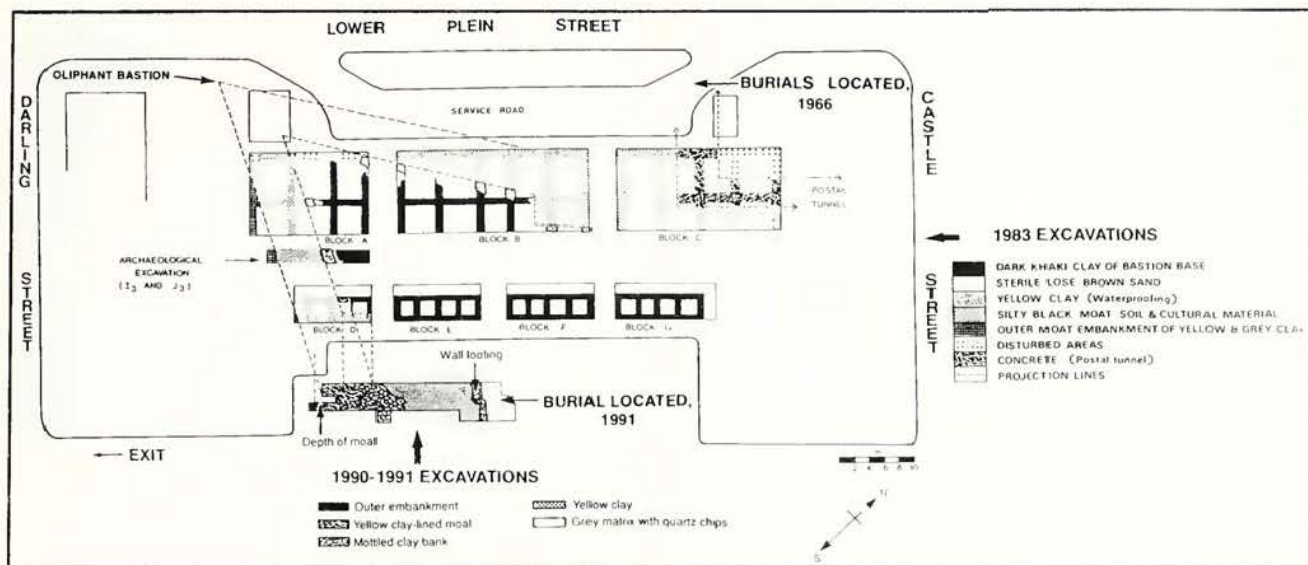


Fig. 3. Ground plan of the 1983 excavation area and the 1990-1991 follow-up diggings. Parts of the outer embankment of the Oliphant Bastion, the moat, rear wall of rooms at the back of the Fort and the position of the burials are illustrated.

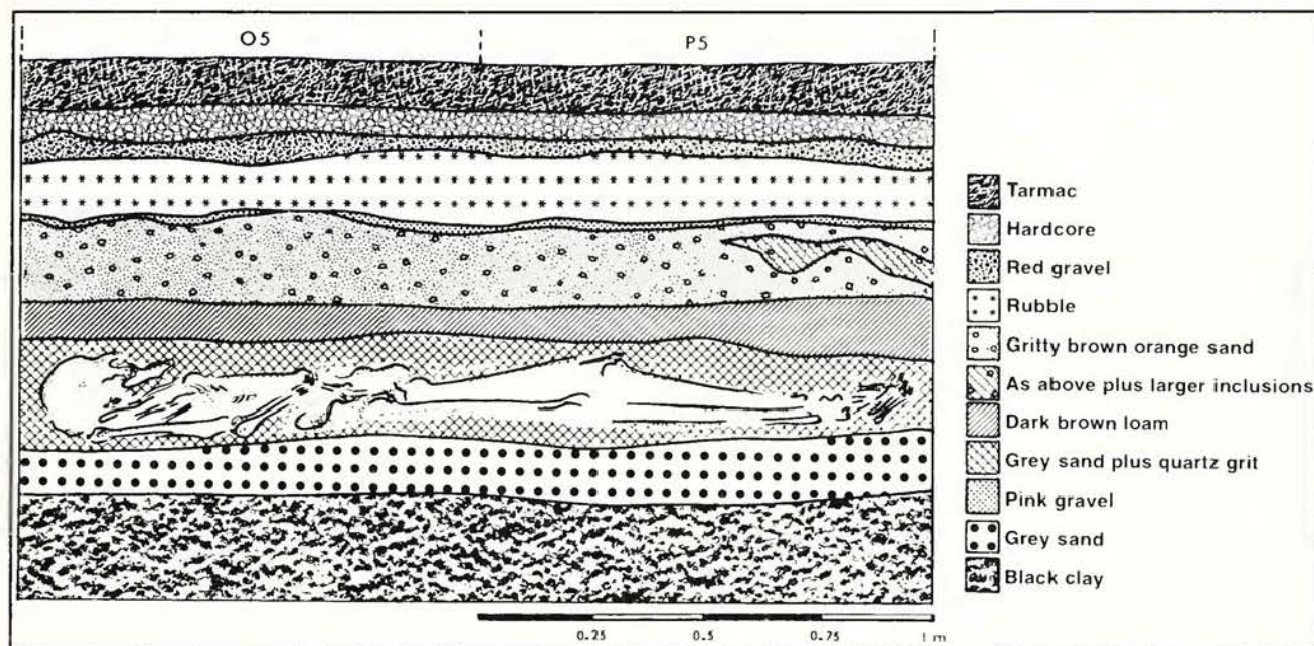


Fig. 4. West section of P5 containing burial.

Sex and stature

The cranial and postcranial features are indicative of a male. Present on the cranium is a large mastoid, moderate development of superciliary eminences and glabella, a deep palate and moderate rounding of the orbital margins. The mandible is also masculine in that it is robust and shows a clearly prominent mental eminence.

Overall the skeleton is quite robust but muscle markings are not highly defined. The clavicles are rather small for such a robust individual and are only moderately angled. The pelvis, however, strongly suggests a male identity with an acute angle of the greater sciatic notch, a narrow sub-pubic angle, 'heart-shaped' inlet, no pre-auricular sulcus, intermediate overall robusticity and

a long sacrum.

The reconstructed height of the individual, using Trotter and Gleser (Brothwell 1981), is 174.92 ± 11.13 cm based on independent measurements of the tibia, ulnae and radii. The femorae were too fragmented to warrant a precise estimate.

Dental condition

The dental health of this man was remarkably good. Due to the previously mentioned crushing of the skull, there has been some post-mortem tooth loss. The lower right second premolar is the only case of ante-mortem loss. The upper right and lower left third molars are congenitally missing while the two remaining third molars

Table 1. Cranial and post-cranial measurements* of UCT 457 in centimeters.

ELEMENT & MEASUREMENT [†]	RIGHT	LEFT
Cranial		
maximum length	19.33 est	---
total facial height	11.18 est	---
upper facial height	6.63	---
nasal height	4.92	---
nasal breadth	2.29 est	---
orbital height	---	3.06
orbital breadth	---	est 3.43
Mandibular		
bicondylar breadth	12.80	---
bigonial breadth	11.46	---
height ascending ramus	---	5.48
minimum breadth ascending ramus	---	3.83
height mandibular symphysis	2.69 est	---
Post-cranial		
sacrum		
maximum anterior height	12.90 est	---
Scapula		
length of glenoid fossa	3.98	3.94
Clavicle		
maximum length	13.83	14.07
circumference at middle	3.67	3.73
Humerus		
circumference at deltoid tuberosity	7.10	7.03
bipectoral width	---	6.43
Radius		
maximum length	25.30	24.93
Ulna		
maximum length	27.67 est	27.37
Femur		
circumference @ mid-shaft	8.77	---
minimum transverse diameter @ midshaft	2.69	---
Tibia		
Maximum length	35.30	---
ant/post diameter @ nutr. foramen	3.42	2.61
med/lat diameter @ nutr. foramen	2.80	2.68
circumference @ nutr. foramen	9.67	8.53

*Measurements calculated from the average of three independent measurements of the same bone (as in White 1991).

[†]Measurements as defined in Bass 1987.

are reduced in size. There is no caries present and a slight deposit of calculus is found on the anterior teeth along the gum margin. No hypoplasias are apparent. The anterior teeth are slightly more crowded and more heavily worn than the posterior.

The most unusual feature of the UCT 457 dentition is the anterior dental wear pattern. The right anterior teeth show more substantial wear than the left. There is no visible evidence of disease abcessing which might explain this pattern. In addition to this, when viewed under a magnifying glass the maxillary and mandibular incisors,

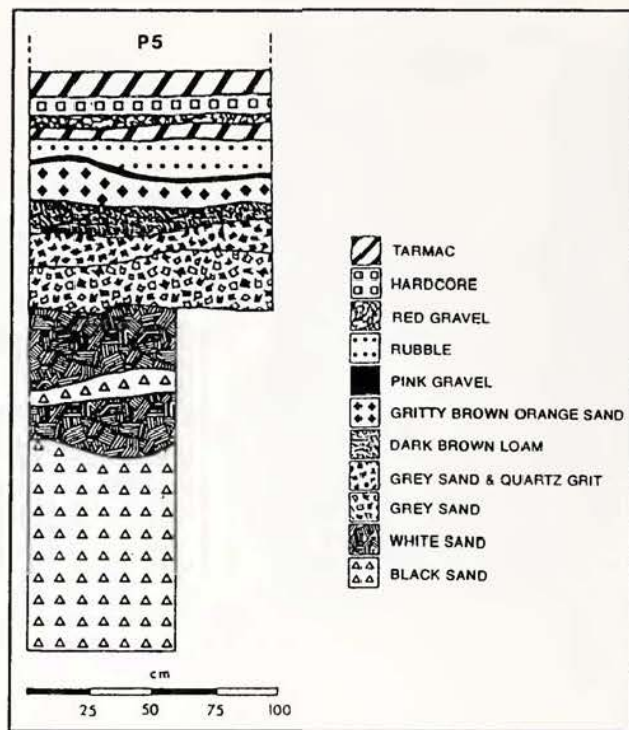


Fig. 5. North section of test-pit P5 next to burial inside the Fort.

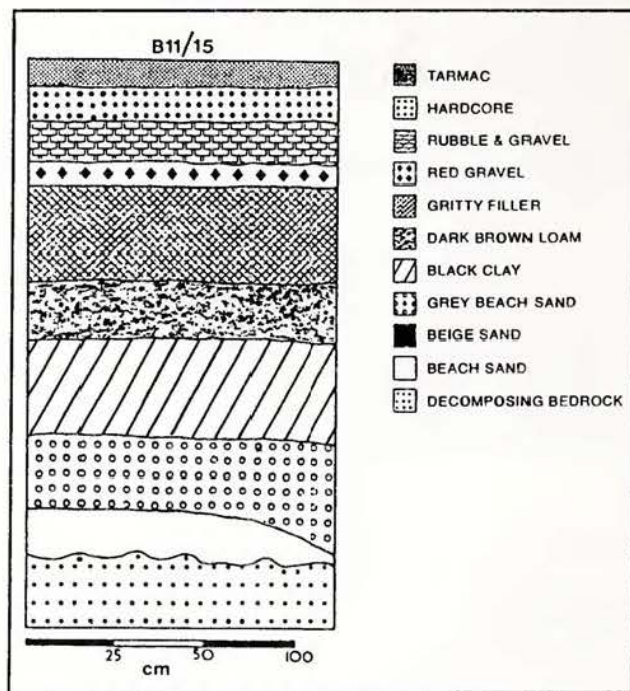


Fig. 6. South section of test-pit B11/15 outside the Fort.

as well as the lower right canine, reveal an occlusal flaking and bucco-lingual striations.

Pathological conditions

A pathology of the left leg is evident at the knee. Affected bones are the femur, patella and tibia. The fibula does not display any anomolous morphologies and the right leg appears normal.

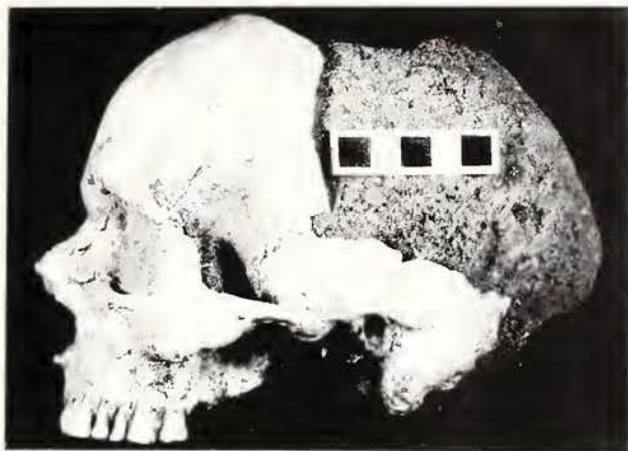


Fig. 7. Profile view of UCT 457 showing prominent nasal spine. (Photograph by E. Fuller).

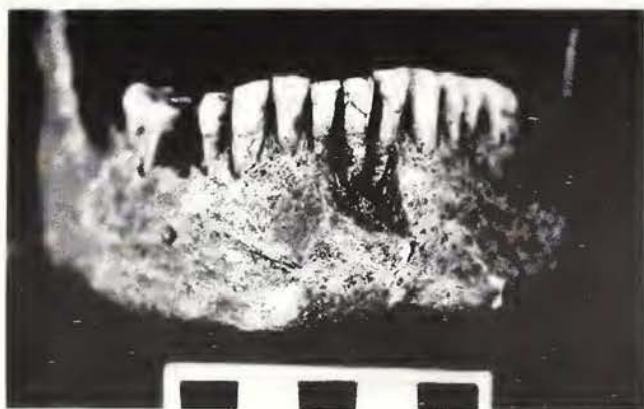


Fig. 8. Front view of lower mandible of UCT 457 showing undulating wear. (Photograph by E. Fuller).

The most visually noticeable deformity occurs on the posterior side of the distal femur, just superior to the condyles (Fig. 10). This includes the popliteal surface and neither the linear aspera nor the supracondylar lines are clearly visible. All of the bone surface has been remodelled, presenting a pattern of resorption and deposition resulting in a very irregular surface. Porosities are frequent and the area affected extends nearly to the mid-shaft.

Linked to this posterior deformity is a marked bulging eminence directly anterior to the popliteal changes. In a radiograph of the affected area (Fig. 11), the bulge shows up as an open canal with few trabeculae, occupying much of the anterior aspect of the femur shaft. The most posterior aspect is filled with dense longitudinal trabeculae and the direction of the shaft is bent posteriorly. Despite the breakage of the condyles enough fragments are present to see that the condylar surface is abnormally flattened at its most inferior aspect. The femur is also noticeably shortened.

The left patella is shaped quite differently from the right. The medial facet of the femoral condyle is narrowed and the articular surface is rough. There is a large cloaca running laterally upwards from the non-



Fig. 9. Occlusal view of UCT 457 maxilla showing differential wear of the teeth. (Photograph by E. Fuller).

articular infero-posterior surface. The tibia is wasted in diameter and the muscle markings are reduced.

Population affinities

This individual displays many morphological features which show higher frequencies in European populations (Table 1). The face itself is orthognathic, with a prominent nasal spine and an acute angle of the nasal bones. Also evident is a steep curve of the frontal bone and mesa-like shape to the super-ciliary eminences. These features, as well as the facial breadth, palate shape, mandibular shape and gonial angles, tend to exclude this individual from indigenous African populations, making him a more likely candidate of European origin.

DISCUSSION

The conditions for preservation on this site were not very good. The fact that the burial occurred so close to the present-day tarmac resulted in post-mortem damage to many of the bones such as the cranium. This is probably partially due to compacting of the Parade grounds over the years, a routine consequence of re-surfacing this well-used central square.

From anatomical analysis the individual appears to



Fig. 10. Posterior aspect of the popliteal region on the left distal femur showing extensive remodelling of the bone. (Photograph by E. Fuller).



Fig. 11. Lateral view of the distal end of the left femur showing canal running in anterior position and slight curvature of the shaft. (Radiograph by L. Monroe).

have been an adult male of average stature in his late forties or early fifties. His dental condition was relatively good. The reason for an anomalous wear pattern present on the anterior dentition cannot be presently determined. The classic attributes of 'pipe-smokers' wear, namely a bucco-lingual cut and semi-circular groove on the occlusal surface, are not present (Morris 1988). And yet, the commonly used kaolin clay pipe of the 17th century could have caused flaking and striations on the teeth similar to those identified on UCT 457. At this stage the cause of this morphology remains a matter of speculation until further investigations are pursued.

The pathological disorder of the distal femur shows evidence of a large infection. The affected knee was found in a raised position in the burial. According to Prof I.D. Learmonth (Dept. Orthopaedic Surgery, UCT, pers. comm.), the joint was probably partly flexed and permanently frozen. The left leg was shortened and therefore the individual would have walked with a clear limp. Through evidence of the shortened femur as well as the healed nature of the remodelling, this was an incident which occurred during childhood growth, possibly resulting from pyogenic osteomyelitis. This could have been generated either spontaneously as a childhood illness or developed as the result of trauma. Another diagnosis could be tuberculosis, but the fact that no other lesions are present elsewhere on the body, makes this a less likely explanation.

Both the anatomical evidence and the extended

position of the burial, indicative of a Western European Christian burial style, lead to the conclusion that the individual was of European genetic origin. A burial date of prior to 1700 is proposed for the following reasons. The burial was sealed by deposits containing artefacts of the 17th and 18th centuries found mostly in secondary contexts (Abrahams 1993:13). A resolution was passed in 1710 enforcing the use of coffins, if wood were available, the cost of which was to be written off as hospital expenses:

Verder ingesien zijnde, dat alle gemeene Comps. dienaaren, welke hier in't hospitaal komen te sterven, eenlijk in een combaars, als zij die hebben, genajid, en alsoo op't ordinaris soldaaten, matroose en slaven kerkhof ter aarde besteld worden't, geen met de Christelijke menschlievenheid en practijcque alomme in India, niet over eenkomt, Is ten dien reguarde verstaan, alle sodanige overleedene Europeese dienaaren, gelijk meede de gemeene man, die hier uijt het garnisoen komen te sterven, voortaan in kisten te laten begraven, bij so verre men hier daar toe planken te missen sal hebben, die op reekg. te doen stellen, en de te kwaad staande ten lasten van 't hospitaal af te schrijven. En is wijders goed gevonden't voors kerkhof, thans nog geheel openleggende, met een behoorlijke muur na een bequame vereffening en verhoginge te laten omtrekken; om dus te beletten, dat de varkens of ander gedierte, de aarde niet komen om te vroeten, nog de lijken te beschadigen (Boëseken 1962:157).

The local burial practice was considered to be contrary to the Christian way of life. There was also concern about the graveyard which was to be adequately walled to prevent animals from disturbing and damaging the graves. Generally speaking, Dutch East India Company servants who died in hospital were sewn in blankets, which might also have happened with this burial.

There appears to be a contradiction, however, since this person, assumed to have been of higher status because he was buried inside the Fort, was buried without a coffin. This also points to a 17th century date for the burial, a period in which the Cape is known to have suffered from a serious shortage of wood. It illustrates the point that local circumstances can have important consequences, even on those entrenched customs such as the burial practice of 17th century inhabitants of the Cape.

Between 1697 and 1699 the Parade was levelled under the direction of Simon van der Stel and Willem Adriaan van der Stel (Theal 1897:369; Picard 1968:55; Woodward 1974:199; Emms 1975:23) and on a plan from 1693 (Cape Archives M2/17) the Parade is shown with walk-ways cutting across it. It is therefore unlikely that burials would have taken place on the site during this period. The most convincing evidence for the uppermost date of this burial, however, is a resolution of 1677 (Kantoor van die Hoofargivaris 1959:217),

Soo is goetgevonden ende geresolveert na gedane overlegh met dat nieuwe project ten aansien om de wel gelegentheit van de plaats en de nootsakelijckheit van dien daar mede tusse wijle voort te varen...

It was resolved, after due consideration, to proceed with the project of building a new church with a graveyard in the available space in the unused old part of the Company's garden, that is, on the site of the present Oude Kerk at the top of Adderley Street (Abrahams 1985:70). It was stated that further burials were disallowed in the grounds previously used in the new Fort (the present Castle one would presume). This means that grounds in the Castle subsequent to the original Fort had by this time become the focus of burial and furthermore that the Resolution had been put into effect since it is noted that Ds Petrus Hulsenaar had been interred on the new site. There is still underground evidence of the cemetery at the top of Adderley Street today (Abrahams 1985:52).

The burial, if superimposed on a 1653 plan showing areas of occupation in Fort de Goede Hoop (Fig. 12), was located in the vicinity of the second last room from the corner of the Oliphant bastion, referred to as the sick-comforter's house on the plan. An additional note in the key states that parts of this house were still incomplete. The location of the burial points to the social practice of burial inside occupied building terrains, a custom brought over from The Netherlands in the 17th century (Hopkins 1965:124). This honour was, however, reserved mostly for officers of the Dutch East India Company.

Mediaeval practices were incorporated into the Christian Church. One of these customs, which continued to be used in 17th century Holland, was to bury the corpse with feet facing east (Dr S. Veltkamp-Visser, pers. comm.). The alignment of the burial under discussion is of interest here because, although not strictly facing the east, the feet were found pointing in a north-easterly direction.

The lowermost date for the burial is indicated by the excavation context. The skeleton was found in the first European context of 1652. Taking into account all of the above points, the strongest of which relate to the levelling of the Parade grounds, the stratigraphy and the presence of alternative burial sites, it is highly likely that this burial may have occurred between 1652 and 1677.

Two other burials were found on the Grand Parade in 1966 (Emms & Speed 1966; Emms 1975:19-26; Voigt 1977:108). These burials were reported by Emms and Voigt (né Speed) as relating to the Fort of 1652-1674, overlapping with the period postulated for the burial uncovered in 1991. The only common denominators are that they were also males and that they occurred on the Parade which originally extended as far as Adderley Street. On the other hand, a number of differences are evident. The first two burials were both of sub-adults of approximately 18 years of age. They were found outside the Fort, buried in coffins and laid to rest with heads to

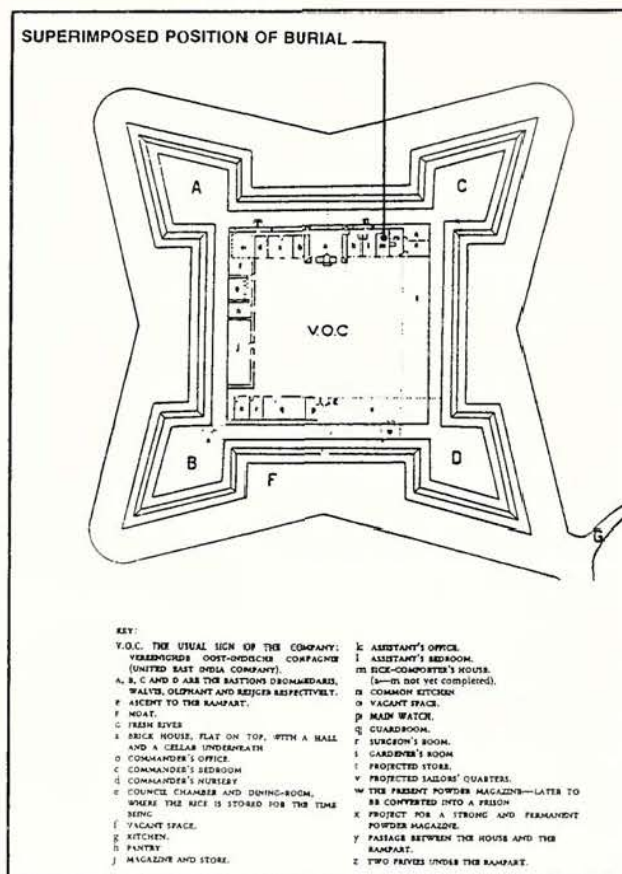


Fig. 12. A 1653 plan of Fort de Goede Hoop (State Archives, The Hague, Chart 814) showing the position of the burial in the sick-comforter's house.

the north-west. These observations indicate fundamental differences in the styles of the burials excavated in 1991 and 1966 which remain to be explained.

Two follow-up projects are being executed on the more recently excavated (1991) Parade skeleton. Prof V. Phillips of the Department of Oral Pathology, University of Stellenbosch, will be analysing a tooth sample for its lead content and relating these results to other comparative analyses. Prof Judy Sealy of the Archaeology Department, University of Cape Town, is formulating results from isotopic analysis of the bone and tooth samples in relation to diet (Sealy *et al.* 1995). The analysis thus far has yielded little variation between tissues, signifying that the individual ate a diet of fairly consistent isotopic composition throughout his life. It may be that he spent a relatively short time at the Cape before he died (Prof Judy Sealy, pers. comm.). From these results more interesting information will be available on this find.

No evidence has been found to indicate the specific identity of this individual. Seventeenth century diaries of commanders at the Cape make numerous references to deaths (Thom 1952; Broëseken 1973), but none specifically relating to a person in his early fifties, probably partly incapacitated, buried without a coffin in an honourable position inside the Fort at the Cape of Good Hope.

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