University of Cape Town
Sutherland Reburial
Media Conference

SUTHERLAND SCIENTIFIC TEAM AND KEY FINDINGS

During the public participation process, the descendant families from Sutherland in the Northern Cape requested the University of Cape Town to compile as much information as possible about their ancestors and the process of their being taken to the university. Dr Victoria Gibbon lead an interdisciplinary team to assist with answering the questions. It was agreed that this would encompass the history and archaeology of the original cemetery, biological reports, stable isotope and DNA analyses, and facial reconstruction of the nine individuals. This interdisciplinary collaboration involved researchers from several departments at UCT and two groups of international partners. The facial reconstructions were done by Face Lab at Liverpool John Moores University in the UK and the ancient DNA analyses by the Max Planck Institute for the Science of Human History in Germany.

The key findings listed below are grouped according to these themes.

➨ UCT Archival Records

The skeletons were donated to the medical school by CG Coetzee of Kruisrivier farm, Sutherland. The details recorded were what his father said his own father (the donor's grandfather) had told him. The information is therefore third-hand and may not be accurate. The following information was evident from the records, not all which proved to be accurate once the scientific analysis was completed:

- Eight of these people lived and worked on the farm and after their death were buried on the farm. All but one were buried in the labourer cemetery, the remaining individual was buried in the mountains.
- They were removed from their final resting places.
- They were donated to UCT in 1925, 1926 and 1927.
- The grave of one "unknown individual" was accidentally exposed by a road cutting in Sutherland. This skeleton, too, was removed and sent to UCT.
- The remains are of seven adults and two children.
- First names are recorded for six of the adults.
- Two also had surnames: Cornelius Abraham and Klaas Stuurman.
- Six were described as San; three as Khoe.
- Dates of death ranged between 1875-1913, eight were between 1875-1888.
- Sex information and some indication of age (older, younger, child) was provided.
- Totje was described as having died of tetanus.
- Klaas was reportedly murdered.

- For some individuals, there were descriptions of the graves.
- For some, there was information like 'Brother still alive on Kruisrivier farm' at the time the donation was made.
- Familial relationships are suggested among some individuals.

It has been confirmed that Carel Gert Coetzee of Kruisriver farm was a medical student at UCT between 1925-1931. His medical degree certificate was located in UCT Faculty of Health Sciences archives.

➨ **History**

The following information was compiled by historian, Professor Nigel Penn (Department of History, UCT):

- The farm "Kruisrivier" in the Roggeveld was first recorded as having been granted as a loan farm *(leenplaas*) in 1749.
- The initial owner of the lease was a certain Johannes Kruger and the farm then changed hands fairly regularly amongst the *trekboers* of the Roggeveld.
- The Roggeveld forms part of the Cape's interior escarpment and the range roughly coincides with the environmental division between the summer and winter rainfall areas of the Cape.
- The original inhabitants of the region, the hunter-gatherer San or southern /Xam, had shared the landscape with small numbers of Khoe pastoralists for hundreds of years.
- The entry of the *trekboers* (semi-nomadic European pastoralists) into the escarpment, their appropriation of grazing and water and their decimation of the herds of eland created a crisis for the Khoesan of the region.
- Khoesan groups began to resist the encroachment of white farmers as early as the 1750s and did so by stealing the sheep and cattle of the colonists as well as killing their shepherds.
- The *trekboers* responded by launching a series of commandos against the Khoesan. The most notable of these was the General Commando of 1774, which operated in the Sneeuberg, the Roggeveld and the Nieuweveld and which was responsible for killing hundreds of Khoesan resisters. But there were many, smaller, commandos before and after that date.
- At the same time as the commandos were attacking Khoesan resisters, the *trekboers* were employing Khoe herders as servants as well as using San women and children – taken captive by the commandos – as forced labourers on their farms (the San men were usually killed).
- The treatment of these servants was very harsh, and children were *ingeboekt* (booked in) to work without wages until the age of 20 if female and 25 if male.
- Oppression and fear of extermination led to a rebellion of Roggeveld Khoe in 1772 – The Roggeveld Rebellion – which took place in the vicinity of "Kruisrivier" at the head of the Gannaga Pass.
- Although the Roggeveld was pacified by the 1820s San resistance continued in Bushmanland (to the north) well into the 19th whilst the condition of Khoesan farm labourers remained dire.
- The history of "Kruisrivier" in the 19th century is, no doubt, dominated by the unrecorded relationships between the owners of "Kruisrivier" and its farm labourers.

- That the farm was an important regional centre is attested to by the fact that local residents petitioned the authorities in 1841, asking that a church should be established at “Kruisrivier”.

➨ Archaeology

The following information was compiled by archaeologist, Professor Simon Hall (Department of Archaeology, UCT):

Analyses of labour cemetery at Kruisrivier farm:

- All the graves are marked by platforms of stones, stone cairns or upright headstones and footstones.
- A count of these features indicates that there are 38 or 39 graves.
- The cemetery is loosely organised in four rows.
- The style of the stone markers shows that there are two different types of graves.
- Graves marked by sub circular stone platforms.
- Graves marked by upright headstones and footstones that are clearly orientated west to east with the larger headstone at the western end of the grave.
- These two grave styles indicate that some of the farm labourers were either given a Christian burial (headstone and footstone style) or burial that drew on Khoesan values and beliefs, and indicates either the continuity of indigenous beliefs and practices into the later 19th century or that these burials date earlier in the 19th century.
- The survey indicates the location of six or seven disturbed graves from which the remains were removed. This number does not tally with the nine skeletons accessioned.
- This shortfall is because two burials are recorded as coming from elsewhere – one from a grave disturbed by road works and which is precolonial in age, and a second that was taken from a burial in the hills.
- The remnants of the disturbed graves indicate that most were Christian style burials, with only one clearly identified as Khoesan.
- Descriptions of three of the disturbed burials in the accession register indicate below ground Khoesan burial styles.
- This suggests that while some of the surface grave styles show Christian practice, it is possible that the bodies were placed in the ground following Khoesan practice.

➨ The Stable Isotope analyses

The following was compiled by Professor Judith Sealy (Department of Archaeology, UCT):

- The chemical composition of bones and teeth contain information about the environments in which people lived.
- This is because the food we eat is used to manufacture our body tissues. In the past, people ate mainly locally-produced food.
- In inland areas of South Africa, high values of the stable carbon isotope ratio 13C/12C occur in areas with more summer rainfall, high 15N/14N in drier regions.
- Analyses of small samples of tooth and bone from the historic Sutherland skeletons reflect a mainly winter rainfall environment, but a very dry one.
- These individuals came from Sutherland and surrounding arid areas, not the Eastern Cape, where there is more summer rain and higher rainfall overall.

- The composition of Klaas Stuurman's tooth shows that as a child, he lived in a different area (not in Sutherland). This agrees with historical records that he was originally part of an independent Khoesan group between Sutherland and Carnarvon and was brought to Sutherland to work on the farm.
- Cornelius Abraham may also have moved around during his life.
- The 700-year old individual is very different from the historic individuals.
- In combination with historical and other evidence, these chemical analyses enable us to obtain a fuller picture of past peoples' lives.

➡ **CT scans**

These were developed by Dr Tinashe Mutsvangwa and PhD student Ms Yvonne Karanja (Division of Biomedical Engineering, Department of Human Biology, UCT):

- Computed tomography (CT) uses high energy beams called X-rays, similar to a regular X-ray machine found in a clinic.
- However, unlike typical X-ray machines, CT provides a means to image the body in three-dimensions (3D).
- Throughout the process of imaging, the remains were handled with the utmost respect and carefully concealed to prevent accidental viewing.
- Image post processing was performed by Dr Mutsvangwa to obtain the three-dimensional (3D) virtual crania.
- This involved carefully selecting the crania in the CT images.
- The post-processed virtual crania were then electronically shared, in a secure fashion, with Ms Kathryn Smith (Face Lab, Liverpool John Moores University, UK) who conducted the facial reconstructions under the supervision of Face Lab director Professor Caroline Wilkinson.

➡ **Facial Reconstruction**

This was done by Professor Caroline Wilkinson and PhD student Kathryn Smith (Face Lab, Liverpool John Moores University, United Kingdom):

- Facial reconstruction refers to the remodelling of facial muscles and soft tissue, and estimation of facial features, to recreate an accurate craniofacial shape based on the anatomy of a skull. Facial depiction refers to the final presentation of a face, including the addition of fine surface detail that cannot be predicted from the skull alone. This includes skin colour, eye colour, hair colour/style and fine texture (such as moles, scars, wrinkles).
- Face Lab's workflow is entirely digital, employing scan data to create skull models, and a non-destructive 3D modelling programme with a haptic (touch-sensitive) interface to remodel facial muscles, features and skin.
- It was only possible to produce eight reconstructions as the skull of one individual (Totje) is missing.
- It is necessary to remodel missing or broken parts of the skull before commencing with the reconstructions.
- The final depictions present these individuals as they most likely would have appeared at their approximate age-at-death. Decisions were informed by the biological analyses provided by Dr Victoria Gibbon (Department of Human Biology, UCT).

- Clothing and hairstyles are ambiguously suggested. Nineteenth century and modern photographic portraits of Khoe and San people from the western and northern Cape regions were closely referenced in the texturing process.
- Visualising the face of someone from the past enables us to have empathy and an emotional response to the person represented; facial depictions are more immediately relatable than scientific data alone.

➨ **DNA analyses**

This was done by Dr Stephan Schiffels and PhD student Joscha Gertzinger (Department of Archaeogenetics, Max Planck Institute for the Science of Human History, Germany):

- Faculty of Health Sciences Ethics Board at the University of Cape Town and is on file under HREC REF 715/2017.
- Ancestral genetic relationships were assessed using mitochondrial and nuclear DNA.
- The reference database used has 5800 individuals from 587 populations. From sub-Saharan Africa there are 406 individuals from 40 populations of which 16 are from South Africa.
- Mitochondrial DNA could be reconstructed to 100% for all nine individuals confirming they are all from the L0d Haplogroup consistent with San and Khoe people in southern Africa.
- Nuclear DNA was successful for seven individuals. All seven cluster with Tuu speakers; more detailed analyses on three with the best results (Saartje, Klaas, and Jannetje) show highest affinity to the Khomani San.
- Genetic sex of all nine was obtained with high degree of accuracy.
- No genetic relationship between the children.
- The children are not closely related genetically to any of the nine individuals.
- Klaas Stuurman and Saartje are second-degree relatives (double cousins and half-siblings).
- Jannetje is a third-degree relative of both Klaas and Saartje (consistent with first cousins).

➨ **Biological reports**

These were compiled by Dr Victoria Gibbon, (Division of Clinical Anatomy and Biological Anthropology, Department of Human Biology, UCT):

- Skeleton recovered from road cutting was radiocarbon dated to 1263-1378AD. This person lived during the pre-colonial period and may or may not have been an ancestor of more recent inhabitants of the area.
- Seven out of the nine individuals were adults, and age was estimated for each person.
- Five adults were male and two were female.
- The older child was a girl of 6-8 years of age, showed four periods of physiological stress such as malnourishment or infection between the ages of 4-6.
- Th younger child was a boy, 4-6 years of age.
- Adults had relatively short stature.
- Squatting facets were found in three individuals, evidence of a culturally important sitting position of San people.

- Two individuals showed signs of untimely death with cranial trauma: Klaas Stuurman and the pre-colonial individual.
- Nearly all the adults showed signs of poor dental health. Dental infection was widespread, and was a leading cause-of-death before modern dentistry. Poor dental health was likely exacerbated by life on the farms where people had access to a more western-style diet that included cereals and sugar.
- Adults showed signs of osteoarthritis, resulting from heavy physical labour and extremely active lives.
- Some signs of healed trauma: broken nose, hand and cheek bones were found among the individuals.
- Voetje had old injuries to left foot and knee and probably walked with a limp – perhaps the origin of his name.

SUMMARY

These nine individuals provide some glimpses of the lives of San and Khoe people in Sutherland in the late 19th century. Life was physically hard. Conditions such as tooth decay (infection) caused death, there was a good deal of violence and many children had lost their parents. Despite the challenges these people maintained some of their cultural identity, shown in, for example, grave style. They show us hardworking people who faced very difficult circumstances with perseverance and resolution.

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