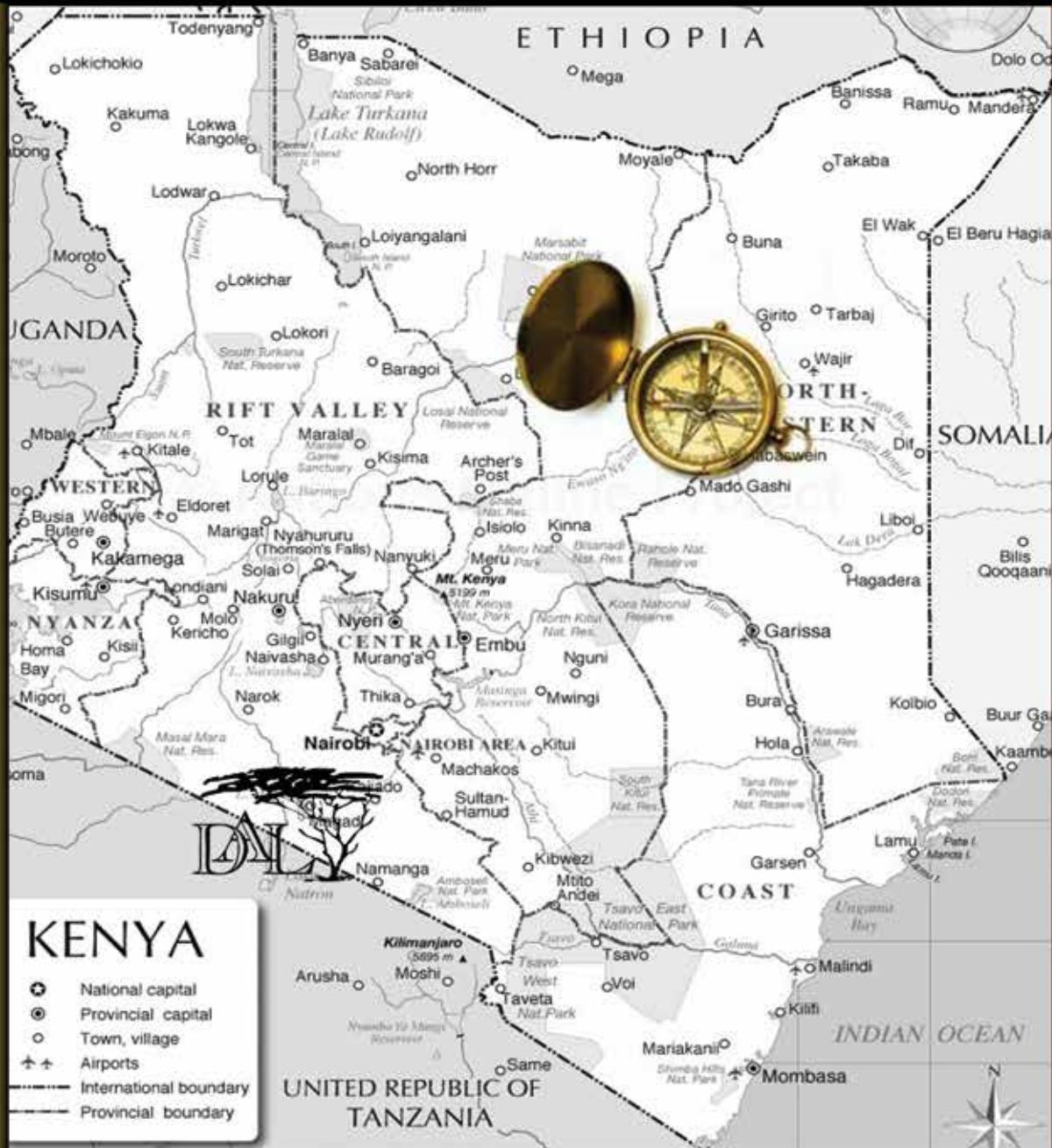


Kenya Past and Present



Issue 42

*Specialising in road maps to
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Kenya Past and Present

Issue 42, 2015

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FRONT COVER

A Marakwet farmer inspects an irrigation shelf on the side of a hill, 1973. Anthropologist Wilhelm Östberg shares recollections of life among the Marakwet, page 53.



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KMS MEMBERSHIP RATES

Family Resident of Kenya	KSh 2,000
Single Resident of Kenya	KSh 1,500
Student Resident of Kenya*	KSh 300
Upcountry Member**	KSh 1,200
Business (8 cards)	KSh 6,000
Non-Resident Member	US\$ 50

* Valid for students 25 years and below. Includes newsletter, but no other publications.

** Valid for those living more than 100 km from Nairobi. For upcountry cheques, please add KSh 200 for bank clearing charges.

Annual Membership expires one year from date of payment. To join KMS, download and fill out the application form on our website www.KenyaMuseumSociety.org and post it with your cheque for the appropriate membership category to: Kenya Museum Society, PO Box 40658, 00100-GPO Nairobi, Kenya. Or pay by M-Pesa, paybill no. 400800, account no. 657 157 0019.

For further information, please call the Society's office: 020 233 9158 or 374 3808. Mobile 0724 255299. NMK switchboard 374 2417/816 4134, ext. 2311. E-mail: info@KenyaMuseumSociety.org Website: www.KenyaMuseumSociety.org Facebook: Kenya Museum Society Group <http://twitter.com/museumociety>

KENYA MUSEUM SOCIETY

The Kenya Museum Society (KMS) is a nonprofit members' organisation formed in 1971 to support and promote the work of the National Museums of Kenya (NMK). You are invited to join the Society and receive Kenya Past and Present. Privileges to members include the regular monthly newsletter, free entrance to all national museums, prehistoric sites and monuments under the jurisdiction of the National Museums of Kenya, entry to the Ololua Nature Trail at half price and 5% discount on books in the KMS shop.

The Society runs the KMS Shop in the Nairobi National Museum and regularly organises events such as art shows, weekend and day safaris, lectures, films and other activities to raise funds for NMK projects and development of exhibitions.

NATIONAL MUSEUMS OF KENYA

Nairobi National Museum	Nairobi
Karen Blixen House	Nairobi
Nairobi Gallery	Nairobi
Kabarnet Museum*	Kabarnet
Kisumu Museum*	Kisumu
Kitale Museum*	Kitale
Lamu Museum & Lamu Fort	Lamu
Loiyangalani Desert Museum	Loiyangalani
Malindi Museum*	Malindi
Meru Museum*	Meru
Narok Museum*	Narok
Shimoni Slavery Museum	Mombasa
Wajir Museum	Wajir

Sites and monuments:

Fort Jesus	Mombasa
Fort Tenan	Koru
Gede Ruins	Watamu
Hyrax Hill	Nakuru
Kapenguria	Kapenguria
Kariandusi	Gilgil
Kenyatta House	Maralal
Koobi Fora	Lodwar
Olorgesailie	Magadi
Rusinga Island	Mbita
Songhor	Songhor
Thimlich Ohinga	Makalder

* Under the new constitution, these museums will be transferred to respective county control.



KMS highlights 2014

**Patricia Jentz, Chairperson
Kenya Museum Society**

This past year has again been a challenge for the Kenya Museum Society (KMS). The very distant and seemingly unrelated Ebola outbreak in West Africa had a devastating effect on tourism in Kenya and contributed to the perception of Africa being an unsafe place. Citing security concerns, some diplomatic missions and companies amended their policies to allow only singles or unaccompanied spouses to work in Nairobi. All of these have had a cumulative negative effect on the work of the Kenya Museum Society. KMS has seen not only a decrease in membership, but also fewer volunteers to assist in planning and executing our events, fewer people attending those events, and much lower revenues from those events as well as from the shop at the Nairobi Museum. In spite of this,

the society hosted a plethora of activities and expanded programmes to widen the society's appeal, and educate, entertain and engage people and draw them into the Museum.

Children's programmes

Children's programmes have been reinvigorated by a new enthusiastic committee. Andrew Kamiti taught sketching and pencil drawing in the Discovery Room of the Nairobi Museum. Younger children enjoyed readings from some of Auntie Kiko's very popular animal stories featuring Aesop's fables retold with African animals. One of the staff of TICA (the Trust for Indigenous Culture and Health) was an excellent tour guide around the Museum's botanic garden. A family tour of

Above:
The Safaricom
Choir entertained
guests on the gala
evening of the KMS
Affordable Art Show.



Storytime with Auntie Kiko's popular animal stories. Photo by Lucy Njeri.

the Museum focused a lot of attention on the Bird Gallery and children made kites, to fly with the birds, while others spent time drawing their favourite of the hundreds of stuffed birds on display.

Day outings

KMS office staff Lucy Njeri and Dorothy Mkala have done a stellar job planning, organising and managing day outings this past year. They joined members at Amaica Restaurant on a 'gourmet journey through Kenya' and were surprised how good fried termites tasted and learned how to make salt from burnt banana leaves. A trip to Naivasha for a tour of the Marula Flower Farm showed them how roses are grown hydroponically, then cut, packed, stored and shipped abroad. And lunch was a surprise bonus. They trekked out to Limuru with members for the ever-popular Kiambethu Tea Farm tour and again lunch, home cooking this time using produce grown on

The rare coelacanth, a marine 'missing link' with both lungs and gills, is the star of the NMK ichthyology collection. When the coelacanth specimen was found 10 years ago, KMS funded its preservation. [Archive photo]



the farm, and ending with ice cream made from the Jersey cow's buttery milk. The only day trip that didn't involve food directly was a Saturday tour of the Museum's Ichthyology (fish) Department, enjoyed by both children and adults.

Weekend safaris

Under the direction of Narinder Heyer, our members have enjoyed extraordinary safaris over the past year. Narinder offers something for everyone, tourist lodges and camps as well as more remote adventure destinations, all in the company of new friends.

Last year's Easter trip to Tsavo West and lakes Jipe and Chale is a perennial favourite. After driving through Tsavo West National Park, the group enjoyed lunch at Mzima Springs, the source of fresh water for the town of Mombasa. An underwater viewing room gives a totally different perspective on the hippos and fish found there. The group continued on to the remote southwest tip of the park to stay at Ziواني Tented Camp. From this base the group explored lakes Jipe and Chale, on the border with Tanzania, and had a good view of Grogan's Castle, the former home of colonial landowner Ewart Grogan. The ambitious building fell into disrepair and has recently been restored and opened as a hotel.

An adventure-minded group travelled to Meru National Park, northeast of Mount Kenya, staying in the Kinna Guesthouse belonging to the Kenya Wildlife Service (KWS). This park is less visited than other national parks as there is limited accommodation. On such self-catering trips, KMS members benefit from Narinder's great planning and cooking.

An even more adventurous group braved the dust and heat of the Shompole Reserve to visit Lake Magadi and Lake Natron, both soda lakes in the Rift Valley. Only one brave soul fully immersed themselves in the hot

spring near Lake Magadi to confirm it was really, really hot. Staying at Loisijjo Lodge, this trip was also self-catered. On the way back to Nairobi, the group stopped for a picnic lunch at the Olorgesailie Museum, an active research site where the world's largest collections of hand axes can be observed, in situ.

Looking further into Kenya's volcanic nature, Narinder organised a trip to Lake Nakuru National Park and Menengai Crater. The group were fascinated by the tour of the geothermal power generation plant. Everyone enjoyed the view over the crater from their tents at the Maili Sopa Lodge. The trip home included a tour of Egerton Castle, now part of Egerton University, and an excellent lunch at the aptly named Sunbird Lodge overlooking Lake Elementaita.

The 'de rigeur' trip to the Masai Mara to witness the great wildebeest migration did not disappoint, in spite of the mediocre accommodation at Manyatta Camp. Lion, cheetah and tens of thousands of wildebeest were seen in juxtaposition to iPad-wielding Maasai warriors.

The trip to the David Sheldrick Trust camp at Ithumba in Tsavo East proved so popular that Narinder ran the trip twice in three months. This was to beat the deadline as this basic self-catering camp was due to close when the posh new hotel accommodation opened. This is the place to go to see the continuing work of re-introducing young elephant orphans back into the wild. To date, 150 elephant orphans have been re-introduced.

Narinder again repeated her ever-popular trip to the lovely Shaba Sarova Lodge in Shaba National Reserve, where Joy Adamson was killed, and to see the distinctive northern wildlife adapted to the semi-arid terrain of Samburu and Buffalo Springs national reserves.



Viewing the wildebeest migration in the Masai Mara.
Photo by Ariane Tinner.



Lunchtime at the David Sheldrick Trust camp at Ithumba in Tsavo East.
Photo by Annette Wiegand.

Another KWS guest house was used on the trip to Amboseli National Park. A very special tour of Dr Cynthia Moss' research facility and camp was included. Cynthia's research is unique in that it has followed the same elephants and their families for over 40 years, garnering invaluable information and insight into their behaviour and family dynamics.

The planned Christmas trip to the Tana River Delta had to be modified due to security concerns in that area. The group went to Tsavo East instead and enjoyed a relaxing coast holiday in Malindi.

This year's visit to the old colonial houses of the infamous Happy Valley gang in Gilgil was based at El Paradiso at the foot



The KMS Affordable Art Show took place over three days and raised funds for NMK projects and development of exhibitions.

of the Aberdares. This was a true camping experience where you could bring your own tent and sleeping bag, or rent from the camp. Much discussion revolved around the mystery of who killed Lord Erroll.

Evening programmes

The usual eclectic mix of speakers and Kenyan movies continued the Museum Society's outreach, employing four different venues — the Louis Leakey Auditorium at the Nairobi Museum on Saturday afternoons, and evenings at the Muthaiga Club, Karen Country Club and the Purdy Arms in Karen.

Jim Nyamu, the founder and Executive Director of Elephant Neighbours Centre, spoke on his experiences walking across Kenya to interact with local communities and spread the word about elephant conservation and alternative methods of resolving human-wildlife conflict. Bernard Agwanda, NMK Mammal Curator, spoke on his 'Little Five', including the African maned rat that is unique in coating its fur with poison as protection against predators. Will Travers, President of the Born Free Foundation, spoke about the organisation's conservation efforts to stop poaching and protect Kenyan wildlife. Dr Peter Blaze Corcoran, visiting Fulbright Scholar, involved his audiences in discussing ways to help the planet, as 'Climate change changes everything'.

Fundraisers

The Annual Second Hand Book Sale was a success this year despite very inclement weather. This event is a great service for our members who want their much loved books to find good homes, while giving others an opportunity to purchase good quality books at very reasonable prices.

The Affordable Art Show was very successful financially thanks to the sponsorship of Safaricom, the Polish Embassy in Kenya, Java House and Concorde Motors. About 28% of the 267 works on display were sold. The Safaricom Choir and Ghetto Jazz entertained and Cabinet Secretary Dr Hassan Wario officially opened the event.

Projects funded

KMS was able to fund and collaborate with NMK in opening a permanent exhibition of Joy Adamson's illustrations of the peoples, plants and animals of Kenya. The exhibition emphasizes conservation of Kenya's cultural and natural history. In early 2016, the 58 paintings on display will be replaced by others from the NMK Archives to keep the exhibition fresh.

KMS also funded the printing and assisted in editing the proceedings of the 4th National Museums of Kenya's Biennial Science Conference. Eighty copies of the *Kenya Past and Present* Issue 41 were donated to NMK's research library as a reciprocal publication with universities and museums around the world.

Our successes last year were a product of the hard work of our many KMS volunteers who donated their skills and time to assist the Society. I thank them all. The Society would also like to thank the administration of the National Museums of Kenya for their support in our work.

**PHOTOGRAPHS BY EBRAHIM MWANGI, AV
DEPARTMENT OF NMK, UNLESS OTHERWISE
MARKED.**



Art education at the Museum

**Purity Senewa Kinaiya, Art Educator,
Public Programmes, National Museums of Kenya**

The Nairobi Museum's Public Programmes Department works with young people and the community at large, bringing people closer to the Museum and making its diverse collections more accessible.

Art education has been a part of the Museum's Public Programmes Department since 2011. Art education brings audiences to the Museum and introduces them to different art forms, encouraging creativity, originality and multiple learning styles. This is particularly important for children, because art is no longer on the curriculum in most Kenyan schools. Studies have shown a significant connection between art education and development. Skills developed through the arts are recognised as essential in today's technological society. The programme also runs workshops for art educators in schools

and higher institutions, and networks with them to provide mentorship for promising young artists.

Some of the goals of the Museum's art education programme are to:

- introduce diverse contemporary art education methods of learning for the youth and children
- provide high quality and focused mentorship in developing art talent as a creative tool
- teach visual literacy and critical thinking skills
- bring working artists into the museum setting and give the community access to the artistic process
- showcase, promote and empower young artists in Kenya
- bring visitors to the museum to meet the artists and give them an opportunity

Above left:
Art club student members have a lesson in portraiture, working from paintings exhibited at the Museum. The session was led by teachers from the Buruburu Institute of Fine Arts.

Above right:
A screen printing session in the Nairobi Museum's Discovery Room.

to engage in art-making activities, thus gaining a greater understanding and appreciation for the arts

- give young artists an opportunity to tell their story and engage artists, art lovers and the public through forums such as talks and workshops on topical issues
- sharpen the creativity and imagination of students, broaden their networks, build the spirit of teamwork and enhance their leadership skills

Art education targets both formal and informal groups. Each programme is

designed with a specific age group in mind, with particular attention given to children and youth.

Since its introduction, several art education programmes have been introduced and implemented. These include the Nairobi National Museum Art Club (NaNaMac), art workshops and competitions, artist residencies and mentorship programmes, outreach programmes, art festivals and fun days. Individuals or schools wishing to participate should send an email to arteducation@museums.or.ke.

**PHOTOGRAPHS BY EBRAHIM MWANGI,
AV DEPARTMENT OF NMIK**



Working with found objects to create a unique work of art.



Inspiration through cultural objects: A programme designed for younger visitors.



Young artists during a 2014 workshop on rock art, held in partnership with the Trust for African Rock Art (TARA).



NaNaMac art club members visit artist Katete's studio to learn about his approach to art.



Museum highlights 2014

**Juliana Jebet, PR Dept,
National Museums of Kenya**

The past year has witnessed several changes in the National Museums of Kenya (NMK). With the enactment of the new constitution and devolution, NMK is working to align its legal status to the revised laws, including devolving some museums to county ownership and management. Guiding this process will be the new director general Dr Mzalendo Kibunjia.

A new director general appointed

Dr Mzalendo Kibunjia was appointed Director General of NMK for a term of three years, effective 16 February 2015. The appointment was made by Hon. Dr Hassan Wario, the Cabinet Secretary for Sports, Culture and the Arts.

Dr Kibunjia is no stranger to the Museums, having previously served as NMK's Director of Museums, Sites and Monuments until 2009 when he left to take up a government appointment as Chairman of the National Cohesion and Integration Commission. In his inaugural address to staff after his return, Dr Kibunjia outlined the challenges that NMK faces, including cutbacks in government financial assistance, high staff turnover, inadequate conservation of our national collection and threats to sites of world heritage importance.

External issues include the transfer of some NMK functions to the counties in line with the new constitution, and separating the mandates of regulator and implementer in the heritage sector, both of which roles were

Above:
Director General Dr
Mzalendo Kibunjia
addresses staff
at NMK. Photo by
Ebrahim Mwangi,
NMK AV Department.

African Heritage House, with its priceless collection of pan-African art and artefacts, has been gazetted a national monument. Photo by Peta Meyer.



previously played by NMK. There are also land issues that include acquisition of title deeds and overlapping of jurisdiction with other government agencies. Dr Kibunja holds a Ph.D in anthropology from Rutgers University of New Jersey, USA. He takes the mantle of leadership from Dr Ahmed Yassin, who held it in an acting capacity for a period of almost a year.

New national monuments

The Cabinet Secretary for Sports, Culture and the Arts, Hon. Dr Hassan Wario, has elevated 21 historical sites in Nairobi, Machakos, Kitui and coastal regions to national monuments, thus protecting them from demolition and redevelopment. This was announced in a Kenya Gazette notice dated 25 September 2014. Among the

The 21 historical sites now gazetted as national monuments

No.	Site	Location
1.	African Heritage House	Machakos
2.	Kaloleni Social Hall	Nairobi
3.	First Old District Commissioner's House	Taveta
4.	Methodist Church Hola Mission	Tana River
5.	ACK Holy Trinity Church	Taveta
6.	The German Fortress	Taita Taveta
7.	Commonwealth War Graves	Voi
8.	Indian Commonwealth War Graves	Taveta
9.	Indian Military Cemetery	Taveta
10.	Commonwealth War Graves	Taveta
11.	The Taveta ACK Graves	Taveta
12.	Maktau Railway Station	Taita Taveta
13.	Maktau Picket Hill	Taita Taveta
14.	Maktau Indian Commonwealth War Graves	Taita Taveta
15.	Salaita Hill	Taita Taveta
16.	Mau Mau Memorial Site	Tana River
17.	Nzambani Rock Kyuluni	Kitui
18.	Ukasi Rock	Kitui
19.	Kino Caves (Kenyatta Caves)	Kitui
20.	Kariokor Cemetery	Nairobi
21.	Kaloleni Estate Streetscape	Nairobi

newly gazetted sites is the Kaloleni Social Hall where the late Jomo Kenyatta, Kenya's first president, and other key personalities convened social and political meetings.

Turkana Boy site also a national monument

In January 2015 the Cabinet Secretary also declared the Nariokotome palaeontological site a national monument. Popularly known as the Turkana Boy site, Nariokotome is situated in Lowangerak sub-location, Lokitaung Division of Turkana County.

The Turkana County government has already mapped the area as a cultural, historical and tourism site and erected a monument, a replica of the most complete early hominin fossil ever found. It was discovered by the famous Kenyan fossil hunter, Kamoya Kimeu, in that area in 1984, on a research expedition led by Dr Richard Leakey. The 1.6 million-year-old fossil skeleton is of a boy aged 8 - 12 years, hence the name 'Turkana Boy'.

New hippo ancestor fossil found in Turkana

Dr Frederick Manthi represented NMK recently in publishing peer-reviewed papers relating to palaeontological work in northern Kenya. The French-Kenyan research team announced the discovery of a new fossil ancestor for the modern-day hippo. These aquatic creatures were the first large mammals to colonize Africa, ahead of carnivores such as lions, or bovines.

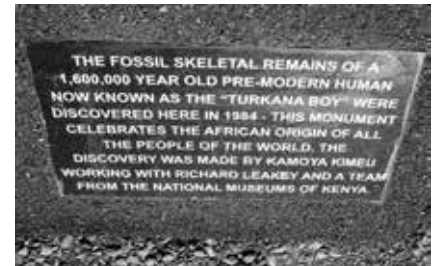
The fossils, including a half-jaw and several teeth, were discovered at Lokone in the Lake Turkana basin. The unearthed molars showed a distinctive three-leaf pattern (like a maple leaf), similar to the molars of the present-day hippo. The fossils indicate a new species dating back about 28 million years. The team named the species *Epirigenys lokonensis* from the word *epiri*, meaning hippo in the Turkana language, and with reference

to the Lokone area of discovery. Hippos were previously believed to have evolved from the *Suidae* family, which includes pigs and peccaries; however, research in the 1990s and 2000 showed that hippos actually share a common ancestor with cetaceans (whales and dolphins). The find fills a gap in the evolutionary journey of the hippo and was announced in an article published in *Nature Communications* on 24 February 2015.

Beaked whale fossil 740 km inland

Dr Manthi was also involved in the analysis of a 17-million-year-old beaked whale (*Ziphiidae*) fossil found in the west Turkana region. The specimen was found 740 km inland from the present-day coastline; it went missing from the Museum's collection over 30 years ago and was recently rediscovered. The find has implications for the changing landscapes of the East African plateau. The discovery indicates that there was a river in the area that connected to the Indian Ocean. Scientists believe the animal got trapped in a low-lying area and swam upriver by accident. Over time, ground between the river and the coastline lifted, cutting off the river from the sea.

The find constrains the timing of the uplift and climate change that occurred in East Africa and that radically changed the environment of the region from humid to arid, creating the open habitats that ultimately drove human evolution in East Africa.



The new monument to 'Turkana Boy' at the site where the fossil skeleton was discovered, with its first foreign visitors — field school students from the nearby Turkana Basin Institute. Photos from <http://www.turkanabasin.org/2015/03/early-tool-makersgeologists/>

The landscape at Lokone in Turkana where the fossil teeth of the extinct hippo were found. Photo from http://www2.cnrs.fr/sites/en/fichier/cp_hippo_ok_en.pdf



Recognition for HIV/AIDS researcher at IPR

Dr Gichuhi Mwatheru of the Institute for Primate Research (IPR) in Karen, Nairobi has won funding to help develop the first Kenya-made HIV prevention drug. Dr Mwatheru is one of 168 entrepreneurs across Africa selected to receive funding from the Tony Elumelu Foundation, which promotes African entrepreneurs.

Dr Mwatheru has been working on developing a gel that will prevent the transmission of HIV, thereby empowering women to take control of their own safety. The gel also shows promise as a contraceptive, being effective at killing sperm cells, and as a lubricant.

Dr Mwatheru's research has been published in the *African Journal of Reproductive Health* and other peer-reviewed journals.

Takwa national monument

The Takwa national monument, with interpretive displays for the public, was opened at the beginning of 2015. Originally gazetted in 1982, the Takwa ruins, located in the Shela area of Lamu County, are

Mosque wall within the ruins of the 16th century Swahili town of Takwa on the island of Lamu. Photo by Arthur Buliva, CC BY-SA 3.0.



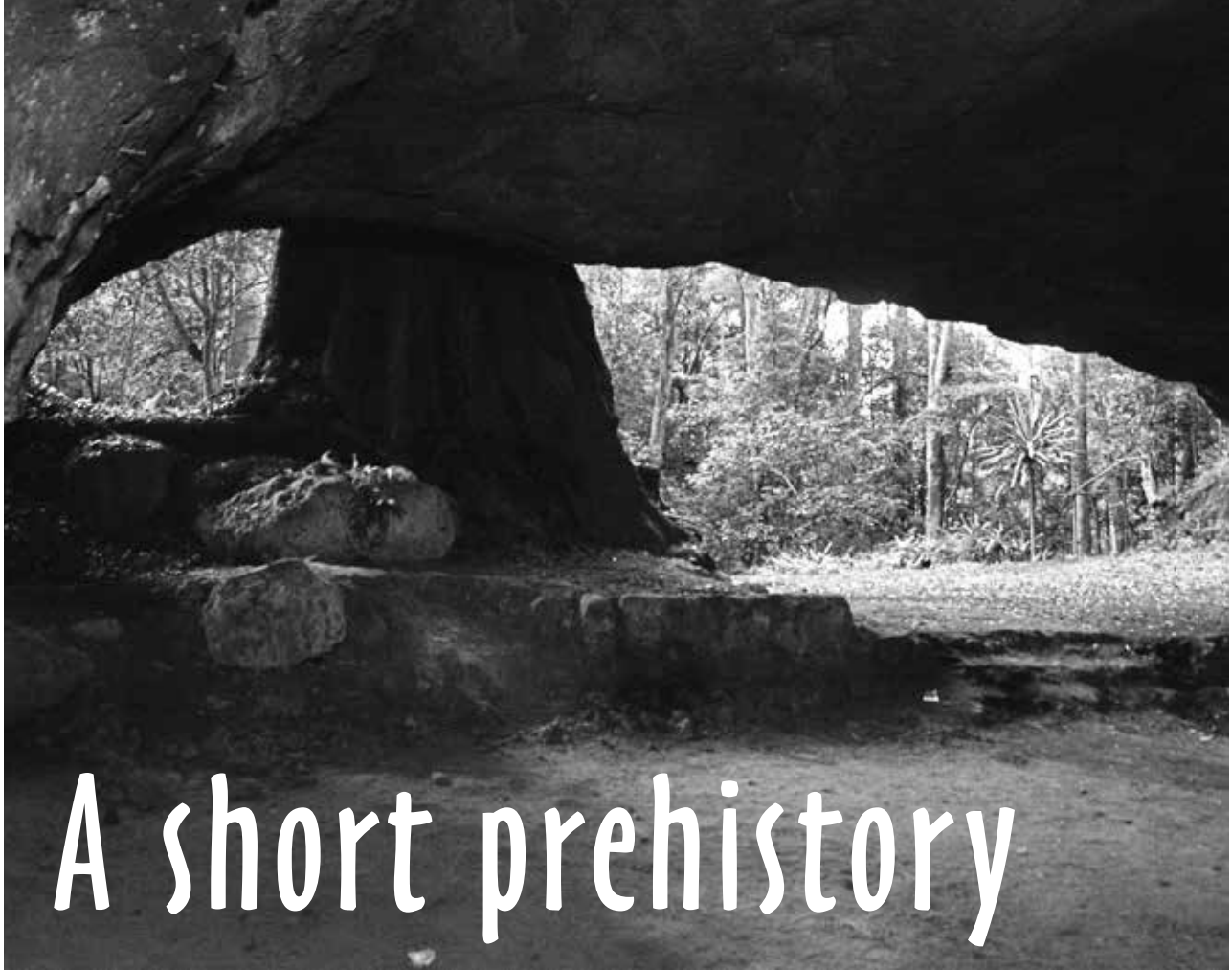
the relatively well preserved remains of a thriving 15th and 16th century Swahili trading town. The site has a unique Friday mosque with a large pillar atop the *qibla* wall that faces Mecca, among other notable features. The residents of Takwa abandoned the site in the 17th century due to salination of the water and endless conflict with the rival settlement of Pate.

Lamu Cultural Festival

The 14th edition of the Lamu Cultural Festival took place from 27 to 30 November 2014. Over 30,000 visitors, including tourists, attended. The four-day event is a celebration of the unique Swahili heritage of the Lamu Archipelago. Organised by the Lamu Cultural Promotion Group, the annual festival entertains and informs with traditional music and dance, displays of handicraft, competitions on water and land (donkey races, dhow races, Swahili poetry, henna painting), and a Swahili bridal ceremony.

The Lamu festival began in 2001 and is a celebration of Swahili heritage born of cross-cultural influences over 1000 years. The festival is a tribute to the people of the Lamu Archipelago who have continued to ensure the survival and integrity of their culture in the face of social, economic and political changes. Lamu is not only an exotic destination for tourists, but a UNESCO World Heritage site to be valued, respected and enhanced for future generations.

The main sponsors of the festival were the Kenya Tourism Board, the Ministry of Tourism, Alliance Française, National Museums of Kenya and the Kenya Airports Authority.



A short prehistory of Karura Forest

Angela W. Kabiru,
National Museums of Kenya

Nairobi residents today know Karura Forest as a popular leisure spot. However people have been living in and using the forest for thousands of years, as NMK archaeologist Angela Kabiru explains.

Looking from inside the entrance of the Mau Mau caves in Karura Forest, where archaeologists from the National Museums of Kenya carried out their excavations. Photo by H.Croze.

Archaeologists have long wondered about the once-extensive forest north of Nairobi. In 1941 Dr Louis Leakey was the first to record prehistoric occupation of the caves in Karura Forest. The archaeological material he collected included stone tools such as points, blades, burins, scrapers, crescents and cores. There were also potsherds, an ostrich egg shell fragment and some pigs' teeth. The record does not specify which cave the artefacts came from and no further research was carried out at the time.

In 1970 and 1971 Richard Gramly collected archaeological artefacts from sites within or near Karura Forest. One of the interesting collections from "rapids along Karura River where the river enters Karura National



Pieces of bottle glass flaked and used like stone tools, found by Richard Gramly in 1970. Photo by A. Kabiru.

Forest" consists of 39 pieces of bottle glass, eight of which show evidence of having been used as tools¹. The tools were made from broken pieces of coloured glass bottles and flaked in the same way that stone tools were flaked.

Other materials collected from this site include pottery, 1726 stone tools made of obsidian and quartz, 22 glass beads of the type used by the Kikuyu (19th and 20th century types), and one copper ring. Gramly dates these tools to the end of the 19th century and suggested that the makers could have been either the Kikuyu or Ogiek who were living there at the time. The 258 potsherds in this collection include pieces with decorations of roulette, simple incisions or finger channelling, an indication that different groups of people had lived here. Channelled pottery was made and used by the Kikuyu, while that with incisions is of the type believed to be used by the Ogiek.

The collection was made from an open site "on the flank of a small hill, approximately 10 metres above the river and about 20 metres from the bank". Gramly recorded that the site was under cultivation when he found it, and it is unlikely that it has

been conserved, and therefore may not be available for further investigation.

Gramly also carried out an excavation in one of the caves in Karura Forest in early 1971 and recovered stone tools, pottery, animal bones and teeth, wooden awls and sugarcane graters. Findings of the analysis of the artefacts were never published. He left a note saying that the article would be published in *Azania*, the journal of the British Institute in Eastern Africa, but it never was.

Karura Forest is however not generally known for its caves or archaeological artefacts. Gazetted as a forest reserve in 1932 when the colonial government set it aside as a source of fuel wood for the new Ugandan Railway, parts of it were degazetted in the 1980s and allocated to private companies for housing projects. These housing plans were opposed by the public and many demonstrations were held in support of conserving the forest. Prof. Wangari Maathai, the Nobel Laureate who started the Green Belt Movement, led women in planting trees to replace the fast-disappearing tree cover. There were many violent confrontations. The then President, Daniel arap Moi, criticised the protesters, and the University of Nairobi was closed down after sustained student protests. The land allocations were eventually revoked, and now the forest has been rehabilitated by the Friends of Karura Forest in conjunction with the Kenya Forest Service. Karura Forest is now transformed from what was once a hiding place for thieves and murderers to a secure recreational space with nature trails, picnic areas, bike tracks, and wildlife.

Some of the attractions of Karura Forest are the caves hidden deep within the forest, said to have been used for religious purposes until recent times. More than 50 years ago these caves were among the many hiding places of the Mau Mau freedom fighters

1 Gramly, R. (1970).

during Kenya's struggle for independence. Not much else is known about the caves before this period and this is why members of staff of the Archaeology Section of the National Museums of Kenya, at the request of Friends of Karura Forest, carried out some excavations inside the caves with the aim of establishing whether there is evidence of prehistoric habitation that could help in writing a comprehensive history of the forest for educational and conservation purposes.

Caves and rock shelters have been used since prehistoric times for a variety of functions and activities — as places of refuge, temporary living quarters, storehouses and shrines. They are perfect shelters from the wind and cold, and they were used for habitation long before people learned to build houses. In combination with fire, it became possible to keep out predators and some caves have evidence of human occupation spanning hundreds, if not thousands, of years. One major advantage of caves and rock shelters is that they preserve remains very well, and some of the best preserved archaeological artefacts have been found in caves. Rock art is also found in many of these prehistoric habitation sites. Caves and rock shelters have in the past and continue to be used as meat feasting sites by pastoralists such as the Maasai and the Samburu.²

Rock shelters and caves are also very suitable as burial places. There is little chance of the remains getting disturbed so their preservation is very good. Njoro River cave in the central Rift Valley of Kenya is a classic example of cave-as-burial. When the cave was excavated in 1938 by the Leakeys,³ it was found to contain about 80 skeletons that were partially burned, and it was therefore thought to be a cremation site. Not much is known about the 80 individuals found here, but they made or wore beautiful beads made of semi-precious stones. Human

remains have also been found in Rigo cave,⁴ Naivasha Railway rock shelter, Gamble's cave and Bromhead's site,⁵ all in the central Rift Valley, and Lukenya Hill⁶ in Machakos.

Several kilometres from Karura Forest near Kiambu town is the Mbai cave on Paradise Lost farm. The cave was excavated in the 1990s and found to contain stone tools and bones. It was also thought to have been used as a Mau Mau hideout.

Many caves in central Kenya were used by the Mau Mau as hideouts during the struggle for independence, especially those located deep within the forest, which was more extensive than it is now. According to information on the website <http://kikuyu.com>,⁷ Kiambu District south of River Chania was inhabited prior to the mid-19th century exclusively by hunter gatherers known as the Athi. They lived in the forested areas north and west of Nairobi, in Ruiru, Githunguri and the Karura Forest which stretched all the way from Pangani to Dagoretti. It is said that their last stronghold was where the National Museum now stands, and their territory was marked with beehives and animal traps.

The excavations

The objectives of the 2011 NMK excavation were to determine the archaeological potential of the caves and to understand their history of occupation. Excavations carried out yielded a large assemblage of lithic (stone) artefacts, bones and pottery. A preliminary analysis of these remains has helped to shed some light on the activities of the inhabitants in times past.

2 Gramly (1975).

3 Leakey, L.S.B. (1950).

4 Wandibba, S. (1983).

5 Leakey, L.S.B (1931).

6 Gramly, R. M. and G. Philip Rightmire (1983).

7 <http://kikuyu.com/eve/forums/a/tpc/f/308108348/m/3557096433>



An excavation trench being dug in one of the caves.
Photo by H.Croze.

The excavations were carried out in two caves facing each other with Karura River flowing between them. These excavations were carried out over a period of three weeks; two trenches were dug in cave one and two test pits in cave two. Trenches or pits are usually dug in units of one-metre squares and can then go as deep as the depth of the soil deposits or as required. Digging usually stops when basement rock is reached or the soil layers become sterile, i.e. the deposits do not contain any cultural material. Test pits are usually dug to establish whether there are any cultural remains in the deposits, after which a full excavation may be carried out. All of the pits in both caves yielded cultural material — stone tools (lithics), bones (fauna), pottery, charcoal and pollen — some of which have been analysed. Charcoal retrieved from a core in the swamp was used for dating, while the pollen and plant phytoliths were used to reconstruct the vegetation history of the area.

Stone tools

The stone tools found in the Karura caves belong to the Later Stone Age, comprising a diverse toolkit with many different tool types that are much smaller than those from earlier times. The tools are mainly made from obsidian, with a few from chert/chalcedony and quartz. The notable thing about obsidian is that its nearest source is the area around Lake Naivasha. Volcanic

obsidian rock is extremely common within and adjacent to the highlands of the central Rift Valley.⁸ Most of the obsidian used in prehistory was collected from the areas around lakes Nakuru and Naivasha, Mt Eburu and Hell's Gate.⁹ The presence of obsidian in Karura indicates the existence of complex exchange or trade mechanisms and the movement of people and goods over long distances. Obsidian was favoured as a raw material for tools because it is composed of fine crystals and so produces very sharp edges that can be re-sharpened. Obsidian tool types recovered in Karura include blades, scrapers and crescents.

Pottery

Pottery is one of the most important sources of information in archaeological studies. Different cultural groups can be identified by their distinctive style of pottery. Worldwide, ceramic similarities are used to model cultural contacts and identities among prehistoric populations not only because of their ability to provide cultural and geographical classification over time but also because of the abundance of information on many other aspects of prehistoric life.¹⁰ The pottery found in the Karura caves is both prehistoric and contemporary and includes Narosura pottery, also reported from the central Rift Valley, which is attributed to southern Cushitic people who herded animals; cord rouletted ware attributed to Nilotic speakers who also kept animals; and channelled pottery that was used by the Kikuyu. The different pottery styles show the continuous occupation of the caves by different groups of people over a long period of time.

The conclusion that Karura was occupied by different groups of people is supported by the evidence previously collected by Leakey,

8 Merrick, H. V. and F. H. Brown (1984).

9 Ambrose, S. H. A. (2012).

10 Sadr, K. (1998).

which is clearly prehistoric and also includes pottery. Gramly's collection is recorded as Late Stone Age and protohistoric, since it is a mixture of both prehistoric and contemporary tools and objects, some of which are identified as Kikuyu and/or Ogiek. According to oral history, the Athi lived in this forest until they were pushed out or assimilated by the Kikuyu; cultural remains in or near the forest attest to Kikuyu occupation in the recent past.

The area has therefore been occupied by hunter gatherers (such as the Ogiek today), pastoralists who kept domestic animals (such as the Maasai), and then by the Kikuyu who are farmers and smelted iron. Hunter gatherers live in forests, set traps for wild animals and harvest beehives for honey. Pastoralists keep many animals as their main source of livelihood and usually move from place to place in search of grazing land; in the dry season they move higher and deeper into the forests and back to the plains in the wet season. Farmers on the other hand are sedentary; they grow crops, but also keep a few animals for milk and bride wealth. Bantu groups such as the Kikuyu and Wakamba are farmers. There is however a lot of trading and intermarriage between these groups of people, and sometimes it is difficult to ascribe a certain object to a specific group of people.

Bones

The faunal remains found consist of domestic and wild animals, both of which may have been used for food. Large animals such as buffalo, bushbuck and reedbuck lived in the forest at one point in time. The presence of large mammals indicates that the forest was much larger than it is today and also that there were micro-environments supporting aquatic animals such as reedbucks. Smaller bovids such as duikers and dikdik were also present, but no monkeys were found. One human tooth was recovered but this is not enough to say that the caves were used for burial.



Some of the obsidian used to make tools found in Karura may have come from sources around Lake Naivasha, suggesting well-established trading networks. Photo by A. Kabiru.



The different styles of pottery found indicate that the caves were inhabited by different groups of people over a long time period. Photo by A. Kabiru.



Bones from a variety of large mammals are proof that the forest was once much larger than it is today. Photo by H.Croze.



Sifting excavated earth in search of fragments of pottery or bone. Photo by H. Croze.

Vegetation

Analysis of pollen from sediments in the caves and from the swamp shows that 1600 years ago the area had considerably less tree cover with more open grasslands; this situation has gradually reversed and now there are more trees than grasses and shrubs. Open grasslands are ideal for grazing and it is therefore not surprising that the remains of domesticated animals have been recovered.

Data indicates that until about 300 years ago the main vegetation cover was grasses and herbaceous plants, and that aquatic plants were a big component of total vegetation cover. This gradual change in climate is also reflected in the different species of animals living at different times and, by extension, would also influence the kind of economic activities the human populations were engaged in. Expansion of the forest meant that it was possible to support a larger number of animals, which hunter gatherers would have hunted for food.

The coming of the Kikuyu into the highlands is thought to have contributed to the shrinking of the forests when they cleared the land for cultivation. The fact that Kikuyu artefacts have been found very close to the forest indicates that they have lived here for some time and that the land was favourable for farming. Caves in the forest would have

then been used for religious purposes and when the Mau Mau war broke out most of the known caves were used as hiding places. Most of the land around Karura Forest is still used for subsistence farming.

Further analysis of the artefacts and pollen is ongoing and will shed more light on the environmental dynamics of Karura Forest and its environs.

Karura Forest is an important resource for the city of Nairobi and the surrounding areas. It is home to several species of wildlife, including the recently re-introduced colobus monkey that is endangered elsewhere. It is hoped that the animal population will gradually increase now that hunting has been controlled. The forest is also home to many indigenous woody and herbaceous plant species that are important to local communities and also help to maintain the delicate balance necessary for a healthy forest.

Forests act as carbon sinks for urban environments and, with Nairobi expanding so fast, the role of the forest cannot be underestimated. It is clear that Karura Forest has a long history. It is important for us all to understand the importance of the forest, the history of the caves inside it, the role it has played in our history, and strive to conserve it for future generations.

Note: The findings of the analysis are presented here only in overview because some of the work is still ongoing. The detailed findings will be published in 2015.

Acknowledgements

Thanks go to Dr Purity Kiura, who was in charge of the excavation project, and to the researchers who also participated in the excavation and analysed the data — Dr Emmanuel Ndiema (lithics), Dr Freda Nkirote (pottery), Dr Christine Ogola (bones) and Rahab Kinyanjui (pollen). Their provision of data analysis provisional results is much appreciated.

Appreciation also goes to Harvey Croze of *Friends of Karura Forest* for the use of additional photographs.

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Bibliography

- Ambrose, S.H.A. (2012). "Obsidian dating and source exploitation studies in Africa." In Liritzis, I. and Stevenson, C. (eds.) *Obsidian and ancient manufactured glasses*. Albuquerque: University of New Mexico Press, p. 57-72.
- Gramly, R. (1970). "Tools of Bottle Glass from near Nairobi." *Azania* V, p. 179-182.
- Gramly, R.M. and G. Philip Rightmire (1983). *A fragmentary cranium and dated later stone age assemblage from Lukenya Hill, Kenya*. *Man* 8 (4), p. 571-579.
- <http://kikuyu.com/eve/forums/a/tpc/f/308108348/m/3557096433>
- Leakey, L.S.B. (1931). *The stone age cultures of Kenya Colony*. Cambridge: Cambridge University Press.
- Leakey, L.S.B. (1950). *Excavations at Njoro River Cave*. Cambridge: Cambridge University Press.
- Merrick, H.V. and F.H. Brown (1984). "Obsidian sources and patterns of source utilization in Kenya and Northern Tanzania: Some initial findings." *African Archaeological Review* 2, p. 129-152.
- Sadr, K. (1998). "The first herders at the Cape of Good Hope." *African Archaeological Review* 15 (2), p. 101-133.
- Wandibba, S. (1983). "Excavations at Rigo cave in the central Rift Valley, Kenya." *Azania* XVIII, p. 81-92.



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The memorial to
Mekatilili wa Menza
in the centre of
Malindi.



Mekatilili, Giriama hero

Celia Nyamweru

How did a simple village woman born over 100 years ago become a hero and leader of her people? Anthropologist Celia Nyamweru examines the stories around Mekatilili wa Menza and what she means in Kenya today.

In a square in the centre of Malindi stands a small barred shelter. For several years after it was built in 2010 there was no label or signboard to identify the shrouded figure inside. In August 2014 a plaque was erected in front of the shelter that tells something about the person commemorated — the Giriama hero Mekatilili wa Menza. In mid-August every year since 2004, celebrations have been held in Malindi and elsewhere to honour this woman. Many Kenyans know of her by name and a short outline of her achievements is part of the Kenyan primary school curriculum. She is occasionally referred to in local newspapers and a few books have focused on her remarkable life.

Still, many people remain ignorant about the details of her life, and some of the information published is simply wrong. She has been presented as a cultural heroine of her own coastal people, a national hero, the earliest Kenyan freedom fighter and an example to the Mau Mau independence movement. Though she came from a society and lived at a time when women played a limited role in community politics, she has been depicted as a leader, a strong woman and a role model for Kenyan girls and women.

But who was the *real* Mekatilili? Is it even possible to paint a realistic picture of a person whose period of public activity was over 100 years ago and who left no writings of her own? She was never photographed and the only written record of her speech is from a colonial official who was her opponent and hostile to everything she stood for. It is hardly surprising that people today feel free to create their own Mekatilili, sometimes to advance their own personal or community agendas. However, there are some hard facts collected from people who were old enough to have had personal knowledge of her. In this article I try to put together the story of the 'real' Mekatilili, and also show how her image is changing as Kenyan history is written and rewritten.

We can be fairly sure that Mekatilili was born in the Giriama community of the north Kenya coast during the second half of the 19th century; the most important public events of her life took place in 1913, and she probably died in the 1920s. We know that she married and had children; indeed, in the Giriama language her name means 'Mother of Katilili'. However there is nobody alive today who had direct personal contact with her so to reconstruct her life we have to rely on indirect sources, both written and oral.

Mekatilili in the literature

In the late 1960s and early 1970s, two scholars collected oral narratives about Mekatilili and her key role in the Giriama uprising of 1913-1915. A.J. Temu, then a lecturer in history at the University of Dar es Salaam, sent two of his Giriama students to collect oral traditions during their 1968-69 vacations. Temu also made use of colonial records in writing his chapter on 'The Giriama war 1914-1915' that was published in 1972.

Cynthia Brantley, an American historian who did fieldwork on the Kenyan coast between October 1970 and June 1971, interviewed 94 local (mostly Giriama) informants, of whom 13 were women. Together with her research assistants she also interviewed a group described as the 'Kayafungo elders'. Brantley also made much use of the relevant colonial records in writing her Ph.D thesis, and in her subsequently published book and book chapter.¹ Older informants at the time of Temu and Brantley's field interviews would have been teenagers or young adults at the time of the critical events of 1913 and, depending on where they were at the time, their accounts of Mekatilili may indeed have been based on direct personal experience.

Other people who have written or spoken about Mekatilili more recently also cite various oral sources. Rebecca Njau and G. Mulaki, in their book *Kenya women heroes and their mystical power* cite an interview with "Mzee Elija Kalume of Jilore in Malindi District who says he knew Me Katilili and lived with her for a month as a young boy". Elizabeth Ndua in her book *Mekatilili wa Menza: Woman warrior* thanks Reuben Kombe of Kaloleni for sharing his memories of Mekatilili with her.

1 Brantley (1973, 1981, 1986).



The author and MADCA officials next to the statue of Mekatilili in the memorial shelter in Malindi.

People now living at the Kenya coast may have heard stories about her from older family members. For example Joseph Mwarandu, a Giriama lawyer based in Malindi, told me that “Mekatilili is not a new subject to me particularly because my grandmother lived at the time when Mekatilili was alive and she lived at Garashi, and during the Giriama uprising she was a girl so she used to tell me about Mekatilili right at the time I was a young boy. But it didn’t occur to me that this was a very important person ...”

Mwarandu and his colleagues in the Malindi District Cultural Association (MADCA) have played an important role in bringing Mekatilili and her activities to wider recognition over the last 10 years or so. When I interviewed him in 2009, he told me how he and his colleagues sought out oral narratives about Mekatilili in preparation for the first festival organised by MADCA in August 2004:

“We were asking [the] members of our organisation; anybody who has information about Mekatilili wa Menza. Now luckily we got very close members of the Mekatilili family in our organisation. So they told us everything, they said okay, this one was born here, and her brothers were so and so and you know, where she got married and eventually where she died. That is how we got to know the site. So we reached both families, where she was born and where she was married, yes.”

Today young Kenyans from all over the country are likely to learn about Mekatilili from school textbooks; she is included in both the primary and secondary curricula. In the curriculum for Primary Standard 5 Social Studies she is included in Unit 5 on the topic ‘Contribution of prominent leaders in traditional Kenyan societies’. In the short pieces about Mekatilili in some of the Standard 5 textbooks published between 2011 and 2013, she is described as: “A brave lady from Kaloleni who administered oaths”² ... “A prophetess who administered oaths, and a military and political leader”³ ... A “heroine of the Agiriama who developed leadership qualities when young”⁴ ... “A fearless woman ... she represents the women who played a key part in the fight against colonial rule in Kenya”⁵ and as a person who “...organised and led the Giriama to rebel against the British”.⁶ The Giriama resistance to colonial rule and the activities of Mekatilili in this context are also included in the curriculum for Form 3 History and Government, in Unit 17 on the ‘Establishment of colonial rule in Kenya’.

Mekatilili has also featured in other books written for various audiences. *Kenya women heroes and their mystical power* published by Njau and Mulaki in 1984 was written for adults and presents the life histories of Mekatilili and nine other notable women, introduced as ‘an attempt to put on record Kenya women’s achievements in traditional society’. Two authors have written about Mekatilili for younger audiences. They are Elizabeth Orchardson-Mazrui and Elizabeth Ndua. Orchardson-Mazrui’s book entitled *The adventures of Mekatilili* was published in 1999 and Ndua’s *Mekatilili wa Menza: Woman warrior* the following year. The name of Mekatilili also crops up quite

2 Kenya Literature Bureau (page 132).

3 Oxford (pages 138-139).

4 Longhorn (page 127).

5 Jomo Kenyatta Foundation (page 81).

6 Longman (page 154).

frequently in Kenyan newspaper articles, particularly around the time of the annual cultural festival in August or the celebration of Mashujaa Day on 20 October. Overall, there is quite a lot of information available about her, though details are lacking and some of the information may be inaccurate. Interviewed in 2009, Joseph Mwarandu told me that “basically all the Giriamas know about Mekatilili...[but] what she did, where she was born, and what role she played in this country — they do *not* know”.

The three versions of Mekatilili

Looking over what has been written about her, several approaches to telling her story appear, as different writers and speakers emphasize contrasting aspects of her life and legacy. In studying Mekatilili over recent years, I have identified three different interpretations of her. Put briefly, these versions of Mekatilili are ‘the strong woman’, the ‘heroine of Giriama culture’ and ‘the first Kenyan freedom fighter’.

Mekatilili, the strong woman

Several accounts of Mekatilili focus on her role as a strong woman at a time and in a place when women were generally not active in public community life. As early as 1973 a Standard 4 history textbook by Mr Osogo described Mekatilili as “a great woman, a prophetess, a brave woman who united the Wagirama against the British” and “a courageous woman who wanted her people to be free”. Njau and Mulaki describe her as a woman of strong personality who “had power to order women to go round collecting fowls and goats to be eaten by the elders of the *Kaya* and the medicine men and no one dared turn down any of her requests”. Orchardson-Mazrui introduces her book as “an imaginary story about an eleven year old girl ...named after a real Mijikenda woman ... Mekatilili wa Menza”.

The story is set in the late 19th and early 20th centuries and describes Mekatilili’s early childhood, her kidnapping by men working for white missionaries, her escape and her return home. While describing ‘traditional’ Giriama society vividly and respectfully, the author also depicts her heroine as questioning some of its gender-specific practices. And linking the fictional Mekatilili to the historical figure, towards the end of the book the young girl says to a girl friend: “Who says that boys and men are the only people who can be leaders? I know that nothing will stop me from becoming a leader”. Ndua’s book includes many references to Mekatilili’s independence, anger, strength and spirit, but at the same time demonstrates Mekatilili’s respect for Giriama tradition in the account of her preparation for marriage. Ndua describes the young woman as “not entirely happy” and wishing she could choose her own husband, but submitting to the customs of the Giriama as she prepares to marry the man identified for her by her parents.

In Kenya, recent references to Mekatilili in daily newspapers continue to present her as a ‘superwoman’, and praise her as a “woman who stood where men trembled”⁷ and a “woman warrior who feared no man”.⁸ In all this, her heroism emerges from her manlike qualities. Reflecting on her role, Mwarandu commented that:

“Well, she must have been a very special person, I think. Because she was charismatic, and she had all the qualities of a good leader, and people used to listen to her — despite the fact that [for] the Giriamas at that time it was very difficult for them to listen to a woman because of gender differences... I think there is a story in Giriama that she didn’t care a lot about what that [accepted gender roles] meant. She never gave up to what I call the supremacy of men.”

7 Kareithi (2012).

8 Otieno (2012).

Because, I think it was at the time when she was very active, she would come to your home and talk to the head of that household and ordered them to carry things for her. For example, if she had been collecting vegetables and so forth in a basket, she would come to your home, she would order the man who is in charge of that home, to carry that basket to wherever she went and many never dared to say no. This is a story that all the Giriamas know".⁹

Mekatilili, the cultural hero

Mekatilili has also been presented as a strong supporter of traditional Giriama culture, and this is shown as providing much of the energy for her campaign against the British colonial forces. Cynthia Brantley's book contains a number of references to this. She points out that Mekatilili expressed a desire for a return to the 'traditional' Giriama governance system and thus the need for resistance to the authority of the British-appointed headmen; she "directly accused headmen of being traitors to the Giriama in order to get rewards".¹⁰ Mekatilili expressed "anguish over the growing disintegration of Giriama society [that] led her to try to convince others to do something about it".¹¹ Seeing the Europeans as a disruptive threat, she "wanted a revival of the *kaya* and the traditional *kambi*, a return to the many customs which had been 'spoiled' and an absolute rejection of British demands for Giriama labour".¹²

Tsawe-Munga wa Chidongo, a Mijikenda scholar, expresses a similar point of view: "What concerned [Mekatilili] most was that the Midzi-chenda [Mijikenda] codes of socio-political stability, economic foundations and religious potentiality were being undermined and uprooted".

We have only one source which may represent Mekatilili's own words. This is a report by Arthur Champion, the colonial officer in charge of the Giriama at the time of the uprising, dated October 1913 and entitled "October report on the present condition of the WaGiriama".¹³ This includes a statement purported to be by Mekatilili wa Menza herself after she was arrested by the colonial authorities that month. Here is an extract from the handwritten English text, apparently written by Champion himself and 'signed' with Mekatilili's right thumbprint:

Statement made by the woman Menyazi wa Menza alias Katalili before me and at her own request

The rains last year failed & in Mangea and Goshi there was no food. I heard that the rains had failed on account of the introduction of cents & rupees into the country. I went to Ngonyo to ask if this was true. He told me it was not so. Ngonyo said the departed spirits (koma) of the Kaya Giriama are destroying the country. I called together the women and each woman brought a pishi of mahindi [maize] which was exchanged for two male goats. One was sacrificed at Marafa and the other on the second day. Ngonyo examined the entrails and said that the evidence showed that the "koma" was to blame and not the European. I with many others went to the Kaya Giriama in consequence. Women from Gallana and Mangea went but men only from Weruni and Birria.

At the kaya all the women brought maize and exchanged it for four black sheep. The elders and all walked round the kaya with the sheep and then sacrificed them in the "moro". Mzee Pembe was present. We then cooked the meat & ate it with wimbi.

Then the men said that in these days the women wore very short kilts and in consequence there

⁹ Mwarandu (2009).

¹⁰ Brantley (1981: 85).

¹¹ *ibid.* (87).

¹² *ibid.* (87-88).

¹³ KNA: CP 5/336-1.

was much immorality. A woman would accept as much as four rupees for payment and then another day would be content with twenty five cents. The men therefore directed the women to make a spell which would seize and kill any woman who in future accepted more than twenty five cents. The woman took the witch medicine and when she reached her country threw it away. She has since died seized by the spell.

I have no more news now I am cultivating my fields.

Read over and declared to be in accordance with the truth: Arthur Champion.

(Right thumb of Menyazi wa Menza alias Katalili. Garashi: Oct. 17th 1913.)

Certainly in this document the emphasis is on the loss of elements of Giriama tradition. Still, we may question whether this is really what Mekatilili said, or all that she said. We must also recognise that this document was recorded by a man who was hostile to everything that Mekatilili was fighting for, and who presumably had to hear and write down her words through an interpreter.

Mekatilili, the freedom fighter

The third interpretation of Mekatilili that I recognise is as a nationalist hero and ‘the first Kenyan freedom fighter’, as exemplified by the following quotations: She “not only ignited the spirit of freedom fighting within the Midzi-Chenda community, but also through her patriotic will and action, activated other Kenyan communities to emulate her inspired example”.¹⁴ She was “the first person to take part in Kenya’s Independence struggle”.¹⁵ She “led a daring combat against the British rule from August 13, 1913 and sustained the fight against the super power for a year” and her rebellion is said to have “later inspired other groups

such as the Mau Mau”.¹⁶ It is probably a bit of a stretch to identify Mekatilili as the first person to take part in Kenya’s independence struggle, which is to ignore the role of earlier resisters such as the Kikuyu chief Waiyaki wa Hinga (who died mysteriously in British captivity in 1892) and the Nandi political and ritual leader Koitalel arap Samoei (who was killed by the British officer Richard Meinertzhagen in 1905).

We cannot know whether Mekatilili herself had any vision of ‘Kenya’ as such, at least prior to her exile in Kisii following her arrest in October 1913. And given the many reasons that led to the Kikuyu uprising in the 1950s, popularly known as Mau Mau, we might doubt that Kimathi and his fellows in that struggle needed the inspiration of a woman’s actions 40 years earlier and in a community that had very few direct links with the Kikuyu. However it can certainly be recognised that several of the issues that Mekatilili campaigned against were to stimulate resistance in later decades in other parts of Kenya, while some were more specific to the Giriama in the early years of the 20th century.

Like the Mau Mau, Mekatilili was bitterly opposed to the colonially-appointed chiefs and headmen, and in particular to their role in labour recruitment for public works and settler plantations. According to Brantley “she wanted to prevent Giriama men from labouring for the British”¹⁷ while the colonial officer Arthur Champion provided details of her words to a meeting of Giriama “[she] told them that the government headmen had received each 1,000 R to sell young men to the Europeans, that the Europeans would send them over the sea and they would be sold as slaves and never see their native land again”.

14 Chidongo, B.M.

15 Mwarandu (n.d.).

16 Beja, *The Standard*, 26 August 2010.

17 Brantley (1981: 85).



Above:
Traditional Giriama
dance groups give
the Mekatilili Cultural
Festival its special
character.

Below:
At Bungale, Mekatilili's
burial site, a small
shelter displays
traditional grave
markers.

Other reasons for Giriama resistance to colonial policies in the early 1900s included taxation, attempts to control trade in palm wine and ivory, and fear that the British

were taking over land in some areas. Mekatilili was energetic in stimulating resistance to these policies. Brantley describes how she played a major part in a key meeting held in Kayafungo, the ritual centre of the Giriama, in July and August 1913, where she “led the discussions and [she] complained first about labour demands and then about the jurisdiction of the traditional elders being undermined. She

indicated that vital customs were being spoiled and that wages which headmen received gave the government the belief that they could demand labour”.¹⁸ She further added “we are not to fear the Europeans”. The meeting concluded with the swearing of powerful oaths that effectively prevented all Giriama from cooperation with the colonial administration, another possible point of comparison with the strategies adopted by Mau Mau in establishing and maintaining loyalty.

Mekatilili today

Whether or not Mekatilili was a direct inspiration to the Mau Mau in the early 1950s, her name has certainly been used more recently to encourage commemoration of the struggle for independence and also

of ongoing campaigns for human rights in post-independence Kenya. In inviting participation in the annual Mekatilili Cultural Festival the organisers have over the years since 2004 deliberately sought out former freedom fighters and representatives of their organisations, as well as other individuals active in human rights issues. For several years (most recently in 2014) Mzee Gitu wa Kahengeri, Secretary General and spokesman of the Mau Mau War Veterans Association, has attended the festival with several of his members. Other human rights activists who have attended include Zarina Patel in 2009.

Mekatilili's image is by no means static; it continues to evolve under the devolved constitution that Kenya adopted in 2010. She has gained increasing national attention as a *shujaa* or hero, in particular since the establishment in 2010 of the first Mashujaa Day under the new Kenya constitution, the day on which the Mekatilili statue in Malindi was installed. A *Daily Nation* story headed ‘Mekatilili takes place of honour’ includes a photograph of the figure and describes the event:

A ceremony to honour Giriama heroine Mekatilili wa Menza dominated proceedings in Malindi yesterday. A statue was unveiled at the former Uhuru Garden of the woman who led the Giriama uprising against the British in 1913 and 1914. The garden was named Mekatilili wa Menza Garden in her honour. The celebrations continued overnight at the Madica Centre (Malindi District Cultural Association). In the morning, members of Madica and guests from Galana, Weruni and Godoma gathered at the Malindi Museum for a procession on Beach Road. The procession ended at Mekatilili wa Menza Garden where the statue was unveiled.¹⁹

There is now increasing national emphasis on a wide range of heroes and heroines of pre-colonial and colonial times, and

18 Brantley (1986: 340).

19 Robert Nyagah, *Daily Nation*, 21 October 2010.

Mekatilili is frequently cited together with figures such as Koitalel arap Samoei and more recent political leaders. One example of such rhetoric is an article entitled “It’s time we all raised our voices to assert that we are proudly Kenyan”:

*This is a call for you to take up figurative arms and defend the Kenyan dream. The dream that Koitalel wa Samoei was beheaded for. The dream Dedan Kimathi gave up his life for. The dream espoused by Jomo Kenyatta, Oginga Odinga, Pio Gama Pinto, Mekatilili wa Menza and Tom Mboya. The dream of a nation; proud, great and strong ...*²⁰

The new constitution, through the policy of devolution, has created counties with considerably enhanced powers, compared to the districts that were part of the more centralised government inherited at independence in 1963. Mekatilili is possibly the most notable historic figure of Kilifi County; how may devolution change the way in which her story is told? It is early days yet to come to any firm conclusions on this interesting question, but we can at least look at the changes in the annual celebration in her honour, the Mekatilili Cultural Festival. This event was initiated by the Malindi District Cultural Association in August 2004 and it has been held every year since then. It has included events in Malindi town and at Mekatilili’s burial site, Bungale, beyond Marafa. From 2004 to at least 2012 it seems to have relied mostly on funds raised from local businesses and NGOs. The last two years (2013 and 2014) the situation has been rather different.

I attended both these festivals and noticed that while the basic outline of events (beginning in Malindi and concluding at Bungale) remained much the same, there were some interesting developments. In 2013 participants gathered at the Kilifi County Assembly headquarters for speeches and prayers before a procession to the



central square and the Mekatilili statue. In 2014 there were also events on the beach of Malindi Marine Park, with the deputy governor of Kilifi County as guest of honour, as well as the unveiling of the Mekatilili statue that is done every year. The role of the traditional dance groups that make up the majority of the members of the Malindi District Cultural Association remains very important, and in 2014 Kilifi County provided a brand new, sparkling clean garbage truck (as well as several rented school buses) to transport them between venues.

The majority of the participants in the three days of the festival continue to be relatively humble Giriama, men and women, members of traditional dance groups, and their enthusiasm and energy are what give this festival its special character. It is still very much a celebration of indigenous Giriama music, dance and dress. At Bungale there are traditional grass-thatched houses and a small shelter displays examples of the traditional grave markers.

At the same time other influences are creeping in; in 2014 three young women were present at Bungale, the winner and two runners-up in the Miss Kilifi beauty pageant that was part of a Kenya-wide event. In both 2013 and 2014 a considerable amount of time was taken up in waiting for political leaders (including the Kilifi

Political overtones: In 2013 the Mekatilili Cultural Festival began with participants gathering at the county headquarters.

20 Jasper Mbiuki, *The Standard*, 24 February 2013.

county governor) to arrive and then with the necessary introductions and speeches. Friends who attended the Rabai new year celebration in October 2014 commented that compared to earlier years, much time was spent in waiting for political leaders to arrive. There is certainly a risk that community-based cultural events will be taken over by local political elites to serve their own ends. This is particularly the case as the new county governments seek both to raise income for their counties and to strengthen their own positions as community leaders.

Despite decades of tourism development, many of the people in Kilifi County (as indeed in other coastal counties) still lead harsh lives. Incomes are low and people suffer from poor health, malnutrition and lack of access to basic services such as clean water, roads, healthcare and education. These issues may not be exactly the same as those that engaged Mekatilili over a century ago, but the overall situation is such that the inspiration of Mekatilili as a heroic leader against injustice and repression still has powerful resonance.

PHOTOGRAPHS BY THE AUTHOR

Acknowledgements

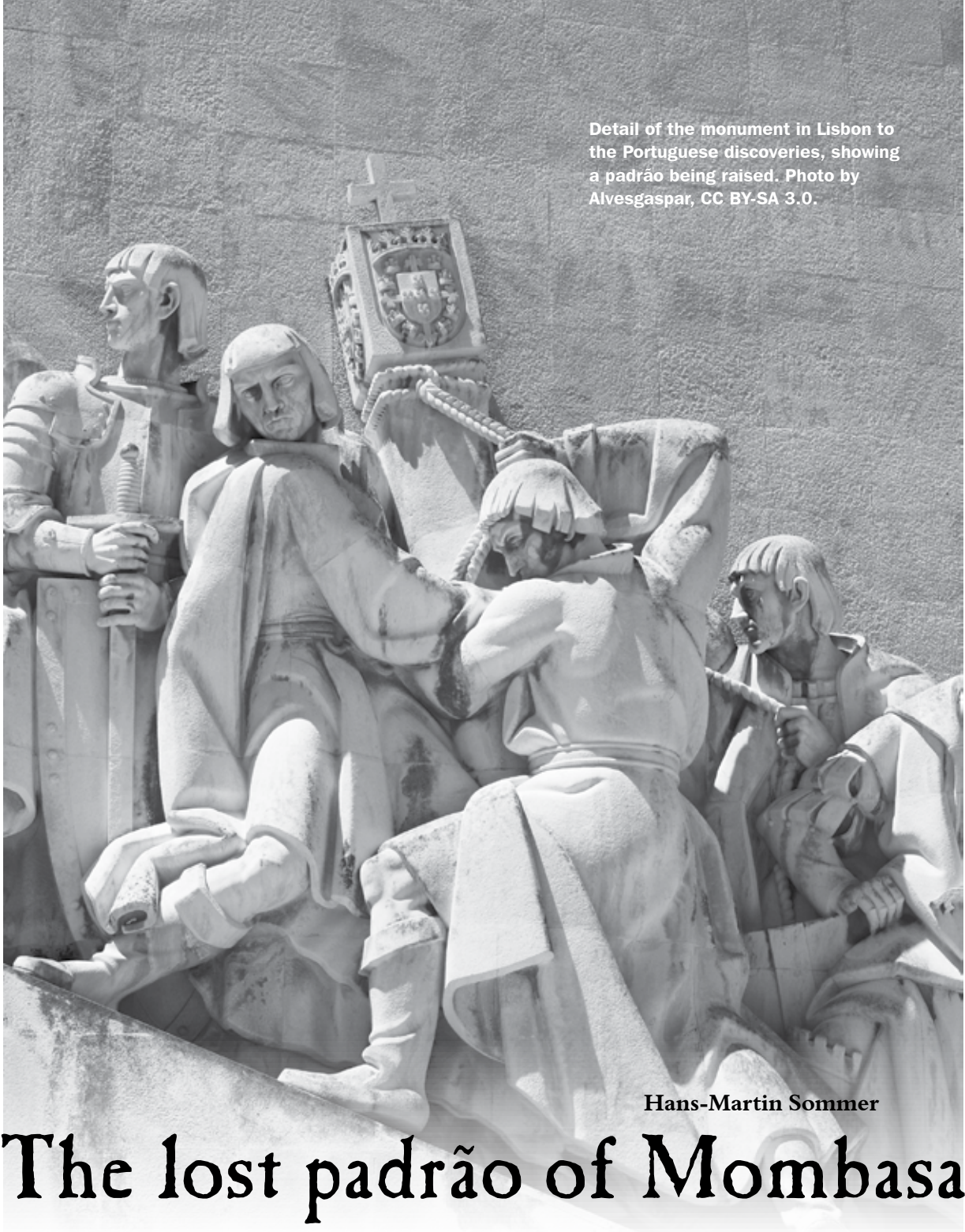
I wish to thank all who have contributed to my knowledge of Mekatilili: fellow scholars of coastal culture (Cynthia Brantley, Neil Carrier, Tsawe-Munga Chidongo, Linda Giles, Kaingu Kalume Tinga, Monica Udvardy and others); community leaders and activists (Joseph Mwarandu, John Mitsanze and others). I also thank my Giriama women friends who have helped me dress in my *hando*; Ann and Ian Robertson for hospitality many times in Malindi — and my husband Njuguna Mwangi for companionship and support on our visits to Kilifi County.

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References

- Beja, P. (2010). "Honouring a woman of war." *The Standard*, 26 August.
- Brantley, Cynthia [Smith] (1973). *The Giriama rising, 1914: Focus for political development in the Kenyan hinterland, 1850-1963*. Ph.D dissertation, University of California, Los Angeles.
- Brantley, C. (1981). *The Giriama and colonial resistance in Kenya, 1800-1920*. Berkeley: University of California Press.
- Brantley, C. (1986). "Mekatalili and the role of women in Giriama resistance." In D. Crummey (ed.) *Banditry, rebellion & social protest in Africa*. London: James Currey.
- Chidongo, T.M. (n.d.). "The role played by Mekatilili wa Menza in Kenya's independence struggle." Manuscript, 10 pp.
- Mwarandu, J. (2009). Interview with Celia Nyamweru, July 16.
- Mwarandu, J. (n.d.). "Role of Mekatilili wa Menza in the independence struggle in Kenya." Manuscript, 8 pp.
- Nation (2010). "Mekatilili takes place of honour." *Daily Nation*, 21 October.
- Ndua, E. (2000). *Mekatilili wa Menza: Woman warrior*. Nairobi: Sasa Sema Publications.
- Njau, R. and Mulaki, G. (1984). *Kenya women heroes and their mystical power*. Nairobi: Risk Publications.
- Orchardson-Mazrui, E. (1999). *The adventures of Mekatalili*. Nairobi: East African Educational Publishers.
- Otieno, Jeckonia (2012). "Woman warrior who feared no man." *The County Weekly: Kikwetu*, 19 - 25 March.
- Temu, A.J. (1972). "The Giriama War 1914-1915." In B.A. Ogot (ed.) *War and society in Africa*. London: Frank Cass.



Detail of the monument in Lisbon to the Portuguese discoveries, showing a padrão being raised. Photo by Alvesgaspar, CC BY-SA 3.0.

Hans-Martin Sommer

The lost padrão of Mombasa

Most people know of the pillar in Malindi put up by Portuguese explorer Vasco da Gama in 1499.

What is less well-known is that Mombasa also had its pillars, but what happened to them?

Marine archaeologist Hans-Martin Sommer went in search of Mombasa's lost *padrões*.

The history of the African coast is closely associated with the voyages of the early Portuguese seafarers and discoverers. Each voyage left its traces on African soil. The first is only a few hundred miles south of Portugal in today's Morocco — the monumental fortress *El Jadida* also known as *Mazagan*, which was built in the early years of the 16th century and features the largest water cistern on the African coast.



Vasco da Gama, who raised the *padrão* at Malindi, was the first European explorer to map the sea route to Asia via the coast of Africa. Photo: Public domain.

The traces left by Portuguese mariners can be followed through Ghana, Angola, South Africa, Mozambique and Kenya, up to Mogadishu in Somalia. Inseparable from the voyages of discovery are the names of the Portuguese commanders Vasco da Gama, Bartholomeo Diaz and Diogo Cão.

Bartholomeo Diaz was the first to round the Cape of Good Hope in 1486. His success ignited the interest of western Europe at a time when the overland trade links with the East Indies were blocked by the forces of the Ottoman Empire. A Portuguese expedition was the first to bring spices from India to Europe by way of the Cape of Good Hope in 1501. Portugal went on to dominate the sea trading routes to Asia via the African coast through most of the 16th century.

Padrão of Sunda Kelapa (1522), Indonesian National Museum, Jakarta. Photo by Hadiyana, CC BY-SA 3.0.



On their many voyages, the conquistadors carried columns and crosses of different shapes and sizes, all bearing the coat of arms of Portugal. Wherever the explorers landed on the African coast they erected the columns or pillars in a prominent spot on the shoreline using local stones or mortar carried on board their ships. Each column was topped by a cross.

The earliest known such monuments can be seen on the coasts of West and East Africa today and were set up during the first Portuguese expeditions. These columns or pillars with a cross on the top are described as *padrão*. [pl = *padrões*]

The word *padrão* cannot be precisely translated into English. The word 'cross' is often used, but it is an inadequate translation. Pillar or standard is more literally correct, but that also fails to convey the significance of the Portuguese word.

In shape the main feature of a *padrão* was a pillar, averaging some seven feet in height. These pillars that travelled with Cão showed a definite tendency to squareness, with chamfered edges. At the top of the column was a wider block. On the block were the coat of arms of Portugal and sometimes the personal emblem of the monarch. Often on the block, but more usually at the top of the column, appeared an inscription carrying words to the effect that the surrounding territory had been discovered by order of the King of Portugal.

Reasons for the raising of a *padrão* were diverse. The most essential was no doubt to prove that the explorer had reached the point he claimed to have reached, in case of questioning by the monarch or a jealous rival. The *padrões* also provided outstanding landmarks for later coasting vessels. Such landmarks were invaluable in an age before the introduction of exact methods of determining latitude and longitude, in an age when pilot books made anxious use of every prominent tree and bush and sand-patch.

But a *padrão* was even more than that. It was proof of the precedence of Portuguese discovery. The *padrão* was also obviously a symbol of Christianity — a symbol that was politic at a time when the Papacy was largely bankrolling a flanking attack on their Mohammedan rivals in the spice trade.

Following the tracks of the early Portuguese seafarers carries us further than the African coast. Vasco da Gama raised an inscribed pillar at Kappad Beach on India's Malabar

Coast in 1498. The padrão farthest away from the mother country was rediscovered in Sunda Kelapa, the old port of Jakarta, Indonesia, during construction work in 1918. It had been set up in 1522 as a monument to the friendship agreement between the Portuguese mariner Enrique Leme and the Sunda King. This padrão can now be seen in the National Museum of Indonesia.

Portuguese pillars in Africa

When King John II of Portugal revived the Atlantic exploration work started earlier by his famous great-uncle, Henry the Navigator, he sent the explorer Diogo Cão to open up the African coast further beyond the equator. This was in 1482. Cão made two voyages along the west coast of Africa, from Congo down to South Africa. He was the first European known to sight and enter the Congo River, and to explore the West African coast between Cape St Catherine and Cape Cross, almost from the equator to Walvis Bay in present-day Namibia. The mouth of the Congo River was discovered and marked by a stone pillar (still existing, but in fragments) erected at Shark Point. Cão also travelled upriver for a short distance and established contact with the people of the Bakongo kingdom.

He then continued down along the coast of present-day Angola (Portuguese West Africa) and erected a second pillar, probably marking the end of this voyage, at Cape Santa Maria. Cão was back in Lisbon by the beginning of April 1484, when John II ennobled him, made him a *cavalleiro* (knight) of his household and granted him an annuity and a coat of arms.¹

It is known that the explorer revisited the Congo and erected two more pillars beyond the furthest extent of his previous voyage,

the first at Monte Negro, about 200 miles south of Cape Santa Maria, the second near Walvis Bay, a place still known today as Cape Cross. This last padrão probably marked the end of Diogo

Cão's progress southward. According to one authority (a legend on the 1489 map of Henricus Martellus Germanus), Cão died off Cape Cross; but in the writings of João de Barros and others, he returned to the Congo, and took a native envoy back with him to Portugal.

The four pillars set up by Cão on his two voyages were all discovered *in situ*, and the inscriptions on two of them, from Cape Santa Maria and Cape Cross, dated 1482 and 1485 respectively, can still be read. The Cape Cross padrão was brought to Germany and can be seen in the Deutsches Technikmuseum at Berlin. Those from the Congo estuary and the more southerly Monte Negro are in the museum of the Lisbon Geographic Society.



The inscribed stone left by Diogo Cão in 1485 at Matadi to show he ascended the Congo River. The inscription reads: "Here arrived the ships of the enlightened King John II of Portugal – Diogo Cão, Pero Anes, Pero da Costa" (the latter being the names of his men). Photo: Public domain.



Left: An illustration of the pillar Diogo Cão erected at Cape Santa Maria (present-day Angola). From a book published by Cão in the 15th century.

Right: Replica of the pillar at Cape Cross in present-day Namibia. Photo by Rui Ornelas, CC-BY-2.0.

¹ http://www.theodora.com/encyclopedia/c/diogo_cam.html

The recovering of the *padrões*

We owe much of our information on Portuguese history in Africa to the South African researcher Prof. Eric Axelson. He dedicated his whole life to the exploration of the traces left by Vasco da Gama, Bartholomeo Diaz and other Portuguese explorers. Eric Axelson was one of the few experts in *padrão* research. In 1939 he made a successful survey close to the Cape of Good Hope. Axelson reports on it:

*In January, 1939, I made a thorough search for this padrão. On Cape Maclear, the westernmost point of the Cape of Good Hope, I found on the crest of a 260-foot cliff a cairn of heavy rocks that contained in the centre a hollow socket. This was 9 inches in diameter, and at the bottom were fragments of timber. It would be against all precedent for Dias to have raised a timber pillar. Malcolm Scott, the South African timber authority, found the timber to be of larch or spruce, and declared, 'Bearing in mind all the circumstances ... [especially a low rainfall and a cover of sand] ... it would not be impossible for timber under the condition in which the sample was found to have withstood complete disintegration for as long as 450 years'. It is just possible that this cairn may date to the time of Dias. But of course there is no proof at all.*²

Spurred by this success the researcher went on to discover further relics of pillars. Axelson describes the Portuguese history on the African continent in numerous books.

Many *padrões* were destroyed over the years. The causes ranged from religious conflict and the extraction of building material, up to treasure hunting. An example of the latter is a reported event from Mozambique:

Many were the stories of buried treasure. Often during Arab rebellions, when Portuguese families had to flee for their lives, they snatched a few precious moments to hide what they could, hoping to return

*later and retrieve what was left of their capital. Vasco da Gama's pillars were said to be raised over caches of jewels and gold. During the centuries, some of these pillars were thrown down and destroyed by treasure-hunters. Somewhere south of Mozambique, men from an English ship once found such a pillar, dug it out, and then started excavating through layers of guano. Their tools struck a box which they lifted out and opened. Lying in his coffin, his hands crossed upon his breast, his eyes wide open and looking straight at them with an expression of terror, was a Portuguese in the clothes of the sixteenth century. His body had been completely preserved by the chemical action of the guano. His hands were fine and long-fingered—not the hands of one used to manual labour. He lay staring at them with his dead eyes until the horrified English shut the coffin. They reburied it hastily and went away.*³

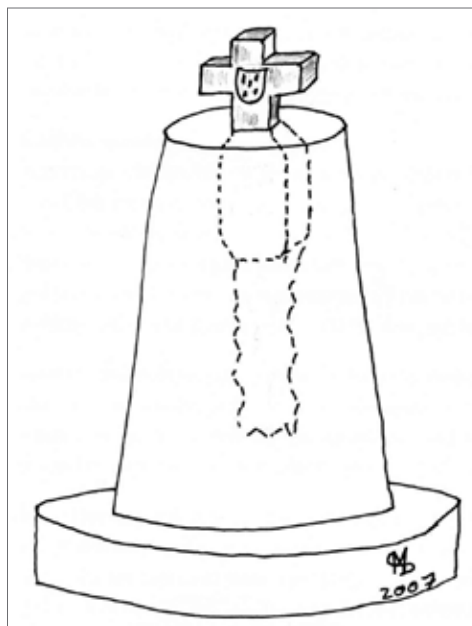
The Vasco da Gama pillar in Malindi

The best known and best preserved of the Portuguese pillars is situated in Malindi, about 110 km north of Mombasa.

During his first journey along the East African coast Vasco da Gama found himself not welcome in Mombasa because the news of his bloody atrocities in Mozambique (where he had bombarded the town) had preceded him. After a short stay at anchor, conflict with the local people flared up and he set his sails northwards to reach Malindi on April 14, 1498. A friendship developed with the king of Malindi, who became a faithful subject of the Portuguese King. Da Gama erected his *padrão*, a beacon with a cross bearing the coat of arms of the Portuguese king, on his return from India in 1499. It was later removed in 1501 by objecting Muslims. The Portuguese erected a replica later and

2 Axelson, E. (1973).

3 Green, Lawrence G. (1935).



Left:
The Vasco da Gama pillar
on the Malindi seafront.
Photo by H.M. Sommer.

Right:
Author's sketch of
possible cross-section,
showing the possible
remains of the original
pillar inside the more
recent concrete layer.

that survived, being set in concrete in the 19th century by a British naval captain to preserve it both for the sake of sentiment and as an aid to navigation, which was its original purpose.

The style of this pillar is uncommon in the history of the Portuguese pillars. All known padrões are slim columns with very few exceptions. It is highly possible that the column broke into pieces during the actions of the Muslims. The upper part could be the original cross and that is what was saved. The conical column is now the base for the original cross.

E.B. Martin mentioned that the British Captain Malcolm in 1874 “...saw that the shaft of the cross was heavily eroded and he was the one who built the cement cone around”.⁴

This theory can be proven only by a partial removal of the top concrete layer of the cone. It is possible that a square panel below the cross with inscriptions will be found, as shown in the drawing above right. The visible cross at the top of the conical base has

many layers of paint. It is only with a general cleaning and conservation of the sandstone cross that the truth about this padirão will be revealed.

Unfortunately, the column in Malindi is the only monument of its kind on the whole East African coast that has survived. Some original padrões were replaced by more or less good copies, e.g. the Cape Cross pillar in Namibia. A possible cross section of the Malindi pillar can be seen in the author's sketch.

The pillar in Mombasa

Since Vasco da Gama's first visit in 1498 until the second half of the 19th century, a pillar or padirão has been mentioned in all descriptions of Mombasa. This pillar with a cross stood at the entrance to the harbours of Mombasa — northward to the harbour of the Old Town and westward to Kilindini Harbour.

As mentioned, Vasco Da Gama spent a short time in Mombasa on board his ship in 1498 and a record of his visit gives a brief description of the town:

4 Martin, E. B. (1973).

Extracts from maps of Mombasa up to the 19th century, showing the Portuguese pillar on Mombasa Island.



Pedro Barreto de Resende's plan of Mombasa c.1634, from *Livro do Estado da Índia Oriental* (1646).



From a map of Mombasa made by the engineer Col. Jose Lopes de Sa, 1728.



Capt William F.W. Owen, 1822. From *Narrative of a voyage of discovery to Africa and Arabia, performed in His Majesty's ships Leven and Barracouta from 1821 to 1826*.

This city is a large one and is situated on a cliff on which the sea beats, and there is a port at which ships may enter. There is also a pillar at the entrance and likewise in the town. Close to the sea is a small fort. ⁵

These sentences contain more than one important piece of information: a pillar had been set up before 1498 and another pillar in the town was already there. Even the site is well described — today's Ras Serani.

Another source from 1505 gave different details:

Mombasa, like Kilwa, was looted and when the Portuguese had taken away as much gold, silver, ivory and provisions as they could carry with them the town was burnt and the attackers withdrew to continue their voyage to Malindi. No garrison was left in Mombasa but a column of white marble was erected as an indication that the land now belonged to the King of Portugal. ⁶

And this from *A journal of the first voyage of Vasco da Gama 1497 - 1499* by an unknown author:

The reference to the pillar at the entrance to the harbour is interesting and might be identified with a forerunner of the cross pillar or padrao claimed to have been erected in 1505 by Francisco d'Almeida on

Ras Serani. This one and the one in the town may have functioned as navigation aids to incoming ships. ⁷

Although this is one possibility, it seems quite doubtful that the second column in the town would have served for navigation. The depth of the water at the entrance to the harbour off the town was sounded during Vasco da Gama's first visit to Mombasa and was surely known by other Portuguese sailors and pilots who came afterwards. And even the exact location of this pillar close to the town is uncertain; perhaps the later-mentioned pillar at Fort Jesus could be a possibility.

But the important pillar was the one at the entrance to both Mombasa and Kilindini harbours. In all available contemporary maps this padrao is well visible, including its shape. The pictures above are extracted from different maps and give an impression of this pillar.

After analysis of the style of the cross-mounted pillar in these different charts, a similarity is obvious — even stretching over two centuries. The similarity is its shape: a conical or cylindrical base surmounted by a big cross, which must have been very impressive. No useful description survives.

5 Ravenstein, E.G. (1898), p.39.

6 Gray, J.M. (1957).

7 In: Freeman-Grenville, G.S.P. (ed.) (1962).

Only the cartographer Col. Lopes de Sa describes the structure in his accompanying key as a “cross serving as landmark for shipping entering the harbour”.

With the arrival of other European explorers at the beginning of the 19th century, an interest in Mombasa's history was aroused. Many of these early travellers had seen the cross at the exposed point at Ras Serani.

The German explorer Baron C.C. von der Decken, who had a strong interest in ancient buildings at Mombasa, saw that cross in 1860:⁸

Wenden wir uns zunächst südwärts, dem Kreuze zu, welches dem sich nahenden Schiffer vor Allem in die Augen fällt....., nach Süden zu gewahrt man eine kreuzgezierte Säule auf dem nächsten Vorsprunge. (Let us first turn southward towards the cross, which every approaching skipper cannot fail to see towards south, look for a cross-topped column at the edge of the next cliff)

An extract from *The English Pilot and Directions for Sailing to and from the East Indies* (1864) had this to offer:

Mombasa Island and the contiguous land are low and woody; a pillar on the east end of the island, or the flagstaff of the fort, may be perceived in passing...

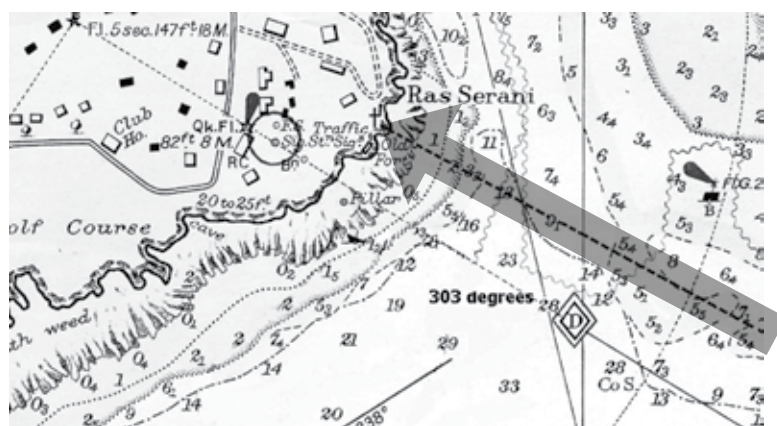
Charles New revisited the pillar site in 1874 and noted:

*... near to which stands a pillar till lately surmounted by a cross, a solitary relic of the Christian faith which prevailed here under the Portuguese. We remember pushing our way, five years ago, through the jungle of that part of the island to examine these remains. At that time the cross was there.*⁹

The report of C. New indicates that the pillar or the cross was removed in the early 1870s. Unfortunately neither paintings, drawings nor photographs were made of the cross/pillar at Ras Serani and over 140 years have since passed.

The first and the second world wars left their traces in this area in the form of bunkers, gun batteries and searchlight emplacements. It would appear another heritage object is gone forever.

Inspired by the success of Eric Axelson and his method of research the author made several inspections at Ras Serani. For an exposed structure such as the pillar-cross only two sites along the cliffs were possible. Because of its function as a landmark for incoming ships, one site could be ruled out. The other is marked with the cross on the harbour chart below.



The modern sea chart¹⁰ shows the entrance to Mombasa at a bearing of 303°, between the Leven reef to the northeast and the Andromache reef to the southwest. This channel is the only way to reach Mombasa and enter the harbours safely. Closer to the shore the captain of the ship must choose between Kilindini on the left or the town harbour on the right.

Extract from the Admiralty Chart 666. The cross marks the historic pillar site; the dotted line and arrow have been added for clarity. The pillar below the 303° line is a modern navigation feature.

⁸ von der Decken, C.C. (1871).

⁹ New, Charles (1873).

¹⁰ Admiralty Chart 666.

Only a few metres northward on this bearing line the author located a coral elevation, topped with a solid rock.

Some four or five steps leading to the rock show undoubted traces of destruction. The steps are not a natural formation and are partly overgrown with grass and small bushes. The first step was dug out in the 1930s and transformed into a ditch for a power cable that once served the nearby British WWII electric searchlight.

The probable site of the pillar-cross. Photo by H.M. Sommer.



In about 1904 the rock was more than double its present size. Proof for this can be seen in the contemporary photo below.



Ras Serani about 1904. The bigger size of the rock (arrowed) is clearly visible. Photo from NMK Archives.

Little remains of lime were found on top of the rock. It seems the rock was dug out from the surrounding coral. The approximate height according to the old photograph must have been more than two and a half metres at the time.

The navigation line marked above the modern 303° line in the navigation chart is the theoretical bearing to the former pillar. The difference between the lines is not of great importance because the depth south of the Leven Reef (8-10 metres) is more than enough even for the big ships of today.

Reconstruction of the Ras Serani pillar

The amassed facts about the pillar at Ras Serani and its surrounding environment make the given site highly probable as the location of the pillar or *padrão* seen in all the maps of Mombasa from 1634 onwards.

A reconstruction without the remains of the cross is difficult but not impossible. It is a well-known fact that the Portuguese mapmakers copied maps from each other. This explains the similarity in the maps of 1634 and 1728. The most recent sketch made by Owen in 1822 is likely more accurate than the stylised drawings of the Portuguese done earlier. This was the base for an experimental reconstruction by the author. The height would have been approximately 15 ft. or 4.5 m.¹¹



11 Author's own estimation, based on old photographs and contemporary measurements.

As mentioned earlier, Mombasa had more than one pillar. A further exploration of the literature on pillars is made below to complete the picture.

James Kirkman stated that a pillar existed outside of Fort Jesus;¹² he had found the base of this padirão during his excavations.

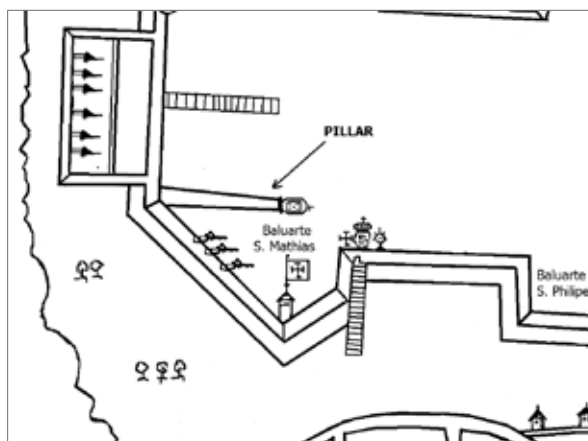
Outside the walls, the foundation of the padirão or pillar shown on the Teixeira plan also have been revealed with the cannon balls of Francesco de Moura's bombardment sticking in it.

This bombardment was in 1632 for the Portuguese re-capture of Fort Jesus from the Sultan of Mombasa and almost certainly the pillar was destroyed. During the rebuilding of the fort, the pillar-base was overbuilt. This happened in approximately 1634-36, the time when Resende illustrated his plan of Fort Jesus.

It is conceivable that the pillar was standing on top of the cliff even before Fort Jesus was constructed in 1593. The pillar would have lost its significance because the walls of the seaward-facing San Mathias Bastion and the *couraça* shield wall blocked its visibility. And so its duty as a navigation aid came to an end, the last padirão of Mombasa.

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Hans-Martin Sommer has an MA in marine archaeology and worked with NMK in Mombasa from 2005 to 2008 to set up a department of underwater archaeology. His article *The rediscovery of Makupa Fort* appeared in the last issue of *Kenya Past and Present*. He is now based on Germany's Baltic Sea coast.



The pillar at Fort Jesus in the Teixeira plan of 1620.

References

- Axelson, Eric (1940). *South-East Africa 1488-1530*. London: Longmans, Green and Company.
- Breen C.P., and Lane, P.J. (2003). Archaeological approaches to East Africa's changing seascapes. *World Archaeology* 35: 469-489.
- Gray, J. M. (1957). *The British in Mombasa 1824-26*. London: Macmillan.
- Green, Lawrence G. (1935). *Great African mysteries*, Ch.2: Mysteries of African Explorers. Stanley Paul & Co. London.
- Freeman-Grenville, G.S.P. (ed.) (1962). *The East African coast: select documents from the first to the earlier nineteenth century*, xi. Clarendon Press, Oxford.
- Kirkman, James S. (1964). *Men and monuments on the East African coast*. London: Lutterworth Press.
- Martin, E. B. (1973). *A history of Malindi*. Nairobi: East African Literature Bureau.
- New, Charles (1873). *Life, wandering, and labours in Eastern Africa*. London: Hodder & Stoughton.
- Ravenstein, E.G. (1898). *A journal of the first voyage of Vasco da Gama 1497-1499*. New York: Hakluyt Society.
- von der Decken, C.C. (1871). *Baron C.C. von der Decken's Reisen in Ost-Afrika*. Leipzig.

Futher reading

http://en.wikipedia.org/wiki/Diogo_C%C3%A3o

Portuguese pillar and chapel at Malindi. Booklet issued by the Malindi Museum Society.

12 Kirkman, James S. (1964).



Jean Brown Sassoon

Killing an enemy: a Pokot hero

Although the Tiat Pokot and Turkana are traditional enemies who engage in cattle raiding and warfare to survive in times of drought or famine, killing an enemy is never taken lightly.

Anthropologist Jean Brown Sassoon describes the many rituals needed before a killer can be called a hero.

Above:
The ritual re-enactment of an enemy attack during the *kwagha po masa* ceremony where a killer is finally proclaimed a hero.

Killing anyone at any time is regarded by the Eastern Pastoral Pokot (Tiat) as a terrible act against all the laws of God and the ancestors. "The killer's body is full of sin." He has become ritually impure and can impart that impurity to others. He is a danger both to himself and to others. He must therefore remain in seclusion until he can be purified.

A man who kills an enemy during raiding or warfare is a hero, but cannot be proclaimed as such and re-accepted within the group until he has undergone not only the purification ceremony for killing anyone but a series of complicated and long drawn-out ceremonies. These re-enact first the

death ceremony, then the birth ceremony, and finally the ceremony of initiation into manhood (*sapana*)¹ when the hero is re-born by being given a new name which indicates that he has killed an enemy. He also adopts certain insignia that identify him as a hero.

These ceremonies are the same whether the killer has killed a man or a woman enemy. If a woman kills an enemy it is assumed that her brother has done the killing and it is he who performs all the ceremonies and adopts the insignia, but he is distinguished by having two cuts on his shoulder.

The man whose spear first strikes the enemy or who is the first to grab him is always judged to be the killer, even if it was the spear of another man that dealt the death blow. The killer must have witnesses to his act. This is rarely a problem because men fight alongside their friends and age-mates.

When the kill has been verified the killer must slit open the abdomen of the enemy and, if he has time, remove both the stomach and intestines. It is believed that if this is not done the abdomen of the dead person will blow up and burst, causing the killer to die from the effects of *ngoku* (an automatic curse or divine retribution). If he has time he must also extract the heart of the dead person, slit it in two and leave it beside the corpse. This ensures that he will continue to be a brave man unafraid of death. The man who kills a pregnant woman enemy must not only slit open her abdomen and remove the stomach and intestines but must also remove the foetus, slit its abdomen and



place it beside its mother. Failure to do so is believed to incur double *ngoku*.

Tiati Pokot tribal area in the Rift Valley, near the border with Uganda.

If he has time the killer removes all the belongings of the dead man (or woman) — his spear, shield, clothing, sandals, feathers and bead ornaments — leaving him naked in the bush. He keeps the man's spear but breaks the shaft. The other items are kept until the *kwagha po masa* ceremony when they are purified and blessed and given to any women and children of the hero's choice.

First ceremony — *Pitut*

As soon as possible after the killing, whilst still near the scene of the fighting, the killer must undergo the *pitut* (spitting in blessing) ceremony in order to enable him to drink and to eat. A *kololotion* (a man who has himself slain an enemy and has undergone all the rituals) performs this ceremony. He and the killer go to a river pool where the *kololotion* collects water into which he spits

1 Although the Tiati practise circumcision, a Tiati man does not have to be circumcised as a prerequisite to manhood and marriage. Instead he undergoes the ceremony of *sapana* (introduced from the Karimojong/Turkana group) at which he sacrifices an ox and adopts the blue mud-pack hairstyle which symbolises manhood and his entry into a *sapana* sub-set. Several sub-sets join to make a set, several of which make up a generation set which equates with a circumcision generation.

moikut (the sedge *Cyperus tuberosus* or *C. rotundus*). He spits it onto his chest, under his armpits and onto the palms of his hands before doing the same to the killer.

Until the killer undergoes the next purification ceremony of *tuso* he is ritually impure and is a danger particularly to women and children who will become sick or die if his shadow (*rurwo*)² falls upon them. He must not go near any homestead or near his wife and children for fear of the former aborting and the latter dying. He must not have sex. He must remain in seclusion in the bush in the immediate vicinity of the rough shelter of cowhides provided by his age-mates who also provide the leaves on which he sleeps on the ground. He is allowed no fire. Women are warned of his hiding place so that they can avoid it and animals are also kept away in case they are affected by *rurwo*. He may not greet or be greeted by anyone and must howl like a man who has lost a close relative.

He may eat food brought to him by young boys or his age-mates, but must not touch it directly by hand; it is placed on a stone or on leaves by which it is conveyed to the mouth. He may also not touch bones or the skin of any animal that has been killed for meat. Until the *kwagha po masa* ceremony he may drink only goat's milk and blood, the blood being mixed with either milk or porridge. If he breaks any of these food taboos it is believed that *ngoku* will cause him violent shivering and shaking.

2 Both people and animals can be affected by ritual impurity (*rurwo*), an emanation from someone who is ritually impure. Ritual impurity is associated with death, sexual intercourse and the shedding of blood (e.g. menstruation). Ritual impurity is found in the shadow of something impure (e.g. no one will build in the shadow of a hill on which circumcisions have taken place) and can be carried by the wind (e.g. no one will pass on the windward side of a recent grave). Those affected by *rurwo* can only be cured by a ritual purification ceremony.

Second ceremony — *Kinta*

The second ceremony of *tuso* is, on this occasion, named *kinta* after the death ceremony of that name because it is as if the killer himself has died. It takes place during the next period when there is no moon. This is not a long time after the fighting because raiding usually takes place during the moon's last quarter. The ceremony is considered very important because the new hero is being renamed with the name of a clan ancestor who himself killed an enemy. The name, however, is not officially announced until the final ceremony of *dia*. The killer, accompanied by a friend, goes to the homestead of an important old *kololotion* where he kills one of his own black or brown goats soon after dawn. He must kill it with the spear with which he killed the enemy, which will have been purified beforehand.

The *kololotion* then gives him a special naming pot (*terr o kola*) containing a mixture of *sinenyon* (an unidentified plant) boiled in water while the *kololotion* calls out the names of past people who have killed an enemy saying "Are you so and so?" When he hits upon the correct name the killer acknowledges it by swallowing some of the *sinenyon* mixture, spitting some under each armpit and humming to show that that is the name by which he wishes henceforth to be known. Once this is done the new hero is smeared with red clay and the *kololotion* cuts off the front of his coiffure (*atoro*)³ just as is done in mourning following a death. Then, as after a death, the hero removes all his ornaments, which will be carefully kept in a goatskin bag until they can be replaced at the next ceremony.

3 The Pokot mud-pack hairstyle is in two parts: the main back part (*siolop*) and the front part (*atoro*). The ornaments worn in the hairstyle and its colours and patterns all indicate to which *asapan* set and which alternation a man belongs. The hairstyle is coloured red for the uninitiated and blue for the initiated.

The hero then undergoes purification by stepping into the stomach contents (*eghian*) of the slaughtered goat, which he smears all over himself (*kisapat*). This is left on for a short time until he goes to the river to wash. He then smears himself all over with the marrow from the leg bones of the goat in order to prevent his own joints from stiffening like those of the man he has killed.

After this ceremony the hero is still only partially purified although he may now sleep in his homestead, but only outside in the young men's sleeping place of *aperit*. He is now free to go to the men's meeting place (*kokwa*)⁴ but may not yet take his place in the *kerket*.⁵ He must sit to the side of it where his meat is brought to him by friends. He may still only drink goat's milk until the third ceremony of *kwagha po masa*.

Third ceremony — *Kwagha po masa*

Two days after the next new moon following the ceremony of *kinta* the hero undergoes the third ceremony of *kwagha po masa* which takes place in his homestead. After this ceremony he is completely pure (*tilil*),⁶



Typical Pokot clay head-dress. The back part is the *siolop*; the front diamond shape (the *atoro*) is removed when there is a death in the family.

has become a new man and can lead a completely normal life. He may now drink cow's or camel's milk, eat meat and touch bones again, sleep in his wife's hut and have intercourse with her and take his rightful place in the *kerket*. The hero brews much beer for the occasion and invites everyone to his homestead, including four important elders to do the blessing. At least one of them must be a *kololotion* who will officiate. The Pokot point out that the number four was decreed by God and the ancestors because a goat has a penis, two testicles and a beard!

The hero spears a white male goat. White must be chosen because white is the colour of the bones of the killed enemy and the hero himself wants to be white and pure again so that he can once again go out to capture livestock. Instead of being roasted in its skin as usual⁷ the slaughtered goat is

4 The *kokwa* is the men's meeting place for leisure, communal meat feasts and political matters. It is always held under the same tree which gives deep shade. There is one *kokwa* tree to a main neighbourhood (*kokwa nyo wow*) of several sub-neighbourhoods. For meat feasts and political matters men sit always in *kerket*.

5 A *kerket* is where men sit, strictly ranged in *asapan* set order, on stones laid out in the shape of a horseshoe whose opening faces the Pokot sacred mountain of Mutelo in the Sekerr range. Only the senior generation sit in the horseshoe, in descending order towards the opening. The most senior set of the alternation having ritual power, plus any living from the previous generation in power, sit around the *kwen* in the centre where the most important part (*amuro*) of a speared ox is cut. A little to the right and left of the opening of the horseshoe sit the initiated junior generation in the *arochet*.

6 To be *tilil* a man must have undergone purification if he has sinned in any way. He must be whole, unblemished in mind and body (e.g. not minus a finger), he must be fit, have his first wife still alive and many living children. He must also be well respected.

7 Any animal killed in *kerket* is normally roasted whole in its skin before being cut up and the meat apportioned out strictly according to custom



This young man has undergone the *kwagha po masa* ceremony and is wearing the insignia of a hero, i.e. the red feather, the goat beard, the ostrich eggshell necklace and the strips of goatskin. He has not yet had the *kola* cut. He had been to school so did not normally wear the *siolop* and *atoro* on his head.

skinned and its meat boiled because it is believed a curse will befall anyone who looks into its eyes whilst roasting. All present eat its meat, but small pieces are put into a pot with *sinenyon* (not identified) or *lokotetwo* (*Barleria eranthroides* or *Carissa edulis*), whisked around using a special stick made of *tuwot* (*Diospyros scabra* or *Tinnea aethiopica*) or *kerelwo* (*Croton dichogamus*), and boiled.

Holding the pot the *kololotion* walks around the hero four times, bites a small piece of liver, spits it under both his armpits then drinks from the pot and spits under his armpits before smashing the pot in front of the hero to show that all bad things have

now come to an end. The Pokot believe that all the crying and anger of the dead man's relatives is in the pot and that smashing it signifies for them the end of mourning.

Excitement then mounts as men rush hither and thither shouting their ox names⁸ and making feint attacks on imaginary enemies. The hero is then draped with the insignia of a hero. The *kololotion* cuts the goatskin lengthwise into strips. Strips from the right side of the skin are placed on the hero's right side, those from the left side of the skin on the hero's left side. He is draped with the skin strips as bandoliers, necklaces and as anklets, armlets (above elbows), kneelets, wristlets. The goat's beard (*apenet*) is hung high on his forehead where his *atoro* was removed. The hero wears these strips until they are about to rot and drop off, which may require many months of enduring the stinking rotting skin.

The hero may now wear the hero's necklace of ostrich eggshell beads strung on a strip of skin from the slaughtered goat. He may wear in his head-dress a large white ostrich feather dyed red to show that blood has been shed, and have the ears of his name ox (*kiwianghit*) frilled. This frilling, done by the owner's best friend using a pure spear, is said to imitate the goatskin strips which he wears.

The most enduring personal insignia of a hero, the arm cicatrices (*kola*), cannot be cut until the rotting skin strips are about to drop off,⁹ which is a signal for the holding of the final ceremony of *dia*. The cutting, done shortly before the ceremony takes

(e.g. the liver always goes to the women). The *amuro* i.e. the right rear leg, said to be the most male part of the animal, is always saved until the following day, guarded overnight by the oldest man. Who cuts the *amuro* is of great ritual importance and is handed on from the senior generation alternation in ritual power to the opposite alternation of the junior generation at the generation changeover ceremony. The *angorere* (a small piece of meat surrounding the gland) is the most sacred part of the *amuro*.

8 A Pokot man is identified with his name ox (*kiwianghit*). He takes its name as his own, sings songs in its praise, decorates it, shapes its horns, holds up his arms in imitation of its horn shape whilst dancing and shouts its name when going into battle, hurling his spear or when ritually killing an ox in *kerket*. His emotional tie to it is so strong that he refers to it as his wife.

9 Sometimes the man may have his shoulders, chest and arms painted in red and white stripes to imitate *kola* until he can have the real *kola* cut.



place, is an agonizing experience that leaves the shoulder a horrible swollen mass looking rather like a piece of bloody meat. The hero is usually tied to a tree or stout pole so that the marks will not go awry if he wriggles in pain. He is constrained by several people. The lines are first scratched on the skin with a thorn to indicate where the *kola* should be cut. These *kola* differ from the ordinary body cicatrices (*sorim*) in that the cuts are very close together and they are just cut instead of removing a piece of flesh. As many *kola* are cut as the hero can tolerate. If he has killed two men then many cuts are made and if he has killed previously then even more *kola* are added.

Kola are cut by a *moswokin* (a cutter), who does not have to be a *kololotion*, on the right shoulder if the hero has killed a man and on the left if he has killed a woman. They are not extended to the chest or back. After many years the marks become fainter because the flesh was only cut, not removed.

Fourth ceremony — *Dia*

It is at the final ceremony of *dia* that the hero's new name is formally announced in *kerket* at the *kokwa*. The ceremony almost exactly replicates the ceremony of initiation into adulthood (*sapana*) with its attendant dances except that, as the hero usually already has a *siolop*, it does not have to be put on. The ceremony takes place when the owner can afford it, i.e. after the long rains when there is plenty in the land.

An ox belonging to the hero is killed in the homestead, but roasted and eaten in *kerket* at the *kokwa*. The procedure is almost identical to *sapana* except that the entrails are not divined for omens, the *eghian* is not smeared on and the *amuro* is not saved for the following day. The officiating elder, who must be a ritually pure *kololotion* of a different clan from the hero, spits a mixture of blood and milk onto his own chest and

Initiated Pokot at a meat feast sitting in *kerket* under the *kokwa* tree. The men in the centre are sitting in the *kwen* where the meat is divided. The younger generation, who sit in *arochet* in front on both sides, are not in the picture. The elder holding up leaves in blessing in the centre back is Ngeleyo, the chief who negotiated with the government following the infamous Kolloa affray.¹⁰

¹⁰ See www.britainssmallwars.co.uk/the-kolloa-affray-kenya-1950.html

then under his armpits before doing the same to the new *kololotion* who does likewise to himself. The officiating *kololotion* holds meat from the *ariket* and *karas* (ribs) out to the new *kololotion*, nibbles bits and spits in blessing on the new *kololotion* while calling one name after another. When incorrect names are called the *kololotion* retains the meat but when the correct name is called the new *kololotion* nibbles the other side of the meat and hums. Then everyone hums whilst he eats the meat.

Pokot names for those who have killed an enemy are clan specific and often associated with the original clan ancestor. There are 10 to 20 names per clan for heroes who have killed a man and the same number for those who have killed a woman. Onto such names is added the ending *lei* for a hero who has killed a man (e.g. *Lokirolei*) or the ending *moi* if the hero has killed a woman (e.g. *Loketamoi*). After this the hero's birth and ox names are forgotten by everyone except his mother and sisters who continue to call him by his birth name.

At the conclusion of this ceremony, the new *kololotion* has to remove his red feather and ostrich eggshell beads, which he is no longer entitled to wear unless he kills another enemy. They are given to small children. The goat's beard is thrown away into the goat's pen and the rotting strips of skin placed on the *eghian* and waste of the slaughtered ox in the *kwen* of the *kerket*. As a *kololotion* the hero can now officiate at the *kolat* ceremony for anyone who has become sick by being infected by the *ruwo* from a ritually impure person.

These ceremonies, in which every small detail is of vital importance, serve to impress not only on the hero but also on the whole community the utter horror and seriousness of killing a fellow human being. They also emphasize the importance to a pastoral

people of their livestock which provide them with meat and communal meat feasts, where every named bit of meat is apportioned out to specific people, thus demonstrating the cohesion of the group by feeding everyone. The hero is temporarily isolated from the community as though he too has died, and has to endure pain and discomfort before being reborn to be lauded as a hero. Such ceremonies also serve to emphasize Pokot beliefs and attitudes regarding, for instance, gender, colours and numbers, and to demonstrate the importance played by objects of material culture in Pokot life.

PHOTOGRAPHS AND MAP PROVIDED BY THE AUTHOR

ABOUT THE AUTHOR

Dr Jean Brown Sassoon trained in archaeology and anthropology at the universities of Edinburgh and London, and came to Kenya in 1954 when she joined Dr Louis Leakey to work at Olduvai Gorge and in the then Coryndon Museum. She was in charge of the Material Culture Project of the Institute of African Studies of the University of Nairobi and Hon. Ethnographer in the National Museums of Kenya until 1974.

Dr Brown Sassoon carried out detailed research into every aspect of Pokot life from 1962- 1997. With the extension of government influence to the area and the introduction of schooling, such traditional practices as she describes are dying out.

The ठडो यवोइ



in Kenya

This article is based on Saryoo Shah's personal memories and the family stories of her grandparents, who were among the first Indians to call Kenya home.

For many centuries, Indians had been travelling along the East African coast. They carried spices from India and went home with ivory and slaves. They sailed in dhows, helped by the northeast and southwest trade winds that blow across the Indian Ocean. Most of the Indian merchants of those days were Gujarati-speaking Muslims and Hindu Baniyas, Bhatias and other castes from Cutch and Kathiawar. Later, the Oshwals, who are also Gujaratis, made their presence in Kenya.

Saryoo Shah

Above:
Devshi Hadha, Vershi Mepa and Devshi Mepa in front of their shop, Shah Vershi Devshi & Co. in Thika, circa 1930.

The Oshwals belonged to the Kshatriya, warring tribes in India who later converted to Jainism. Jains, the followers of Jainism, believe that the universe is self existing

and no one has created it nor can anyone destroy it. Jains believe in the sanctity of all life, human as well as other living creatures, and consequently in the philosophy of non-violence. The conversion of these Kshatriyas took place in the town of Oshiya (now Osian) in Rajasthan, India about 2,500 years ago. The Kshatriyas called themselves Oshwals after the town of Oshiya. Having abandoned their occupation as warriors, they migrated westwards and eastwards venturing into various alternative occupations such as farming, trading, and as labourers. Some settled in Punjab, some went southwards towards Sindh (the Indus region), and they finally settled in Kathiawar, Gujarat.

Arrival in East Africa

The Oshwals first set foot in East Africa in 1899. The arrival of the Oshwals and other Asians in East Africa was very much linked to the building of the Uganda Railway. Had it not been for the railway and the pioneering contractor Alibhoy Mulla Jeevanjee, the fate of Kenya and its interior would have been a different story. The Oshwals and other Asians would not have settled *en masse*.

A.M. Jeevanjee arrived in East Africa after a chequered business career in India. In 1890 Jeevanjee, who spoke English perfectly, won a contract with the Imperial British East Africa Company through its associate in Karachi to recruit Indian workers, artisans and police for service in the company's territories. In 1896 construction of the railway line had just begun in Mombasa. Jeevanjee's firm was contracted to recruit a labour force from India to work on the railway. The Africans were strong and able-bodied, but they lacked specialised skills in construction, and did not want to work for the railway as they had their own land to till. Moreover, they were not used to a money-based economy. In addition to recruiting Indian workers to work on the railway line, Jeevanjee's firm had to erect temporary

buildings, undertake rock cutting and other earthworks, fit-out rolling stock and supply provisions for the Indian personnel. From 1895 to 1914 a total of 37,000 labourers, clerks and skilled artisans were recruited.

At the time the port of Mombasa belonged to the Sultan of Zanzibar and, in order to build the railway from Mombasa to Uganda, the British established a protectorate over a ten-mile-wide coastal strip, paying an annual rent of 10,000 British pounds. The representative of the Sultan in Mombasa, known as the *Liwali* (Swahili for 'governor'), employed a Gujarati carpenter called Jina Khoda, who came from the village of Rafudal in Halar, Gujarat. Khoda wrote home praising this newly-opened country, the British East Africa Protectorate, and its green pastures. The Halar district in Gujarat was dry land and prone to famine. A man from the Oshwal community, Hirji Kara, also from Rafudal, was inspired by the news from Jina Khoda and began seriously thinking of leaving for Mombasa. Along with his friends Devji Hirji of Dhunia and Popat Vershi of Amla, he set sail for Mombasa in a dhow in 1899. These men were the first Halari Oshwals to set foot in Kenya. Most of the Oshwals in Kenya are from the district of Halar in Gujarat and are known by the formal name Halari Visa Oshwal. The name Halari is omitted in day-to-day affairs.

My paternal grandparents were both close relatives of Hirji Kara and Devji Hirji. So they too followed the pioneering Oshwals and settled in Kenya, arriving in 1901 and 1906. As word spread in their part of Gujarat of better opportunities and the bountiful climate in the newly-opened land, many Oshwals started to emigrate to East Africa.

In 1899 the construction of the railway reached Nairobi. The flat land and cool weather of Nairobi suited the chief engineer

George Whitehouse and he moved the railway headquarters from Mombasa to Nairobi. The government, too, followed suit by making Nairobi the capital of the East Africa Protectorate. A large railway station in Nairobi was built by an Indian, Nathoonam Banta. The iron pillars on its platform, imported from the U.K., still stand. Since Jeevanjee was working closely with the government and railway, the commissioner John Ainsworth felt Jeevanjee was the one capable of developing the township. It is said that Ainsworth offered to allocate to Jeevanjee as much land as Jeevanjee's coachman, Lala Pathan, could traverse running from a spot somewhere off Ainsworth Bridge to the point where he would ultimately stop in exhaustion. (Ainsworth Bridge is better known as the bridge that connects the bottom of Museum Hill to Uhuru Highway.) Lala Pathan started running in a desperate attempt to cover as much land as possible. He collapsed exhausted at the far end of the Indian Bazaar (now Biashara Street).

In 1906, Jeevanjee started building shops on both sides of Biashara Street, with building materials left over from the railway construction job. As soon as the shops were erected, they were occupied by Indian merchants of all castes from the Hindu and Muslim communities, including Ismailis, Boharas, Memons, Lohanas, Brahmins, Oshwals and others. They represented various occupations — traders, tailors, carpenters, timber merchants, etc. By then the population of Nairobi was growing and was in need of all sorts of services such as schools, dispensaries, police stations, and vegetable and meat markets.

In Mombasa, the first two Oshwals set up a retail shop in partnership. But as time went by they realised that the shop could not support both of them. So Devji Hirji left his partner and headed for Nairobi. It took him a month to reach Nairobi. His journey was



made mostly on foot and some sections he covered by riding on the inspection trolley on the railway. On reaching Nairobi, Devji Hirji found employment with a Brahmin, Lala Prasad. His pay was 100 rupees a month, a handsome amount by the standards of the time. Lala Prasad's establishment was a confectionery shop selling sweets and pastries and running a restaurant alongside, mostly for railway workers. Most of the railway labour force was indentured labour, men who had travelled without their families. Many Punjabi railway workers were addicted to tobacco and opium. Opium was sold under the counter at the shop. Devji Hirji thought it a dangerous practice that could get them into trouble, so he left Lala Prasad's employment and set up his own shop.

The author's father (extreme right), with his siblings and cousins. Photo taken in Jeevanjee Gardens, early 1920s.

Nairobi's population was growing and the government needed manpower for administration. The Indian police force was already set up, but there was a desperate need for doctors, lawyers, teachers, and all manner of skilled artisans to serve not only Nairobi but the other towns being established along the railway line. Towns such as Thika, Embu, Fort Hall, Maragua, Makindu, Kitui, Meru, Nakuru, and Kisumu in Western Province, were abuzz with trading activity.

A party organised by the Indian Association in honour of Sir Robert Hamilton, Chief Justice of Kenya, at Visram Villa, State House Road, Nairobi, c. 1929-31. The author's paternal grandfather Raishi Lakhamshi stands in the last row, sixth from left. The author's maternal grandfather, Keshavji Ramji, is in the second row, sixth from left. In the front row, seated fourth from left, is Suleiman Virjee who funded the building of Khoja Mosque.



The settler community was not experienced in shop-keeping. This void was filled by the Indians. The Africans were slowly getting used to a cash economy. That gave Indians an impetus to set up shops and serve the needs of whites and blacks alike.

In Nairobi all the activity of the Indians was taking place around Indian Bazaar, River Road and Moi Avenue. There were segregated areas. The white settler community had the leafy suburbs of Parklands and Muthaiga. For the railway labour force, landhies (labourer accommodation) were built where the present Landhies Road is.

In spite of the segregation and all the advantages the whites were given, the Indians were determined to be financially successful. That was, after all, the reason they had left home. Most of the immigrants were uneducated but survived thanks to their business acumen. Many became shop owners. The most common architectural style was to build shops in the front and living quarters at the back. When the shopkeeper had to go out of the shop, he would wear

a hat, a long coat and shoes which would be shared by all who worked in the shop. Non-family members working in the shop were given food and accommodation. They would sleep on the shop counters, wrapped in the blankets that the shop was selling. In the morning, they would roll up the blankets and put them back on the shelves.

Soon the establishments of Hirji Kara, other Oshwals and many Asians were doing brisk business, taking full advantage of the opportunities that opened because of the railway. But come 1929 many companies' fortunes evaporated in the worldwide financial crash. The firm of Hirji Kara, which was selling goods on 90 days credit, went bankrupt as its customers could not honour their debts. The same thing happened to the firm of Imtiazali and Sons. This caused a ripple effect on other traders. My maternal grandfather Keshavji Ramji was a very popular Oshwal who had built his business on honesty. He died of a heart attack from the shock of finding out his firm of Meghji Ladha and Co. was bankrupt. My paternal grandfather, Raishi Lakhamshi

and my father, Amritlal Raishi, who were working for Imtiazali and Sons, suffered the same fate of becoming penniless overnight. In those days, the monthly salary was usually credited in the account books and not drawn regularly; therefore when the employer went bankrupt so did the employees.

Solidarity among the Oshwals gradually helped them build their businesses back to pre-crash levels. During the Second World War, the firm of Shah Vershi Devshi and Co., in Thika, gave goods on credit to many in the settler farming community who would otherwise not have survived financially. For their services to the settler community, Devshi Mepa Malde was bestowed with the honour Member of the British Empire (MBE) by the British Government.

Oshwals were mainly a merchant class in Kenya who, after the Second World War, and especially after the Korean War, prospered and accumulated large savings. These they channelled into the construction of residential and commercial buildings in the main towns in Kenya, thus encouraging the growth of the economy. Because Asians were not allowed to own agricultural land, property building in the towns boomed.

In 1963 Kenya achieved its independence from Britain. The Asians got an opportunity to buy farms in the white highlands which had previously been out of bounds. Businesses in the smaller towns flourished too. But in 1968-1969, the then-President of Kenya brought in the Africanisation Programme. All shopkeepers and other Indians in any kind of employment had to either take up Kenyan citizenship, have a work permit, or leave their employment. This ruling triggered a huge exodus of

Indians. In the beginning it was mainly the railway workers who were affected. Slowly the Indian shopkeepers from rural areas moved their businesses to Nairobi. This rural-to-urban migration occurred not only among the Indians, but also among the Africans who wanted to seek employment.

The building of the railway that brought the Asian community in large numbers from India to the East African region boosted the economic development of the country and of the local African population. Skilled trade capacity was developed locally among the Africans, from metal working to carpentry to shoemaking and tailoring, as well as expertise in business.

East African legal tender

Before 1922, the Indian rupee was legal tender in Kenya as elsewhere in East Africa. The settler government was not in favour of the Indian rupee and decided to set their own legal tender. At first the florin was introduced, followed by shillings and cents. The rate of exchange was 1 rupee to 1 florin, and 1 florin to 2 shillings. At that time, the exchange rate between Britain and India was 1 rupee to 1 shilling sixpence. At the same time Zanzibar remained under the sovereignty of the Sultan and the Indian rupee was still legal tender on the island, with an official exchange rate. The Indian traders in Kenya saw a loophole and took full advantage of it. At first they bought shillings in Kenya at a rate of 2 shillings for 1 rupee and then exchanged them for rupees in Zanzibar at the rate of 1 shilling sixpence. The rupees would then be sent back to Kenya. In this manner many Indian Baniyas (merchants and moneylender caste) made quite a bit of profit until the rupees in Zanzibar were exhausted. Rupee notes



Left to right:
The East African rupee
and the East African florin,
which replaced it.

The first batch of students at the newly-opened nursery school of the Visa Oshwal community in 1952. The author is in the third row from the front, third from the right.



were sent to Zanzibar from India in bales of cotton and in envelopes by registered post. This shunting of rupees and shillings went on until the rupee was no longer legal tender.

Education

Initially one school was started in a corner of the railway property in Nairobi. The school was led by two teachers, Mr Dunichand and Mr Mahadevbhai. Later the colonial government started a school on Whitehouse Road, now Haile Selassie Road. The medium of instruction was Urdu for the Muslims and Gujarati for the Gujaratis. Later English was introduced in the higher classes. Near where the Meridian Hotel now is, in the city centre, there lived a Parsee named Bapuji Mistry. His wife Dhanbai and daughters started a private school in their house for boys and girls offering elementary education.

Since the settler government had not made any provision for formal schools, the Asian communities later started their own

sectarian schools. In smaller towns, where Ismaili traders resided, informal schooling took place in their mosques, which were also open to Hindu children. Shree Sanatan Dharma Sabha started a school for girls along Temple Road. The Cutchhi Gujarati Hindu Union also started a primary school. The Visa Oshwal community started a nursery school in 1952 under the headmaster, Mr Vasant Nayak. After a year, a primary school was set up. I was one of the first pupils to attend the nursery school and primary school. Most of the Oshwals took advantage of the community school, based in the Visa Oshwal Community Centre along Limuru Road. When land along Mpaka Road was acquired, a formal school building was built. It was opened in 1957 by the then Governor, Sir Evelyn Baring. Later on the Visa Oshwal Girls Secondary School and Visa Oshwal Boys Secondary School were started. The Aga Khan School for girls along Limuru Road was started in the late 1930s. It is now called the Aga Khan Academy. The Oshwal community started a boarding house along Mpaka Road in Nairobi for the

students from smaller towns who had to come to Nairobi for secondary education. The building which is now used by the Aga Khan Academy started as a boarding house for Ismaili students in 1934.

As the Oshwal community progressed, they were determined to provide access to formal education. A handful of Oshwal boys went for higher studies overseas because Kenya had no university until the late 1950s. Most who returned after gaining higher qualifications joined their family-owned businesses. After the early 1960s many more went for further studies overseas and locally, thanks to the educational loan scheme started by the Oshwal community for higher education of both boys and girls. Many attained qualifications in professions such as medicine, law, teaching, engineering, accountancy and the sciences. A few joined their family businesses after graduating and developed them into sizeable merchant houses for textile, steel, plastic, food- and fruit-processing factories, as well as hardware and building supply warehouses. Within 70 to 80 years Oshwals transformed their main commercial status from small shop owners (*dukawallas*) to medium and big entrepreneurs as a mercantile group.

Community institutions

As the Asian communities grew and prospered, they built temples, mosques and community institutions for their social and recreational use. The Ismaili community built their Jamatkhana (Khoja Mosque), and the biggest donation of 600,000 florins (worth KSh 1,200,000 at that time) was made by two brothers, Madatali and Hussein Suleiman Virjee. The plans for the Jamatkhana were drawn up by Mr K. Virji Nanji, an unqualified but experienced draughtsman. The Virjee family's donation was for the gymkhana situated along Forest Road, called the Suleiman Virjee Indian Gymkhana. Another Ismaili who did a lot for the Asian community was Seth Allidina



Vishram. His son, Abdul Rasul, built Allidina Vishram High School in Mombasa in his father's memory. The Oshwals built their first community centre on Limuru Road. They also acquired the plot to build a small temple on Keekorok Road, behind River Road. Later in 1984 they built a beautiful marble temple with a dome called *Shikharbandhi*. The marble was brought in from India and so were the carvers. It took four years to build. Interestingly, although it is a Jain temple, the carving was done by Muslim artisans.

The well-known business magnate and philanthropist Dr Manu Chandaria at his wedding to wife Aruna in Mombasa, 1955.

Aside from the religious institutions and the schools, the communities also built hospitals. Today two of the best-known hospitals in Nairobi are the Aga Khan University Hospital run by the Aga Khan Foundation and the M.P. Shah Hospital, built by the Oshwal philanthropist Meghji Pethraj Shah and run by the Social Service League.

Riding the railway

Due to the official policy of segregation that existed before independence, Indians and Africans were not allowed to travel in the railway's first class carriages. But travelling in second and third class compartments had its share of pleasure. I remember travelling with my parents to Mombasa in third class with a wedding party. Two third

class compartments had been reserved. The train left from Nairobi at 6 pm and travelled through the night. We ate fried sweet chapatis, dry potato curry, mango pickles and yoghurt. Seating was on hard wooden benches. But my parents had brought bedding, made of a thin mattress, a blanket and a pillow inside a canvas cover with straps and buckles, which was then rolled up and strapped once we woke up in the morning. As my father loved tea, he carried boiling hot water in a large saucepan from the railway engine, adding tea leaves and Milkmaid sweetened condensed milk. Everybody loved the tea and after that it became the norm to make tea in this manner whenever there was a wedding party travelling in the train's third class compartment.

The Asian presence today

Over the years, following independence and the Africanisation programmes of governments in East Africa, Asian families have spread to new homes in other countries such as the USA, Canada, Britain and Australia. Those who have remained here

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still own businesses or are professionals. The community and family spirit continues to run strong among the Asians.

During the tragic Al-Shabaab attack on the Westgate Mall in 2013 the Oshwal community took charge of operations by keeping the nearby Visa Oshwal Centre open 24 hours a day. Volunteers, who were mainly Asians, organised meals for the rescue agencies, the Kenyan army and the media while the siege lasted. The community spirit, the rallying together, that helped the early immigrants in Kenya survive and prosper is still alive and flourishing.

PHOTOGRAPHS FROM THE AUTHOR'S FAMILY COLLECTION



This article is based on the personal memories of the author supported by the written work of her father, Amritlal Raishi Shah, and the book *Oshwals in Kenya 1899-1998*, published in 2010 and written by her brother Arunkant Amritlal Shah.



Life among the Marakwet

Anthropologist Wilhelm Östberg spent two and a half years living among the Marakwet in the 1970s and has visited periodically since then. He describes life in the Kerio Valley then and now.

Above:
Marakwet homes on the
hillside, overlooking the
Kerio Valley (1998).

We visited the lowlands some four to five times a year and stayed for about two weeks on each occasion. For two and a half years we were engaged in anthropological research in the highland part of Marakwet in the Rift Valley, while also having a comparative study going in the lowlands. The contrast to the Marakwet highlands, where we lived with our two young children, was extraordinary. The highlands were lush, extensively cultivated, market oriented. As we descended the steep escarpment, the car bouncing with screeching brakes over rocks and through narrow passages, we arrived to heat, stillness, thorn bushes, acacias, cicadas, termite mounds, dik-diks, and a much slower pace of life.

Wilhelm Östberg

Tot, the main centre in the valley, was in the 1970s a sleepy place with a chief's office, a police station, an understocked health centre, two churches, a few shops and a *kilapuu*, a club where locally-made beer was sold from drums — when I now go through my old diaries I am surprised to read how common it was that men were drunk a lot of the time. It has passed from my memory, but it is there in the notebooks. The government eventually banned the *kilapuu* [pl.]: certainly a wise move. The *kilapuu* at Tot was owned by the senior chief so ironically the government's representative had to close down his best source of income.

In the valley our car was usually the only vehicle on the road. Women wore skin capes, livestock moved freely, and children were playing in the streams that descend the escarpment. The market places in the small valley centres were emblematic of picture-book Africa: light filtering through the foliage of big shade trees, women in fine jewellery, smoke from fires where cassava and tea were being prepared. Highland and lowland produce were bartered. Pokot women from across the Kerio River brought soured milk in gourds and Marakwet women offered millet, cassava, tomatoes, pawpaw, mangoes and bananas. There was honey, tobacco and snuff, but also winnowing plates, stools, cowrie shells, blacksmith products. Sorghum beer was

sold on the outskirts of the markets. There were a few peddlers, but on the whole the trade was local. Elderly women addressed us in whispering voices, wishing us well: *Chamgei chamgei gogonyuun* ("Greetings, my grandchild"), *Iyomunee* ("How are you doing?"). We bought fruit, and talked to people who seemed to have all the time in the world for us.

I recall once when two elderly women asked us for a lift. They closed their eyes and held each other's hands. When I asked if they were okay, they answered, "We do not know if we shall die now".

The banana gardens were a pleasant contrast to the dry lands. The soil was moist, irrigation water passed slowly in the furrows, and a light breeze swayed the large banana fronds. The fields on the hillsides showed as green patches in a greyish-brown landscape. Shiny goats. It appeared an Eden, and in some ways it was. But there was, of course, also poverty, poor health services, few schools, and landslides.

Today life in the valley has all changed, and yet it has not. There is electricity in Tot centre. Two streets with well-stocked shops, regular *matatu* minivan transport to both Kapsowar and Biretwo and onwards to Eldoret and Kabarnet. Cell phones and the *M-Pesa* money service, rectangular houses, TV sets and motorbikes. There are two secondary schools. In the 70s young people had to climb the escarpment to the boarding schools in the highlands to get a secondary education.

The churches were prominent in village life then and they remain so today. The Marakwet look upon church and school as gateways to an improved life, and both are associated with progress and development. Today traditional socialisation processes have to no small extent been replaced. In 1973 American missionaries drove a small group of girls who were to be circumcised

Heading north in the Kerio Valley (1973). A pleasant drive in the dry season but a difficult passage during the rains. Few cars passed in the early 70s and they were always overloaded with passengers and goods.





Women cultivating on the valley floor (2000). Methods of cultivation have not changed much in the past 40 years.

in Chesegon out of the district. Their intervention led to strong reactions. The district administration was alerted, and in the end the missionaries were reportedly asked to leave the country. Today, by contrast, local leaders are actively campaigning against female genital mutilation and advocate alternative forms of initiation.¹

Looking back at the Tot area as it was 40 years ago provides a measure of the changes in an outlying part of the country — less dramatic of course than the total re-shaping of Nairobi and other major cities, but nevertheless a parallel trajectory of changing conditions of life in Kenya and equally significant changes in the country.

Nowadays the road through the valley has improved but is still miserable when it rains. It is the major hindrance to exporting grain, vegetables and fruit from the area. A permanent road has been promised for decades, and is listed in the new County Development Plan, but has yet to materialise. Farmers cannot sell the prime

mangoes they produce, and are paid low prices for those they do because of the costs traders have to incur to get the produce out of the valley.

What has not changed in 40 years is the feeling of relief, of exhaling, on arriving in the valley. Stretching the legs after the long drive, one's eyes follow the glossy superb starlings, the bird the Marakwet say wears a ceremonial apron. And there, the voice of the dull-coloured honeyguide, leading people to honey, so important as it produces the mead that lubricates all ceremonies in Marakwet. The Cherangany range in the west is veiled in cloud; the east shows immense open areas with scattered hills here and there. My ears catch the sound of hoes working the soil, leading me to people. Greetings are exchanged. I say that I used to move in the area with Kassagam some years back. "Oh yes, of course, but you have grown old" and "How is the family?" I meet an old man on his way back from the *kano*, the goats' enclosure further out on the plains, a red blanket over his shoulders, a battered slouch-hat, shoes made from old tyres. We exchange greetings and come to

1 Moore (2009:214-216).

realise that we both had roles at a wedding for a teacher at Chesongoch some years back. He had led the blessings while I took the wedding photographs. We talk about people we both know.

I still have miles to go before I reach Tot, my destination, where work awaits, but I needed this brief stop to know that I have arrived and to take a first walk along paths criss-crossing each other between fields and irrigation furrows: the serenity of the landscape, the heat, the insects humming. Now I am ready for the meetings at Tot: interviews, questionnaires, tracking people, requests, and *emoo* — the friendly talk between people who have not met for some time and who update each other on what has happened since then. I walk back to my vehicle and proceed to Tot.

The irrigation complex

Fields are cultivated today with the same implements and in much the same way as in the 70s, as industrially-produced hoes and machetes were already commonplace then. Most families owned two to three machetes, two to four hoes and an axe. All farm work was done by hand, as it still is today. In the 70s men irrigated the land by moving water with the help of long-shafted hoes to all corners of the field. Today women have also taken on this activity, but the work on the canals remains a male preoccupation. The most remarkable feature of the area, the pre-colonial irrigation complex, is managed essentially in the same way as it has been for 300 years. This is an exceptional record by any account, but particularly so given the considerable problems with salinisation of soils and misappropriated funds that plague contemporary irrigation schemes.

It is a tricky operation to take water out of the rivers that hurl themselves down the precipitous escarpment, from the

Cherangany Hills down into the Kerio Valley more than 1,000 metres below. Water is led through headworks, dams and sluices into kilometre upon kilometre of canals, carefully levelled and embanked along the escarpment face and utilising, where necessary, aqueducts made of hollow tree-trunks and shelves supported by wooden scaffolding along almost vertical cliffs, eventually to reach the valley and to irrigate the fields. The canals are constructed and their path defined by rocks, boulders, logs and brushwood, reinforced by soil and grass. In the early 70s concrete and plastic pipes were important additions in difficult places, and today such enhancements are extensive. However, it is still local knowledge and in places local materials that keep the water running. The statistics are staggering: along a stretch of about 40 kilometres of the escarpment, there are 91 main canals totalling 315 kilometres.² Several accounts describing various aspects of the spectacular irrigation system are available, including its physical layout, history, labour organisation, water distribution, gender issues, rules, and practices.³

My colleague Johnstone Kibor Kassagam, and at times also Andrew Kite arap Cheptum, and I used to join people maintaining the canals or working on new extensions, and spent long hours recording the histories of the different canals. We also interacted with people from development agencies who were eager to rescue a system they considered on the verge of collapse — trying to influence that they did not, with their zeal and money, kill the social dynamics that kept the system running. We sat in at meetings where maintenance and repairs were planned, where water was divided between different kin groups, or where water thefts were sorted out.

2 Davies, Kipruto and Moore (2014:492).

3 for references see Davies, Kipruto and Moore (2014); Östberg (2014).



It is in these ever-recurrent meetings that the key to both the origin of the canals and their remarkable resilience lies.⁴ The Marakwet mode of organising labour, arranging a marriage ceremony, clearing new land, resolving a conflict, putting up defences against raiders — they all follow the same pattern. Whether enlisting the cooperation of a handful of people or of 50 or 200, the same procedure is followed. People meet and discuss. No chairman or judge is appointed. Elders and young men take their positions, and people reason. They listen to evidence, they compare the case with previous cases, they quote proverbs, they recount particular events and again they reason. This mode of organising and taking decisions is useful in solving small, everyday problems, but it also allows the possibility of deciding on grand schemes like constructing a new irrigation canal.

The decision-making pattern is the same for a neighbourhood, for a village, for an area. The extraordinary achievement of leading water down the steep escarpment does not require a centralised political body or a dominant class or elaborate planning charts. And it is this very same procedure that has allowed the system to survive and continue to expand. The pre-colonial irrigation system is still expanding. Since the 1980s no less than 30 new canals have been constructed.⁵

But the water in the canals does not run by gravity alone. Water is perceived as given by *Iilat*, the spirit of lightning, thunder and rain. The irrigation canals are part of the farming system, but they are also metaphysically charged arteries flowing through the Marakwet landscape. Traditionally people found it safe not to cultivate land near rivers

The irrigation complex (1973): Inspecting one of the shelves carrying water along a steep passage in the hills. The photo on the right shows a hollowed-out log placed to guide the water flow. The whole construction is supported from below by scaffolding.

4 Östberg (2004).

5 Davies, Kipruto and Moore (2014:518).



Two women at a celebration (1973). The woman on the right wears a *leketyo*, the cowrie shell belt mentioned in the text.

so as not to annoy *Iilat*. He might disappear, which would mean that the rains would stop. We listened to accounts of how women must be careful when passing waterways so that they are not snatched by *Iilat*, who is reported to have a very special liking for young women. If they wear *leketyo*, the belt decorated with cowrie shells (associated with water and fertility, among other things), they had better remove it so that *Iilat* is not unnecessarily attracted.

A group of elders at Kabakire village, near Tot, entered into a discussion on whether all *iiloot* [pl.] are male or not. They recalled accounts by people who have observed *iiloot* in rivers, and concluded that women's snuffboxes, earrings and other objects had been snatched by female *iiloot*. They remembered an incident when a *leketyo* was lost in the river. A sheep was sacrificed and *Iilat* asked to return it. The following morning the belt decorated with cowrie

shells was found close to the "House of *Iilat*", situated where the Kapiisiyo canal is led off from River Embobut. They concluded that it was a female *iilat* that had taken the belt. And then they proceeded to discuss different people who had fought with male *iiloot* and lost.

Children learn in school that lightning and thunder are electric discharges. This does not quite block the idea that rains are visits by *Iilat*. The spirits of lightning constitute a meaningful reality to the many Marakwet who volunteered stories about *iiloot* when we interviewed them about the irrigation canals. The message was that people should behave well so that *Iilat* continues to provide rain and the irrigation water on which they all depend.

Livelihoods

The Tot area, and the Marakwet part of the Kerio Valley more generally, was in the mid-70s an area of some agricultural potential, as it still is today. Soils are moderately fertile,⁶ and rainfall not insignificant,⁷ reinforced by the substantial hill canal irrigation complex.

For a semi-arid area the population density is high, thanks to the irrigated agriculture, and the population is increasing. However, the 1960s, the decade before our account starts, had seen people leaving the valley to clear land in the Cherangany hills. It was mostly men who left, as testified by the recorded sex ratio in the Tot area.⁸ Kenya had become independent in 1963 and the previous colonial policy to prevent people living in the water catchment areas in the hills was no longer upheld. There had been previous "invasions" of the highland forests in the 40s

6 Dietz et al. (1987:14-16), Davies, Kipruto and Moore (2014:4).

7 Cappon et al. (1985:26-27).

8 Cappon et al. (1985:36-7).

and 50s but now it was on a much higher scale. Land was also becoming available in the neighbouring former white settler areas of Uasin Gishu and Trans Nzoia and a number of people from the valley acquired land there. The acreage under cultivation in the valley fell.⁹

Towards the end of the decade things changed and instead there was a movement of people down the escarpment into the valley,¹⁰ perhaps attracted by the introduction of cotton, rumours that land registration might be under way, and new prospects offered by the establishment of the major development intervention, the Kerio Valley Development Authority (KVDA).

Seasonal migration was also important. Half of the men below 50 years of age left temporarily for the maize harvest on the Uasin Gishu and Trans Nzoia plains. This was from October after the grain crops had been harvested in the valley. The men commonly stayed away for about three months. Work could also be found most of the year in the Marakwet highlands with the planting, weeding and harvesting of maize, beans and pyrethrum. Male migration shows up in the uneven sex ratio in the censuses, but also reflects that more and more men established an additional household with a second or third wife on a plot in the Marakwet highlands. This meant that a wider range of crops could be cultivated, and the conditions for milk cows were better in the highland zone than in the valley. The family became less exposed to the vagaries of weather, disease and cattle raids.

The irrigation farmers of the lowlands had acquired one more economy to cooperate with. When crops failed in the lowlands there were additional possibilities through markets, relatives and acquaintances in the highlands. Along the roads and paths

connecting highlands and lowlands in Marakwet there was a steady traffic of maize and beans descending into the valley and of fruits and sweet potatoes being carried up. The Kerio Valley is a harsh environment and diversification a wise strategy — as characterised by irrigated farming, fields in both the valley and the highlands, crop variety, livestock husbandry, bee keeping and seasonal labour migration, together with petty trading and handicraft production.

Even today a sizeable farm in the highlands makes economic sense. However, the valley retains its attraction. Living in the residential areas on the slopes of the Cherangany, maintaining the irrigation canals, keeping goats, and cultivating finger millet and sorghum using the short, small hoe called the *mokompo*, suitable for the loose soils of the valley (rather than the ordinary industrially-produced hoe), is for some quintessentially what Marakwet life is about. The two types of hoe, the commercially-produced *jembe*, found all over Kenya, and the much smaller and locally made *mokompo*, could be said to capture the difference between highlands and lowlands. The *jembe* is straight, heavy, efficient and used with both hands, while the *mokompo* is light, versatile, supple and held in one hand. You can twist the *mokompo* in any direction so that it reaches everywhere; you turn it to crush a clod of earth with the back of the shaft and have made ten moves with it in the time you hit once with a *jembe*. When a woman leaves home for the fields the *mokompo* hangs over her shoulder, as if it were part of her, while the commercially-produced hoe has to be carried. (*Writing these sentences makes me recall the voices of women descending from the residential areas on the hillsides in the mornings en route to the fields on the valley floor. They had kilometres to cover before they reached the fields, and singing together shortened the journey.*)

If a first subjective impression of the valley in the 70s might be one of a stagnant God-forsaken out-of-the-way corner of

9 Dietz et al. (1987:87).

10 Dietz and van Haastrecht (1982:48).

the country, the population statistics tell of dynamic changes, decade by decade. Change was also true of the farming system where large communal fields were cultivated on the valley floor for about three years and then moved as fertility declined; meanwhile water rights rotated between different lineage groups. At the beginning of each cultivation season the lower parts of the canals were redirected to reach the new fields. Cultivation areas could also be abandoned after attacks by cattle rustlers, and later reoccupied. This has not happened recently but was a reality over long periods of time. New canals are regularly being constructed.

Lines of
vegetation litter
arrest sediments
in a cultivated
field on the valley
floor (2000).

Fields and waterways are thus not static but moving through the landscape and so does the soil itself, as the Marakwet say.



It is moved by sheetwash and trapped by rubbish and stone lines. At the field level there is likewise continuous movement. Seeds are broadcasted by hand and buried in soil as women move through the field with their short-hafted hoes. Hoes move water and soil during irrigation so that moisture, nutrients, different types of soils and vegetation may serve the growing crop best. Marakwet fields are mosaics of standing crops, bushes, trapped sediments, micro ponds, low earth banks to slow down the water, vegetation litter that serves the same purpose, and small heaps of drying and mulching weeds. In the fields you may also find minute furrows, pebbles, sticks—remnants of games children played while their mothers worked the land. Bushes and scattered trees are left to support re-vegetation of the land after harvest and to provide shade, while clumps of trees allow people who are working far away from the village to discreetly answer the call of nature.

Watering the fields engages all the farmer's senses. You feel with your feet how deep the water has entered the soil, or measure it with the *rendur*, the forked stick used for removing thorns from the land when clearing it. If you are still uncertain, a single stab with the hoe will disclose the truth. Water should move gently through the field, reaching where it is needed without causing erosion. The farmer moves with the water. It looks choreographed. The farmer tastes, tests, experiences when the land is saturated, "when it has the smell of rains, of a cool place". This is when it is time to allow the water to proceed to your neighbour's field.

Life and livelihoods in the 1970s were dynamic rather than static. At the same time there was a permanency, a stability derived from the substantial investments made over generations to construct the canals, in the farming knowledge built up over time, and in the firm conviction that whatever problems arose could be handled



A homestead in the residential zone on the hillside: The wife's house, with the fireplace, to the left and the husband's house to the right, in between the goat house and grain store (1973).

in the neighbourhood meetings of peers who sit down to reason over water business, marital strife, thefts, the planning of future communal activities, etc. The irrigation system has survived droughts and warfare, landslides and development agencies. Its resilience lies in this combination of flexibility and permanence. People returning after the warfare of the 1990s revived the structures, and today there are more and longer irrigation canals than ever before.

In an interesting historical study William Adams¹¹ identified a paradox: the colonial administration both recognised that the irrigation complex saved the Marakwet from famine and yet argued in favour of “settled permanent agriculture” with a limited number of permanent canals “correctly aligned and protected”. Ironically, the administration wanted to put an end to the flexibility and adaptability that had seen the system survive for centuries.

The houses on the escarpment

People lived on the slopes of the escarpment in homesteads, which in the mid-70s typically consisted of two round thatched houses facing each other, and grain stores. If the household consisted of more than one wife, or if an adult son or a relative lived in the compound, extra houses were built behind one of the houses or adjacent to the compound. The standard household comprised a man (often seasonally absent), a woman, and three to five children.

Very few rectangular houses were found on the escarpment, but these were standard in the trading centres along the valley road. A count in 1980-81 registered only three rectangular houses, and newly constructed at that, in Sibou village adjacent to Tot, which at the time consisted of 288 households.¹² Salaried men owned these houses. The

11 Adams (1996:161f).

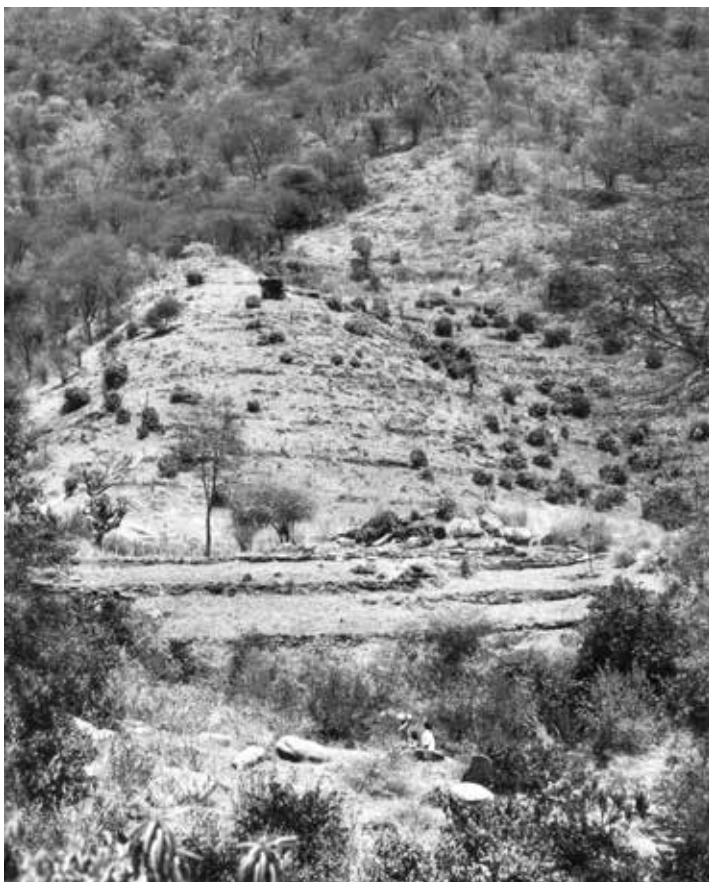
12 Moore (1986:30,132).

difference between households with access to job incomes and those without was considerable.

The furnishings in most houses was simple: sleeping skins, a couple of stools, clay and aluminium pots, gourds, skin bags, enamel cups, plates and bowls. Eating skins were still in use. Some households had a radio, bed and mattress, a table and chairs. Most people owned few items made of cloth. Women and children often dressed in skins.

One still finds this kind of house on the slopes of the Cherangany today, but about half the houses now are rectangular with metal roofs. There are solar panels and gas cookers, TV sets and sofas. Another major difference is that the residential areas give a much greener and livelier impression today. Fruit and shade trees have been planted, and the plots are smaller. There are more people around. At the same time some

To hinder soil erosion, lines of stones are arranged across the slope on hillside fields. Land here is ready to be cultivated (1984).



families have moved down to live on the valley floor, in the small centres along the road, and have also established permanent gardens there. This was strongly advocated by the administration in the 1970s. People lost hours every day moving between the residential zone upland and the fields on the valley floor. Social services were also concentrated in the valley. However, people preferred the slightly cooler climate in the hills and wanted to get away from mosquitoes. They also felt less exposed to cattle raiders in the hills. But now there is a definite move down to the valley floor. The new permanent gardens require more intensive care, and water must be able to reach the fields at all times. When land adjudication eventually reaches the valley, these families will have already safeguarded their interests.

Mobile phones, TV sets, motorcycles... in the midst of such contemporary realities, I recall an old woman back in the 70s who asked me if we had blacksmiths back in my country producing the money that is used in Kenya. She saw me paying salaries and school fees, contributing to fundraisings, buying soft drinks. I seemed to have access to inexhaustible resources. Today's cash economy means that many in the valley can afford what in earlier times appeared to some as unattainable.

The agricultural landscape

Finger millet and sorghum were the main crops in the 70s, with maize becoming increasingly popular. Many families had fruit trees, particularly banana, and some grew vegetables (kale, cabbage, onions, peppers, tomatoes). The main fields for sorghum and finger millet were on the valley floor where a family commonly farmed half to one hectare of communally-controlled land, often in more than one plot. At the onset of

the planting season a group of people would agree on cultivating a particular area, clear and fence the land together, and take water to the land.¹³ Internally, these large fields were divided between the participating households. The farms on the valley floor were cultivated for about three years and then fallowed. Some families had a field or two by their compound on the slopes of the escarpment. Here it was advisable to terrace the land and this was done with the help of stone lines placed across the slope. The captured sediments gradually built up forward-sloping terraces, allowing water both to infiltrate there and to slowly proceed to the next terrace. Many families also had a maize field of up to half a hectare in the higher reaches of the hills, usually growing a hybrid variety. All in all a farm added up to two hectares at most while some cultivated about three-quarters of a hectare. However, there were also parts of the valley where arable land was scarce and landless people had to offer labour, goats, and/or water rights to get land to cultivate.

About half the men had beehives, and honey was an important product. It was common to have about 20 beehives but not that unusual to have 30 to 50. Most households kept poultry and had goats. In a herd of 25 goats some 10 goats could be milked in the wet season and each would provide a cup of milk, which was given to children. Goats were both cash and meat, and were needed for ceremonies. Some families had sheep and cows, but more or less all kept a small herd of goats. Keeping cattle was never important in Marakwet the way it is among the neighbouring East Pokot or the Turkana. And in the last decades of the 20th century it was just too dangerous to keep cattle. You



invited raiders, which was definitely deadly. Nevertheless, in the early 70s one could see herds moving in the valley and there were people who identified with their livestock, who talked about the satisfaction of seeing animals coming home from grazing and who wanted others to say about them, "There comes so-and-so with his livestock". All the same, goats were, and still are, much more important.

Children outside the entrance to a goats' enclosure on the valley floor. Above the gate is a beehive waiting to be hung in a tree (2000).

Settlements are made with goats. You pay for water with goats. You pay fines in goats. You provide goat's meat to people who have helped with farm work. Marriage settlements are counted in goats. Goats are slaughtered at initiation celebrations, and at marriages. Goats are seen as active, goats "are tools to boost life". They are like farm implements, people say.

Sheep are different. They are said to be humble creatures. They do not jump over fences to eat crops. If irrigation canals have been breached, a sheep is sacrificed to heal the wound. When pests destroy crops a sheep is sacrificed to restore the land. A landslide requires that sheep be sacrificed. When someone has been killed, a sheep is slaughtered at the place where blood was shed on the land. But the compensation for the loss is paid in goats. Sheep are for healing wounds and goats for building the future.

13 Land distribution, like water, is complex and has been analysed in several studies (e.g. Adams et al. 1997:715-727, Critchley 1979:10-11, Dietz et al. 1987:49-51, Ssennyonga 1983:102-110), and new studies are just now being prepared for publication.

Crop histories

The Marakwet have grown finger millet and sorghum as far back as memory goes. The first trials with maize in the valley were initiated by the British in 1918, but did not attract much interest. By the mid-1930s maize was still hardly grown at all.¹⁴ However it slowly gained in popularity and in the 70s most households had a maize field. Hybrid varieties were available, particularly Coast Composite maize, and the sorghum variety Serena gained in popularity.¹⁵ There was a local market for maize, particularly among teachers, traders, agency staff and other modernising groups.

The colonial agricultural service introduced cassava in the 1930s, which by the 1970s was grown by most families. Cassava constituted a valuable backup if the cereals did not do well. Bananas and sweet potatoes had long been popular and other successful introductions were groundnuts, cowpeas, sugar cane, chilli peppers and mangoes. None, however, were a commercial success. The markets were too far away, and the roads deplorable. Farmers drew the conclusion that since there was nowhere to sell finger millet, there was no point extending the fields. A typical remark from valley farmers at the time was that they cultivated “for the family, not to sell. It is not like the highlands where people open new lands all the time”. Cash crops did not take off, and lowland Marakwet remained basically a subsistence economy. Very few people had salaried incomes.

All farm work was by hand, as is still the case today. Fields were cleared using a machete and an axe. Thorns were gathered with large wooden forks and burnt in the fields; some were used for fencing. Fertility management

was limited to fallowing, while manure could be added to the more permanently cultivated fields on the slopes of the escarpment.

Labour parties were common and participants remunerated with goat’s meat, other food, or local beer. Sometimes a small amount of money was offered, often spent on beer.

Yields were low. Finger millet and maize produced about 600-800 kg/ha, sorghum a bit less. Hybrid varieties and additional weeding easily doubled the production. Families counted on getting about ten bags of grain to live on for a year. “Only in bad years will there be a clear food deficit, but for some the stores of millet and sorghum from former good years, the food exchange relationship with highland relatives, and the money available can form a buffer against famine.”¹⁶ In plots closer to the river good harvests of maize could be expected. A pioneering farmer who went further west and planted near the Kerio River harvested over 2,000 kg/ha.¹⁷ There were signs that things could quickly change.

Cash was derived from selling animals, fruits, vegetables, tobacco, hides and skins, honey, handicrafts and home-brewed beer, with additional income coming from day labouring and the remittances of family members living outside the valley. Bananas were a steady provider of petty cash and were also bartered, as were cassava and sweet potatoes, for maize and beans (in the highlands) or milk (with the Pokot).

Development initiatives

The colonial period was only a decade distant in the mid-70s, and much more a living reality in people’s minds than it is

14 Dietz et al. (1987:82).

15 Critchley (1979:12,14).

16 Dietz et al. (1987:33).

17 Critchley (1979:17).



Resting outside a homestead on the hillside (1973). The man holds snuff in his left hand, ready for a pinch. Most adults used snuff. The horn suspended from the woman's necklace served as her snuffbox.

today. It was still possible to interview men who had fought in the Far East for the British during WW2. Other elders reminisced about expeditions to Lake Turkana to load donkeys with a type of salt used in preparing the snuff that most men and women used, and which was a standard item at the local markets. The Somali traders at Chesegon represented a link back to the times of the caravans. The churches, secondary schools and the hospital at Kapsowar were still largely managed by Europeans. However, major changes were just around the corner. Two agricultural extension workers and an animal health assistant were posted to Tot, and the Catholic church at Chesongoch hired an agriculturalist for a three-year period who came to initiate demonstration plots, provide agricultural inputs, start educational programmes, tree nurseries and a host of other activities.

Cotton was introduced, and an Endo Farmers Cooperative Society was formed. Tractors arrived to plough 200 acres on the valley floor. The harvest was good,

and lorries from the Cotton Board came to collect. People were paid KSh 2/kg. Things worked. It was suggested that the society should open an account with the Cooperative Bank. This meant that payment was no longer cash on delivery directly to the producers, but went to the cooperative office at the district headquarters in Iten. A representative for the Tot society was to collect the money. This proved difficult. No money reached Tot and the cotton project collapsed. A new start was made in 1983. And so it continued, with ups and downs. Today cotton is not a priority in Tot.

Investments in rural development rose sharply, largely financed by foreign donors. One buzz project succeeded the other: soil and water conservation campaigns, water development, rural access roads, afforestation, the Arid and Semi-Arid Lands Project, and so on. The Kerio Valley Development Authority, established in 1979 by an Act of Parliament, was to cater for a major transformation of the valley, including new permanent irrigation

canals and drawing a railway line through the valley to be able to export on a large scale. More schools and health facilities were to be provided, as were improved agricultural extension services, new cattle dips, tree nurseries, provision of improved seeds, veterinary medicine, large-scale conservation efforts, green belts, mineral exploration, and many other initiatives.¹⁸ In 1982-83 the KVDA opened an irrigated experimental farm employing 100 locally-recruited casual labourers.¹⁹ In 1989 the Kapiisiyo clan provided land for another KVDA farm. A nursery was established at Embobut River and a wide range of crops was planted: finger millet, white sorghum, maize, cassava, watermelons, tomatoes, onions. The harvest was good and some of it was displayed at the Kaamariny Agricultural Show.

But then came the large-scale cattle raiding that plagued the area in the 1990s, which forced people to retreat to the hills for safety. Fields were abandoned and schools, dispensaries and shops closed. Trade came to a standstill. For some time the valley was basically deserted and the KVDA left. By 2002 there was again peace in the valley. The irrigation system was restored, the valley fields could again be cultivated and life returned to normal. The violence during the 1990s was extreme, but cattle raiding has a long history in the Kerio Valley and was also present in the mid-70s.

Development interventions have succeeded each other. KVDA is again a presence but its grand plans are yet to materialise. The most recent large-scale project was initiated in 2012 by the Red Cross, with the intention to permanently cultivate 500 hectares on the valley floor. The scale has already been reduced by half, and the long-term ecological viability of this major project

has not been studied. Exports will depend on whether a permanent road to Eldoret is constructed. However, a local committee of farmers has been formed and expectations are high.

Among all the well-meaning interventions, what have so far shown to improve livelihoods in the valley are on an altogether different scale: fruit tree nurseries, improved seeds, and mobile phones. Everyone benefits, and there are no accounts to manage.

Acknowledgements

The information in this essay was to a large extent collected in collaboration with the late Johnstone Kibor Kassagam (1952-2003), conservator in the Department of Ethnography, National Museums of Kenya. His skilful and committed contribution was greatly appreciated, as were his good company and friendship. His passing away in the middle of his life and career was inexpressively sad. This essay is written as a tribute to his inventive and competent contributions to anthropological fieldwork, how he was instrumental in the development of some of Kenya's regional museums, and his tireless conservation of ethnographic materials from across the country.

Later I had the good fortune to cooperate with Florence Jemutai Cheptum, M.A., an equally brilliant fieldworker. She is moreover competent in the recently standardised orthography of the Marakwet language and undertook the transcription of Marakwet terms and quotations in this text.

Peta Meyer corrected my 'Swenglish' manuscript with great skill and sensitivity. I am most grateful.

¹⁸ Were (1983).

¹⁹ Dietz et al. (1987:63).

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ALL PHOTOGRAPHS BY THE AUTHOR

References

- Adams, William M. (1996). "Irrigation, erosion and famine: Visions of environmental change in Marakwet, Kenya." In: Melissa Leach and Robin Mearns (eds.) *The lie of the land. Challenging received wisdom on the African environment*. Oxford and Portsmouth (N.H.): James Currey and Heinemann, in association with the International African Institute, p. 155-167.
- Adams, William M., Elizabeth E. Watson, and Samuel K. Mutiso (1997). "Water, rules and gender: Water rights in an indigenous irrigation system, Marakwet, Kenya." *Development and Change* 28: p. 708-730.
- Cappon, Jan C., M van den Goorbergh, Michael S. Mwangi and Charles M. Saina (1985). *District Atlas Elgeyo Marakwet*. Iten: Arid and Semi-arid Lands Development Programme, Ministry of Planning and National Development (Kenya).
- Critchley, William R.S. (1979). *Chesongoch Agricultural Project 1977 – 1979. Final Report*. Chesongoch Catholic Mission.
- Davies, Matthew I.J., Timothy Kipkeu Kipruto, and Henrietta L. Moore (2014). "Revisiting the irrigated agricultural landscape of the Marakwet, Kenya: Tracing local technology and knowledge over the recent past." *Azania* 49(4): p. 486-523.
- Dietz, Ton and Annemieke van Haastrecht (1982). *Market Integration in Elgeyo Marakwet and West Pokot: Comparing Households and Locations*. University of Nairobi: Institute of Development Studies, Working Paper No. 392.
- Dietz, Ton, Annemieke van Haastrecht and Henrietta Moore (1987). *Endo, Mokoro, and Embobut locations, Elgeyo Marakwet District*. Iten: Regional development research for the Arid and Semi-Arid Lands Programme, Elgeyo Marakwet.
- Moore, Henrietta L. (1986). *Space, text and gender: An anthropological study of the Marakwet of Kenya*. Cambridge University Press.
- Moore, Henrietta L. (2009). "Epistemology and ethics: Perspectives from Africa." *Social Analysis*, 53(2): p. 207-218.
- Östberg, Wilhelm (2004). "The expansion of Marakwet hill-furrow irrigation in the Kerio Valley of Kenya." In: Mats Widgren and John E.G. Sutton, J.E., (eds.) *Islands of intensive agriculture in Eastern Africa: Past and present*. Oxford: James Currey, p. 19-48.
- Östberg, Wilhelm (2014). "Irrigated fields are wives: indigenous irrigation in Marakwet, Kenya." In: N. Thomas Håkansson and Mats Widgren (eds.) *Landesque capital: The historical ecology of enduring landscape modifications*. Walnut Creek, CA: Left Coast Press, p. 197-214.
- Ssennyonga, J.W. (1983). "The Marakwet irrigation system as a model of a systems-approach to water management." In: Benjamin E. Kipkorir, Robert C. Soper, and J.W Ssennyonga (eds.) *Kerio Valley: Past, present and future*. University of Nairobi: Institute of African Studies, p. 96-111.
- Were, F.B.S. (1983). "Responsibilities and activities of the Kerio Valley Development Authority." In: Benjamin E. Kipkorir, Robert C. Soper, and J.W Ssennyonga (eds.) *Kerio Valley: Past, present and future*. University of Nairobi: Institute of African Studies, p. 12-18.

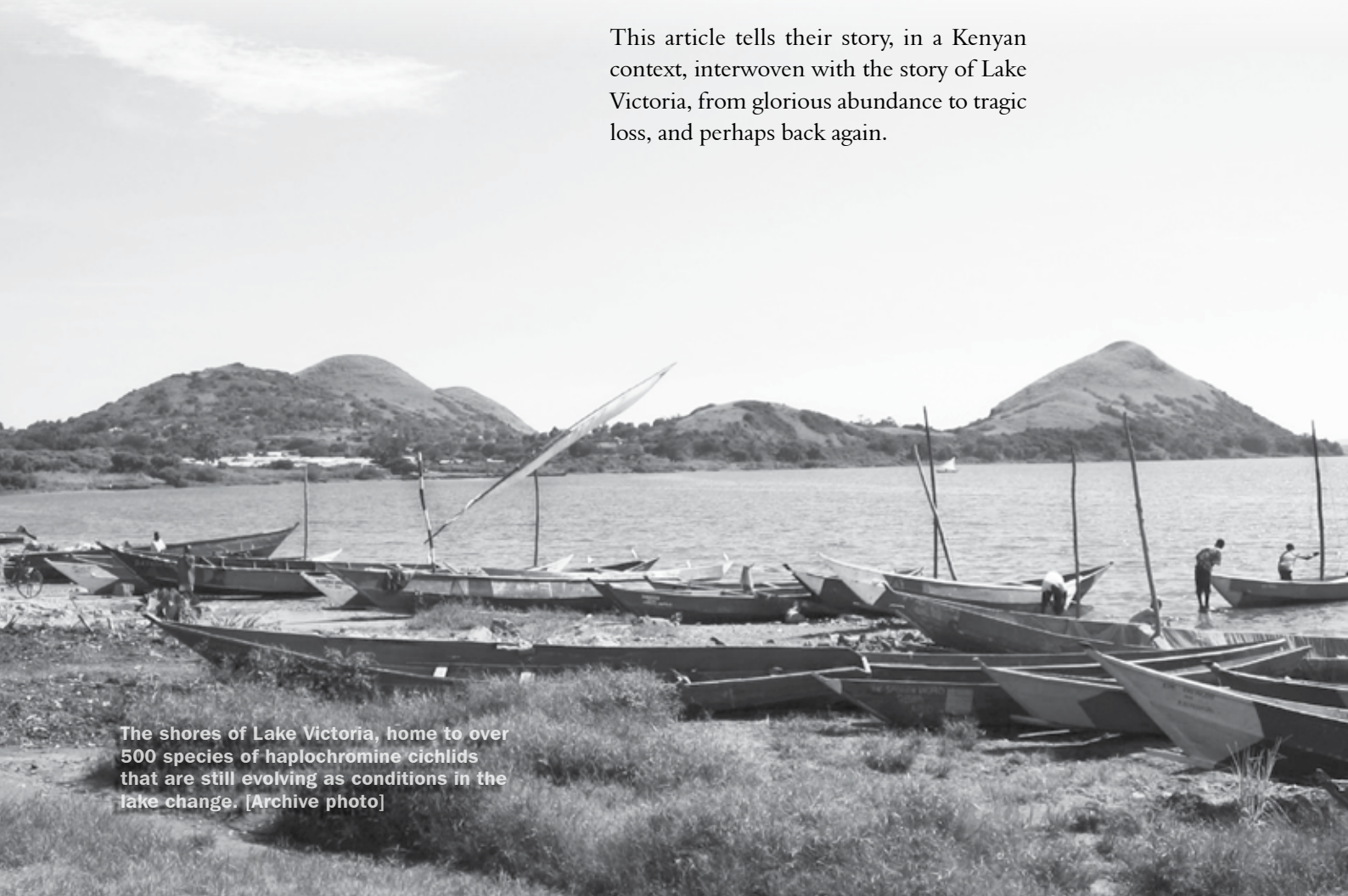
Darwin's dreampond revived?

Valerie Jeffries

If Charles Darwin had known about Lake Victoria he would probably have gone there immediately. Science lecturer Valerie Jeffries presents the unknown story of evolution in action playing out beneath the waters of Africa's greatest lake.

Lake Victoria has been a highway for trade, could be a high spot for tourists, and is an evocative presence in the literature of East Africa. But why should a Dutch biologist writing about the lake name his book *Darwin's dreampond: drama in Lake Victoria*? Tijs Goldschmidt observed, collected, studied, pondered and theorised about the haplochromine fish of Lake Victoria, and rightly concluded of Darwin that given the opportunity he would have gone there immediately. Evolutionary biologists from all over the world study the Lake's haplochromine fish (often fondly referred to as 'haps'), because of the amazing diversity, spectacular colours and strange breeding behaviour of the hundreds of species found nowhere else, and which evolved all this glorious abundance in record time.

This article tells their story, in a Kenyan context, interwoven with the story of Lake Victoria, from glorious abundance to tragic loss, and perhaps back again.



The shores of Lake Victoria, home to over 500 species of haplochromine cichlids that are still evolving as conditions in the lake change. [Archive photo]

Humans and haplochromines

Kenya is known throughout the world for its wildlife. The 'big five' large mammals are what tourists come to see (along perhaps with basking on the beaches). Scientists and students on the other hand are more likely to come for the priceless collection of fossil remains of our human ancestors in the Nairobi National Museum, perhaps even to pursue further research of their own in the country where Louis and Mary Leakey famously revealed to the world the fossil evidence that our species originated in East Africa.

But what of Kenya's second great story of evolution, not fossil but modern, not dry but swimming, not a few species but 500 unique to Lake Victoria? No less than the fossils in the "cradle of humankind" the haplochromine cichlid fish of Lake Victoria are an extraordinary demonstration of evolution by natural selection. Students of evolutionary biology worldwide learn the story of the haps' adaptive radiation in Lake Victoria from their textbooks alongside the hominin discoveries. Scientists from Europe and further have built careers on haps since before Kenyan independence, and today biologists in Kenya, Switzerland, The Netherlands, Austria, Germany, USA, France, Britain, Japan, and Spain are continuing to study these extraordinary little fish. About 200 papers concerning them have been published from 2000 to 2014, generating so far over 2,500 citations.

Speed and evolvability

When our ancestors were discovering fire, recognisable taxonomic groupings of fish had long been established, and the Family *Cichlidae* already contained the little haplochromines which swam in the lakes of East Africa. But these were not the haps of today; their scarce fossil remains allow little detail.

When Darwin was writing *The origin of species* there was a rich abundance of types among the haplochromines of Lake Victoria. They comprised hundreds of species which had diversified to eat insects, algae, phytoplankton, zooplankton, small crustaceans, detritus, snails, the occasional scale-feeder which scraped its lunch off other fish, and outright predators on smaller fish. For each feeding habit there were adaptations of body form to enable the food to be found and eaten, and adherence to particular habitats within the lake. Bright colouring of the male hap while breeding marks out different species to the biologist and to the female haps, which recognise their own kind for courtship by his colour and pattern. What defines haps amidst all their variety is partly their bones, particularly their jaw bones.

Haplochromine fish have two sets of jaws, the secondary pair being in their throat as 'pharyngeal jaws', so there is extra bony architecture from which to evolve an array of head shapes, mouths and teeth, allowing profligate variation on a theme. It is mainly by the head features that hap species are defined, but further back on the body is evidence of another wonderful feature: egg spots. Haps lay little yellow eggs, and when in his breeding colours the male shows on his anal fin a pattern of blobs that look like little yellow eggs: his 'egg spots'. Like other mouth-brooders haps carry the fry in their mouth for protection, letting them out to feed but gathering them up again if threatened (predictably, there is yet another feeding habit among hap species, to suck the baby fish out of the mouths of brooding mothers). After courtship the female lays her eggs then collects them up into her mouth, and among her eggs she sees depicted on the fin near the male's vent – little yellow eggs. Her nipping at



The unusual black *Haplochromis piceatus*, now extinct in Lake Victoria and only to be seen in zoos. Photo by E. Schraml.

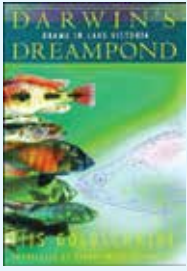
his fin prompts the male to spawn so the sperm goes straight into the same cavity as the eggs, enclosed and safe for fertilisation to take place.

Cichlidae as a whole have diversified into a great number of species, but haps most of all. It is thought that evolutionary potential for altering their head structure, their feeding behaviour and digestion, and their characteristic colours, are the cause. None of these are features that easily fossilise especially in a fish less than 25cm long, and it is modern molecular techniques allowing inference back in time that have enabled biologists to map the history of the haps.

But with haps, it is not just the abundance of evolution, but also the speed. They are the fastest evolving vertebrates on Earth, and among all the African lakes teeming with hap species it is Lake Victoria that contains the fastest. Haps probably first diversified in an older East African lake, Lake Tanganyika, or Lake Kivu, and reached other lakes from there through fringing swamps and river systems, having already evolved the maternal mouthbrooding and egg spots. In the depths of water bodies like Lake Malawi whole new ecosystems of haplochromine fish then evolved in the last half million years or so, estimated from analysis of the molecular evidence quantifying similarity between its species today. Around 1000 species evolved in Lake Malawi in that time, which is extraordinarily fast for a vertebrate animal.

Lake Victoria, being shallower, has a different history — an extraordinary history, because over the few million years since its formation, it has repeatedly disappeared. Limnology (freshwater science) shows evidence of dry periods and re-filling, which means Lake Victoria as we know it today is very recent. Prior to its latest refill, it was land: the fish were gone. There were only perhaps some swampy streams and wetlands remaining nearby, part of the network of waterways that join up the Rift Valley lakes today. Then the climate changed again and Lake Victoria re-appeared. Fish arrived and began to re-populate the lake, probably from the fringes. Details of interpretation are contested, but time estimates point to around 15,000 years since the lake basin finally refilled. From that time until biologists started to apply the Linnaean system of classification in the 19th century, about 500 species of haps evolved unique to Lake Victoria. Genetic evidence shows that all these came from very few re-colonising ancestors in just a blink of geological time and they are all related to each other more closely than to the haps in other lakes, even the ones most resembling them, with the same diet from the same habitats. These unique species have all evolved in the roughly 15,000 years since the waters returned. Kenyan scientists are still working today to describe them all. In every part of the new lake, and with every new food source, a host of new species evolved, producing the Lake Victoria “species flock” by rapid adaptive radiation.

Humphrey Greenwood, former Curator of the Natural History Museum in London, laboured to document and classify them in the 1950s, but it was a colossal task. His 134-page monograph *The cichlid fishes of Lake Victoria, East Africa: the biology and evolution of a species flock*, 1974, was a massive advance, but not a complete catalogue. Tijs Goldschmidt’s definitive



and entertaining book *Darwin's dreampond* (1994) incorporates the work of Dutch biologists from the 1970s, including the Haplochromis Ecology Survey Team,

H.E.S.T. Goldschmidt combines a wealth of observation on haps, history, travel stories, and biological theory, but not a comprehensive description of species, which is still pending. Franz Witte, who has studied haps since the 1970s, could still trawl for ten minutes and catch 1000 haps representing 100 species. The haps were just too many, too gloriously patterned, too bewilderingly various, to count.

Ecological disaster

The tragedy of the 20th century was that the species flock was threatened through environmental changes and the introduction of the large and predatory Nile perch. Populations collapsed. In the 1950s the Nile perch was brought in despite the protests of some biologists, partly to develop the fishing industry and provide more profit to the fishing communities beside the lake, which it did, for some. It also, in the minds of many, spelled disaster for the haps. Small "satellite" lakes bordering Lake Victoria such as lakes Sare and Kanyaboli, which never contained Nile perch, have retained their small complement of hap species, and came to be regarded as "refugia" where some hap survivors could still be found. There is ample evidence against the Nile perch. But also, ongoing water pollution worsened with population growth, converting Lake Victoria into a hostile environment, and hap numbers crashed.

It became apparent to the scientists, and to the local people. The huge worldwide community of tropical fish enthusiasts specialising in haps, especially in the USA and Australia, found the prized wild-caught

genuine specimens harder to source. Some enlightened voices among the aquarist associations argued against mixed tanks where haps could hybridise in an unnatural environment, despite the attractive hybrids sometimes obtained. This was in the long-term interests of serious collectors and of genuine conservation. Conservationist Colin Tudge contributed an article to the *New Scientist* magazine, December 1989, entitled "Plenty more fish in the lake?", and the editorial comment was headed "Fish need just as much care and attention as furry animals, says Colin Tudge". Tudge argued for strenuous conservation since "A survey in the mid-1980s showed that 60% of the original species of haplochromines were probably extinct". He noted that the Horniman Museum in London had a small aquarium which was housing the only known survivors of the species *Haplochromis pyrrhocephalus*, and that the university departments of major researchers such as Les Kaufman (Boston) and Franz Witte (Leiden) were similarly preserving haps in tanks. Some species were successfully propagated without loss of genetic diversity in public aquariums under the Association of Zoos and Aquariums Species Survival Plans, such as the unusual black *Haplochromis piceatus*. Hobbyists played a major role and still do.

Xystichromis phytophagus, a plant-eating species, recently studied in satellite lake Kanyaboli by Kenyan biologist Romulus Abila. Photo by E. Schraml.



Before the 1970s Lake Victoria had been home to endless cichlid fish, including tilapia, and especially its small relatives, the haplochromines. They formed the bulk of fishermen's catches until the mid-20th century, locally known as *furu* or *fulu*. Species were individually recognised for their culinary possibilities and some were regarded as delicacies. Since the 1980s there have been far fewer fulu and younger Kenyans are no longer familiar with all their colours and types, since the local diet now includes little fulu and more Nile perch.

There has been a bold attempt, by Dr William Ojwang of the Kenya Marine and Fisheries Research Institute (KMFRI), backed by haps expert Les Kaufman in Boston and with help from the American Cichlids Association, to introduce tanks of fulu to local schools to raise awareness of heritage, conservation, and evolutionary biology. Development beyond the pilot stage proved problematic. A broader awareness of what is happening beneath the surface of the Lake, it seems, is lacking. KMFRI at least continues to maintain a small aquarium including fulu near Kisumu, open to visitors and school parties. Lake Victoria is of course nearer to Kisumu than Nairobi, and Kisumu Museum displays an aquarium with some labelled hap species that feature in its schools outreach programme.

Scientist Alex Nyaoke
in the Aquarium,
Kisumu Museum.
Photo courtesy of
Kisumu Museum.



Hubert Sauper made a film in 2004 with an alarming title, echoing Goldschmidt's wonderful book *Darwin's dreampond*. The film, shot in lakeside Tanzania, is called *Darwin's nightmare*. It sets out all the environmental effects of the fish-processing factories that sprang up around the lake as the Nile perch proliferated, and of the pollution from deforestation, industrial runoff and sewage. This led to algal blooms which then crashed, leading to anoxic conditions in the water, turbidity, and the spread of the water hyacinth weed across the lake. Eutrophic conditions in parts of the lake destroyed a wealth of wildlife.

Oscar-nominated *Darwin's nightmare* proved controversial, mainly because of its political accusations, but also because of the implied suspicion of environmental neglect which was hardly pleasing in East Africa. The causes of deterioration in the lake are many and complex, and apportioning blame was neither easy nor wise. As to the effect specifically on the haps, it was perhaps in dubious taste to suggest any lack of commitment by East African scientists, especially as some were already unhappy about the disparity between themselves and European scientists when it came to credit for published investigations. None of the glamorous papers on hap evolution published from wealthy university faculties would be possible without samples obtained originally from wild populations of fish: generous policies on licences for foreigners to collect samples were re-assessed. That said, the larger target of the film was the arms trade. It claimed Nile perch were part of a lucrative exchange for weapons bound for African wars, and that indigenous workers in the fish processing industry were suffering appalling conditions. Human injury, death and poverty obviously are more important than fish, however scientifically valuable. The film asked uncomfortable questions.

Whatever the truth about the Nile perch, the haps suffered. Despite some improvements, the state of Lake Victoria remains polluted and there is no shortage of water hyacinth. Watch from the bus travelling down into Kisumu, looking down to the lake, and you can see whether the surface is bluish or thick green today. If the water looks clear today, the wind may blow the huge rafts of weed back tomorrow. Conversely, they say you can sell 'land' to strangers today which will become sheer water tomorrow. Lake Victoria lives up to its history of rapid switch between lake and land, on two timescales.

In any case, the extraordinarily rapid adaptive radiation of the Lake Victoria haps that began 15,000 years ago was over. Even before the species flock could be fully catalogued or studied, as pollution increased, they disappeared. Ole Seehausen, one of the major haps researchers, concluded by 1990 that the battle was lost; the haps were gone. They had evolved in record time, but they disappeared even faster. The greatest evolutionary laboratory on Earth had shut down. The Theatre of Evolution almost before our eyes was closing on its first night; a tragedy for science, for the world. Over-statement? That was how it appeared to evolutionary biology.

Resurgence

The wonderful news, which no one expected, is the return of the haplochromines. The 21st century is seeing a resurgence and fresh innovation in these remarkably adaptable little fish.

Government initiatives have addressed some of the pollution issues, involving scientific cooperation between the three countries bordering the lake. By the 1990s, when the Nile perch was itself becoming scarce through over-fishing, it was eventually forced to turn its attention from the disappearing haps (its favourite prey) to small shrimps and to cannibalism. Haplochromines



began to tentatively reappear. Experimental sample numbers trawled from the lake jumped up to dozens per haul representing several species. It proved to be the start of a resurgence, modest in numbers so far but of supreme interest. Biomass and biodiversity are increasing.

This is not the species flock lost 30 years ago; survival has been differential. There is a new, smaller assembly, including types not previously known. Shifts in feeding habits have been observed, and of predator avoidance and courtship. What remains from the 20th century crash is a skewed subset of the species flock plus other individuals of no recognisable species. These could be new variants now adapted to changed conditions, or interspecific hybrids, and either could be in the process of becoming a new species (speciation), for example *Astatotilapia* sp Bigeye from Lake Kanyaboli in 2012.

Water quality is an important aspect of the haps' environment, so that increasingly hypoxic conditions in a polluted lake might be expected to select for features increasing a fish's ability to acquire oxygen. Sure enough, a species well characterised before it nearly vanished in the 1980s, *Haplochromis pyrrhocephalus*, was found on its reappearance to possess 64% more gill surface than before, accompanied by correspondingly smaller head parts and larger muscles behind the gills which could suit its dietary shift to larger

Haplochromis pyrrhocephalus. Found in 2008 to exhibit changed jaws and a larger gill surface area than in the 1980s, changes that occurred in tandem with the lake's increasing pollution levels. Photo by E. Schraml.



Pundamilia pundamilia males are typically more bluish than *P. nyererei* males, and swim nearer the surface, where blue looks vivid. Photo by E. Schraml.



Pundamilia nyererei males are typically more reddish than *P. pundamilia* males, and swim deeper, where red light prevails in turbid water. Photo by E. Schraml.

prey. This was recorded in 2008 by Franz Witte, leader of the Leiden research group, who wrote that the changes had happened “over a time span of only two decades” and that existing plasticity within the species probably contributed. Phenotypic plasticity and polymorphism (variations within a species) have always been a feature of haps and may have contributed alongside hybridisation and environmental change to their extraordinary speciation rate, as well as to the rapid body changes now.

Earlier studies by dedicated ichthyologists had identified the haps’ tendency to vary polymorphically and speculated on how this could promote rapid evolutionary change. Research since 2008 highlights how the remnants of the species flock have all the

features to make them ideal experimental organisms to study evolutionary response to environmental challenge.

Eyes as well as gills have been affected by environmental change. Mate choice is by sight, female preference correlating with the distinctive breeding colours of males of her species. The intensity and colour range of light penetrating the water at different depths is affected by the turbidity, which is caused by suspended sediment or by algae which shift the colour away from the blue end of the spectrum. Shade from a cloak of water hyacinth also impairs light penetration, so that male colours are less visible to the females.

Two reports in 2010 confirmed that breeding behaviour is affected. First, experiments on courtship using fish from populations in cloudy water found that females showed reduced preference for males of their own species. Equally, the difference in appearance between males of species living together was less marked. The authors suggest that this was the first evidence in a cichlid fish species of a male trait and female preference co-evolving together. It could also be said that sexual selection has broken down, if females are less able to perceive colours and patterns and so throw caution to the winds and mate with any male rather than none. With hybridisation thus more likely, it is not surprising that the second 2010 research report, using DNA analysis, found that among a group of closely similar species, those now living in turbid water showed less than normal genetic difference between species living side by side. Pollution and shade have clouded the issue of mate choice! These observations of mating behaviour have been complemented by molecular details, of change in the pigment forming the colours and patterns, and in the retinal structures that enable them to be seen.

Modern fish have a wider range of colour vision than mammals, having probably

always used sight since they began over 400 million years ago, whereas the early mammals had poor colour vision while they were small and nocturnal and the dinosaurs were everywhere all day. Humans now achieve a mediocre standard, reconstructed more recently in all primates, but colour vision is still feeble in most mammals. The cones of our retinas are of three types, having genes for just three types of opsin (proteins that hold a colour-sensitive pigment molecule, giving red, green or blue sensitivity). Haps also use three colour sensitivities, but not always the same three. They have seven cone opsin genes, so hap species display a larger range of colour sensitivities than can be achieved with our three. Their retinal cones have a wide choice of which three genes to express out of seven, and any combination will fine-tune the fish's sight slightly differently from any other. Scientists have used the sophisticated equipment of medical ophthalmology laboratories to examine the eyes of the fish and measure the exact spectrum that each cone perceives. It is found that deep-water species have a cone complement suited to the wavelengths of light they actually receive, as do surface species: for all but the clearest-water dwellers, the deeper, the redder. Natural selection would act to fine-tune sight because of its importance for feeding, escaping predators, and especially breeding. With cloudiness now prevalent in the lake, differences within species are found. Populations living deeper tend to have retinas shifted towards more red perception, and surface dwellers towards blue. The eventual outcome of such a shift could be a divergence as far as speciation.

"Speciation through sensory drive in cichlid fish" was the title used by Ole Seehausen and his co-authors for a paper that received the accolade of adorning the front cover of *Nature* in 2008. They had identified genes that code for the opsin proteins in the cones and thus govern visual sensitivity. They found association not only between the

genetic complement and the cones present, but also between the gene expression in the eyes (both sexes), and body colour of the breeding males. The paper reported that "the blue fish used visual genes that pick up blue light" and redder variant fish had redder perception. Further, some of the drab females (who do not express the colour potential their genes confer in the male) preferred to mate with males showing the colour they could see best, clinching the path to divergence. Regulate expression of seven opsin genes differently and the split into two species may follow! This correlation of shifted gene switching with altered mate choice earned that key 2008 paper its title, a bold claim that rings true for haps and was echoed by the commentary in *Nature News* headed "What you see is how you evolve".

The following year haps were back in the limelight with several papers from the USA piloted by Karen Carleton. The groups looked again at the basis of the hap visual range, seeking not a change in regulation of opsin genes, but a change in the opsin genes themselves — new mutation. They looked for changes in the DNA coding sequence of opsin genes, i.e. structural change, coding for novel opsins, mutations that had been selected for and become the norm since the crash. They found them: in haps from turbid waters. Their 2009 paper is called "The eyes have it: Regulatory and structural changes both underlie cichlid visual pigment diversity". Changes in coding sequence appeared to fine-tune visual sensitivity at both ends of the range available from existing opsins, by adding even bluer and redder extremes, with opsin alterations at the short- and long-wavelength ends. The total possible spectrum of wavelengths the little fish could see had been widened even further. The eyes had indeed the opportunity to demonstrate evolutionary change that had occurred already since they all but vanished in the 1980s. Could the heightened vision be seen as an 'attempt' to overcome the weakening of mate choice through clouded



Haps find fame on the cover of *Nature* magazine, 2008.



Haplochromis nubila male: still abundant in refugia and lake fringes, it was among species studied by Kenyan scientist Elizabeth Odhiambo in a 2012 paper on hybrid swarm theory. Photo by E. Schraml.

vision, the unwelcome hybridisation and consequently reduced fertility?

How far hybridisation is responsible for new species and how far environmental changes are the sole spur is a matter of lively debate. Sexual selection may also play a role, if mates are selected according to preferred features which also serve to distinguish the species, as in haps. A new male type will prosper if there are co-evolving females who prefer him and together they could diverge from the original norm, become incompatible, establish their own colour pattern, and leave their original species behind.

Returning to regulation of gene expression and looking back in time to the origin of all haplochromines, the evolutionary origin of their egg spots was studied by a large research group based in Switzerland who published in 2014. They identified a pair of twin pigment genes associated with egg spot formation, which had been formed by gene duplication. Both duplicates have a regulator region that switches them on or off (as most genes do), but in one of the pair, called *fhl2b*, uniquely in haps this regulatory region contains a mobile genetic element (called a transposon, or jumping gene). That combination of *fhl2b* and the transposon is a feature absent from related cichlids that lack egg spots, so it arose with haps. It is a rare example of a novelty (egg spots on anal fin), being tracked to a specific change in the regulation of a known gene. The authors

at the University of Basel say their results illustrate how evolutionary innovation comes from both new mutation and not least from change in regulation of existing genes. New species are particularly likely to arise when these changes alter breeding behaviour, as in the evolution of egg spots that enhance mouth brooding reproduction.

Around the same time as the transposon was found in the egg spot gene, a wider investigation was reported in September 2014 in *Nature* magazine, with 77 authors. They had compared East African cichlids and found genetic evidence for more evolutionary possibilities in haps than in tilapia and other cichlids. These were frequent gene duplications, particularly involving transposons, which offer the possibility of new and altered functions. Then, focusing on six closely-related hap species, all from Lake Victoria, David Brawand and the international group found that some of the defining differences between species today date back to the same differences within single polymorphic species of the past. This wealth of variation, revealed as polymorphism, is an evolutionary resource for haps, a resource waiting to be recruited into the dash for adaptive change that produces a species flock when the environment allows. We don't know whether this was true for tiny early mammals when the meteorite wiped out the dinosaurs and a whole new world of evolutionary opportunity appeared.

Of all animals, haps have contributed most to an understanding of how new species are formed. The actual mechanism of speciation, i.e. the origin of species (a question which Charles Darwin in fact avoided as was only sensible at the time with so little means of answering) has generated an industry of theory and research, and we have seen that haps are ideal subjects. They had long thrilled field biologists and collectors with their number and unique variety, and now we can go

further as data can be analysed with more sophisticated techniques. Recent changes in eyes, gills, jaws and behaviour have been described since the millennium. The wonderful haplochromines of Lake Victoria are now changing again, offering unrivalled opportunities to examine the process of speciation, provided lake management can prevent further environmental deterioration. A new species flock may yet appear.

Kenyan heritage

Haps research has produced leading articles in *Nature* more than once in recent years, and in several other prestigious journals. Kenyan scientists have played their part in the big European and American groups: relevant publications in 2011 and since have involved museum researchers in the Ichthyology Section of the Zoology Department at the Nairobi Museum. Their patience is necessary as profiles remain relatively low in the global haps community due to limited opportunity while funding is restricted, but there should be every opportunity to participate when the National Museums of Kenya is in a position to complete its overhaul and re-establish a Hall of Fishes. Kisumu Museum has the opportunity and enthusiasm to develop an exhibition about the lake and its biodiversity within an ideal setting for education of the schoolchildren whose heritage it is. Kenya's second great story of evolution is ripe for the telling.

Bernard Agwanda, Research Scientist and Mammal Curator at the National Museums of Kenya, set an example with his lecture for the Kenya Museum Society entitled "Saving the 'little five': Conserving the small mammals of Kenya", in August 2014 at the Nairobi Museum. He has written "Kenya is justifiably known for its 'big five' game animals that attract visitors from around the world; but it is also home to genetically unique small mammals that are not as visible but are also in need of protection". Kenyan coastal waters have proved to be home to the normally-invisible coelacanth, which is



acutely in need of protection: the National Museum's ichthyology collection has one. That is a rare prize, an evolutionary celebrity in that it seems to have evolved hardly at all in 425 million years — the opposite of the haplochromines. The eminent biologist Prof. Richard Dawkins, echoing William Blake's poem *The Lamb*, wrote in 2006, "As William Blake might have written to a coelacanth: Did he who made the haplochromids make thee?"

NMK scientists Dr Wanja Dorothy Nyingi and Joseph Gathua dredge for haps. Photo courtesy of Dr Nyingi.

Besides the world-famous fossils of human ancestors, the 'big five', and the 'little five', Kenyans can be proud of the spectacular nursery of new species below the surface

Acknowledgements

Many thanks are due to author and photographer Erwin Schraml for generous permission to use his photographs. Mr Schraml edits the website www.worldfish.de and produces a magazine, *Eggspots*, that focuses on cichlids.

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Dr Valerie Jeffries completed doctoral research in genetics at Leeds University, UK, and worked in aquaculture before taking up her current post lecturing for the Open University in Britain. Having corresponded with Joy Adamson as a child she was finally able in 2001-3 to fulfil her lifelong dream of living and working in Kenya. Since then she has maintained her network of contacts among Kenya's scientific community while promoting the conservation of Lake Victoria's haplochromine fish.

of Lake Victoria, the richest on Earth. It's time to celebrate the 'fantastic 500' and their amazing descendants.

Bibliography

- Abila, Romulus (2011). "Preliminary gut content and dentition analysis reveal subtle resource partitioning and feeding adaptations within a haplochromine cichlid community of Lake Victoria satellite lake." *African Journal of Environmental Science and Technology*, vol. 5, issue 6: 457-463.
- Brawand, David, et al (77 authors) (2014). "The genomic substrate for adaptive radiation in African cichlid fish." *Nature* 513: p. 375-381, 18 Sept.
- Carleton, Karen, Juliet W.L. Parry, James K. Bowmaker, David M. Hunt, and Ole Seehausen (2005). "Colour vision and speciation in Lake Victoria cichlids of the genus *Pundamilia*." *Molecular Ecology*, vol. 14: p. 4341-4353.
- Carleton, Karen (2009). "Cichlid fish visual systems: mechanisms of spectral tuning." *Integrative Zoology*, vol. 4: p. 75-86. doi: 10.1111/j.1749-4877.2008.00137.x
- Elmer, Kathryn R., Chiara Reggio, Thierry Wirth, Erik Verheyen, Walter Salzburger, and Axel Meyer (2009). "Pleistocene desiccation in East Africa bottlenecked but did not extirpate the adaptive radiation of Lake Victoria haplochromine cichlid fishes." *Proceedings of the National Academy of Sciences PNAS* 106: p. 13404-13409.
- Fryer, G.G. (2001). "On the age and origin of the species flock of haplochromine cichlid fishes of Lake Victoria." *Proceedings of the Royal Society B: Biological Sciences*, vol. 268: p. 1147-52.
- Gilbert, Natasha (2008). "What you see is how you evolve." *Nature News*, published online 1 October 2008. doi: 10.1038/news.2008.1144
- Goldschmidt, Tijs (1996). *Darwin's dreampond: Drama in Lake Victoria*. Cambridge, Mass.: MIT Press.
- Greenwood, P. Humphrey (1981). *The haplochromine fishes of the East African lakes*. Munich: Kraus Int.
- Hemdal, J & McMullin, E. (2013). "Husbandry of a Lake Victoria cichlid, the pitch-black fulu *Haplochromis piceatus*, in public aquariums: A 20 year retrospective." *International Zoo Yearbook* vol. 47, issue 1: p. 112-119.
- Hofmann C.M., O'Quin K.E., N. Marshall N.J., Cronin T.W., Seehausen O., and Carleton, K.L. (2009). "The eyes have it: Regulatory and structural changes both underlie cichlid visual pigment diversity." *PLOS Biology*, published 22 December 2009. doi: 10.1371/journal.pbio.1000266
- Konijnendijk, N., D. A. Joyce, H. D. J. Mrosso, M. Egas, and O. Seehausen (2011). "Community genetics reveal elevated levels of sympatric gene flow among morphologically similar but not among morphologically dissimilar species of Lake Victoria cichlid fish." *International Journal of Evolutionary Biology*, vol. 2011, Article ID 616320. Accessed at <http://dx.doi.org/10.4061/2011/616320>
- Maan, M.E., Seehausen, O., and Van Alphen, J. J. M. (2010). "Female preferences and male colouration covary with water transparency in a Lake Victoria cichlid fish." *Biological Journal of the Linnean Society* 99: p. 398-406.
- Maeda K., Takeda M., Kamiya K., Aibara M., Mzighani S.I., Nishida M., Mizoiri S., Sato T., Terai Y., Okada N., and Tachida H. (2009). "Population structure of two

- closely related pelagic cichlids in Lake Victoria, *Haplochromis pyrrhocephalus* and *H. laparogramma*." *Gene* 441: p. 67-73.
- Nyingi, Wanja Dorothy (2013). *Guide to common freshwater fishes of Kenya*. Nairobi: Moran Publishers.
- Odhiambo, Elizabeth A., Michaela Kerschbaumer, Lisbeth Postl, and Christian Sturmbauer (2011). *Morphometric differentiation among haplochromine cichlid fish species of a satellite lake of Lake Victoria*. (Abstract) Accessed online at http://www.researchgate.net/publication/229956673_Morphometric_differentiation_among_haplochromine_cichlid_fish_species_of_a_satellite_lake_of_Lake_Victoria
- Odhiambo, E.A., Mountner, S.I., Bock, O., and Sturmbauer, C. (2012). "Genetic distinction of four haplochromine cichlid fish in a satellite lake of Lake Victoria, East Africa." *Journal of Zoological Systematics and Evolutionary Research* vol. 50, issue 1: p. 51-58.
- Oyieke, Helida (2000). In *Lake Victoria: Africa's inland sea*, by Kenneth Mallory and Mark Chandler. Boston, New England Aquarium: Education Section.
- Parry W.L., Carleton, Karen L., Spady T., Aba C., Hunt D.M. and Bowmaker J.K. (2005). "Mix and match color vision: Tuning spectral sensitivity by differential opsin gene expression in Lake Malawi cichlids." *Current Biology* vol. 15: p. 1-6, 11 Oct.
- Ryutaro Miyagi et al. (2012). "Correlation between nuptial colors and visual sensitivities tuned by opsins leads to species richness in sympatric Lake Victoria cichlid fishes." *Molecular Biology and Evolution*, vol. 29, issue 11: p. 3281-3296.
- Santos, M. Emilia, Ingo Braasch, Nicolas Boileau, Britta S. Meyer, Loic Sauter, Astrid Böhne, Heinz-Georg Belting, Markus Affolter & Walter Salzburger (2014). "The evolution of cichlid fish egg-spots is linked with a cis-regulatory change." *Nature Communications* 5, article number: 5149, 9 October.
- Sauper, Hubert (2004). *Darwin's Nightmare*. Documentary film.
- Seehausen, O.O. (2002). "Patterns in fish radiation are compatible with Pleistocene desiccation of Lake Victoria and 14,600 year history for its cichlid species flock." *Proceedings of the Royal Society B: Biological Sciences*, v. 269, p. 491-7.
- Seehausen O., Terai Y., Magalhaes I.S., Carleton K.L., Mrosso H.D.J., Miyagi R., van der Sluijs I., Schneider M.V., Maan M.E., Tachida H., Imai H., Okada N. (2008). "Speciation through sensory drive in cichlid fish." *Nature* 455: p. 620 – 626.
- Spinney, Laura (2010). "Dreampond revisited." *Nature* 466: 174-175, 8 July.
- Tudge, Colin (1989). "Plenty more fish in the lake?" *New Scientist*, 9 December.
- Tudge, Colin (1990). "Underwater, out of mind." *New Scientist* vol. 128, 1741: p. 40-45, 3 Nov.
- van Rijssel, Jacco C., Frans Witte (2013). "Adaptive responses in resurgent Lake Victoria cichlids over the past 30 years." *Evolutionary Ecology* 27: p. 253-267.
- Wagner CE, Harmon LJ, and Seehausen O. (2012). Ecological opportunity and sexual selection together predict adaptive radiation. *Nature* 487: p. 366-9, 19 July.
- Witte, F. (1992). "The destruction of an endemic species flock: Quantitative data on the decline of the haplochromine cichlids of Lake Victoria." *Environmental Biology of Fishes* 34: 1-28.
- Witte F. et al. (2008). "Major morphological changes in a Lake Victoria cichlid fish within two decades." *Biological Journal of the Linnean Society* 94: p. 41-52.

Corrigendum

Kenya Past and Present issue 40, published 2013.

Angela Kabiru's article "Of land, ritual and disposal of the dead" contained an unfortunate misprint. In the second paragraph on the second page, the third sentence should read: Perhaps the most famous are the grave circles of Namoratung'a (or Ng'amoritung'a) near Lokori, south of Lake Turkana, dated to about 2000 - 4,000 years ago (not 24,000 years ago).

Kenya Past and Present

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Nairobi, April 2015

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