

It's midnight and we're on watch: the last 24 hours of 'ourstory'

With this week's Plett History Festival in mind, we felt CXPRESS readers may gain more from the event with a locally relevant timeline and 'overview perspective' based on recent scientific and, especially, genetic discoveries in this fast-moving and rapidly changing field, write DRS MATTHEW ZYLSTRA and PETER NILSSEN

THIS perspective is most insightful when the modern human timeline is scaled to a 24-hour day: 1 hour = 10,000 years. Current scientific consensus suggests that we as Homo sapiens arose 200,000-300,000 years Before Present (BP).

For ease of calculation on this 24-hour timeline, let's say Homo sapiens date back to 240,000 BP. Some approximations are therefore made for earlier dates and rounding-off done for later, more specific dates to simplify the timeline presented.

Timeline of Cape human history in a 24-hour day

• 00:00 (~240,000 BP): Homo sapiens emerge during these first few hours of the period called the Middle Stone Age.

• 06:00 (~180,000 BP): Our early ancestors become active here along the Southern Cape. Ice-age conditions around this time lead to scarcity in environments that could sustain life and may have forced people to move to other areas or disappear entirely.

But in the Southern Cape there was an abundance of high-quality nutrition from both sea and land. Sites have revealed the presence of fish, shellfish, marine mammals, terrestrial mammals, reptiles and birds, as well as plant foods such as bulbs, corms and tubers. Edibles that don't fossilize well likely included a wider variety of sea animals and plants, terrestrial fruits, nuts, and insects.

Bones of Homo sapiens found in an Israeli cave show that one of the earlier - and maybe first - minor migrations out of Africa already occurred around 170,000-190,000 BP. Initial mixing and interbreeding with Neanderthals likely.

• 08:00 (~160,000 BP): We 'wake up' fully as modern humans displaying the first known forms of creative and symbolic expression, more advanced cognitive

thought, use of compound tools, and evidence of 'culture'. Significant discoveries at Pinnacle Point, Mossel Bay, include very early evidence for pyrotechnology in the form of heat-treated silcrete as well as utilised ochre for the likely production of 'paint'.

• 14:00-17:00 (~100,000-50,000 BP): Further evidence of our more significant (coastal-based) migrations out of Africa. Humans remaining in southern Africa are likely the closest ancestors to the peoples commonly referred to as San. Our species reaches present-day China during this time.

• 14:00 (~100,000 BP): In Blombos Cave near Stilbaai, our species creates bone tools, heat-treated silcrete, and abalone shell containers with ochre powder. These are pieces of evidence for behavioural modernity among humans along the Southern Cape coast.

• 16:30 (~75,000 BP): In Blombos Cave, we are making cross-hatch incisions on pieces of bone and ochre. These 'entopic phenomena' show definitive signs of symbolism or abstract art.

• 17:00 (~70,000 BP): Some of us reach Southeast Asia, and have interbred with Neanderthals but, even more so, with the Denisovans - an extinct archaic hominin species that ranged across Asia, whereas their distant relations the Neanderthals were more present in Europe and west Asia.

• 17:30 (~65,000 BP): Humans reach Australia.

• 19:00 (~50,000 BP): We spread 'out of Africa' in greater numbers around this time.

• 20:00 (~40,000 BP): Our species spreads across modern-day Europe; Later Stone Age begins. Within a few thousand years of our arrival in Eurasia, Neanderthals go extinct around 39,000 BP, although interbreeding occurred prior.

• 22:50 (~11,500 BP): The site of Gobekli Tepi (in present-day Turkey) is active, consisting of rings of massive stone pillars, engraved with images of animals. This was seemingly a place of worship for people who, based on the bone evidence, were otherwise still living a hunter-gatherer existence but on the verge of domesticating their wild sheep and wild grains.

• 22:55 (~12,000-10,000 BP): Agriculture and cultivation are widely developed and practised across Mesopotamia and the present-day Middle East, although evidence suggests that indigenous groups were practising more subtle forms of 'farming', e.g. controlled burning.

• 23:00-23:25 (~11,000-6,000 BP): We learn to domesticate livestock, initially sheep and goats, then horses.

• 23:27 (~5,520 BP): The wheel is invented. Written language first appears around this time.

• 23:30 (~5,000 BP): The rise of the Yamnaya culture - descendants of Ancient North Eurasians, and originating in the steppe north of the Black and Caspian Seas - changed many of us. The Yamnaya appeared to have used the invention of the wheel and the domestication of the horse as a pastoralist technology that allowed them to exploit resources on the steppe landscape at a large scale.

Recent genetic analysis shows that over the subsequent 500-800 years, the Yamnaya move west plundering many other isolated, localised cultures.

Yamnaya descendants spread rapidly across the region, genetically replacing 40% of the population of present-day Iberia, 70% of the population of present-day Germany, and 90% of the population of present-day UK, just after the pre-existing population completed the building of Stonehenge.

• 23:30 (~5,000 BP): Bronze

Age begins (ends ~3,220 BP), powered by Yamnaya advances. The materials for making bronze had to be sourced from hundreds of kilometres away and required long-distance trade, which likely led to wealth accumulation.

• 23:33 (~4,500 BP): Uruk in Sumeria (long considered the first recorded city in the world) is built. However, the discoveries of Gobekli Tepi, Caral (Peru ~5000 BP), and other sites now challenge the accepted story of civilisation and birth of agriculture.

• 23:33-23:30 (~4,500-3,500 BP): Yamnaya spread back from present-day Iran/Eastern Europe toward the east, reaching present-day India. The Yamnaya are the likely source of the Proto-Indo-European languages, which is the precursor to all Indo-European languages, and the most widely spoken language family in the world today.

• 23:30-23:35 (~3,500-3,000 BP): Indus Valley civilisation forms and spawns Hinduism.

• 23:44 (~2,643 BP): Gautama Buddha is born and marks the beginnings of Buddhism.

• 23:48 (~2,020 BP): Jesus Christ is born and marks the beginnings of Christianity.

• 23:50 (~2,000 BP): Khoekhoen ('Khoi') nomadic herders move into present-day South Africa from the north and coexisted with existing San foragers in an apparently fluid relationship, although conflicts almost certainly occurred.

• 23:51 (~1,449 BP): Muhammad is born and marks the beginnings of Islam. SiNtu speakers prevalent around Lake Victoria seem to move rapidly down into present KZN.

• 23:54 (~945 BP): Mapungubwe Settlement Complex begins forming in the Limpopo Valley as a large subsistence farming community. It becomes a large Iron Age kingdom representing Af-

rica's first class-based society and trades ivory for glass beads from India and China.

• 23:55 (~800 BP): An Outeniqua Yellowwood (now known as 'The Big Tree') sprouts near Storms River.

• 23:56:20s (~595 BP): Chinese Admiral Zheng sets sail with 317 ships and 28,000 men (10 times the size of Columbus' fleet), and sets up emissaries in countries around the Indian Ocean to facilitate and consolidate trade relations, including with East Africa.

• 23:57 (~532 BP): Bartolomeu Dias sails around the southern tip of Africa and stops at present-day Mossel Bay. Four years later, Christopher Columbus 'discovers' the Americas. A few decades later, a second wave of SiNtu speakers arrive in present-day South Africa.

The coastal forelands were home to the Nguni language group and mark the beginnings of what was to become the amaXhosa nation around the 1600s.

Through probable confrontation, many nomadic KhoenKhoen were either displaced or assimilated into the Nguni culture. Notably, the amaGqunukhwebe tribe that ranged between present-day East London and the Gamtoos River is mixed Xhosa and Khoekhoe Gonaquas.

• 23:57:40s (~390 BP): Portuguese sailors were stranded in Bahia Formosa (now Plettenberg Bay) after their ship, the São Gonçalo, sank en route from India to Portugal. The 100 survivors befriended resident 'Khoesan' peoples during the eight months it took to repair their vessels.

• 23:58:30s (~260BP): The Industrial Revolution takes place in Europe. Dutch and British settlers expand their presence across the Cape resulting in violent confrontations with the KhoenKhoen ('Khoesan') and amaXhosa.

• 23:59:05s (~200 BP): In Eden, Southern Cape, we transform much of the landscape and hunt existing mega-fauna to extinction or near-extinction. Over the last 60 seconds, the world population grows from 1-billion to 7-billion.

• 23:59:34s (~72BP): Apartheid formalised as policy in SA. In this last 25 seconds to midnight, the world uses more resources than during the previous day (23h59m35s) combined.

To put the above into even greater perspective, modern humans have only been present for an estimated 0.007% of earth's entire history - barely 5 seconds within a 24-hour day.

This timeline perspective should awaken humility in us all. Even though the science of human history is evolving at lightning speed, we know enough to reimagine who we are and to act accordingly.

We know we have the power to rapidly destroy but also the ability to create, innovate and regenerate. We know that for at least 95% of our history we were more peaceable foragers living in tight egalitarian communities inseparable from nature.

We know that we were a highly mobile species and rarely stayed in any one place for an extended period of time. We know that the latest genetic and archaeological evidence reinforces the idea that we are 'all one' - sourced from a population that evolved in and spread out of Africa.

But there is still much we don't know and we need to keep humble open minds as new discoveries are made.

As the clock ticks beyond midnight, will we put aside our preconceived beliefs for the sake of humanity? In these times, we would do well to remember our shared roots - 'ourstory' - and choose the best version of human that we can be.



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