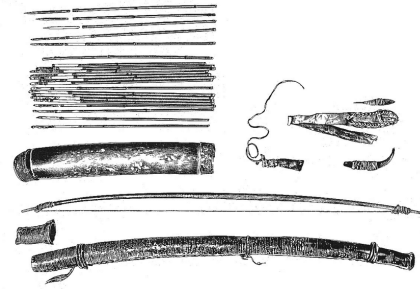


Ancient Archers



ANCIENT ARCHERS

They Forever Changed the World



LONNIE GOFF

FIRST EDITION, FEBRUARY 2022

ISBN Number 979-8-88589-551-4

© 2022 Lonnie Goff All Rights Reserved

ABOVE: *San Hunting Kit. (Image Courtesy of KwaZulu-Natal Museum, South Africa.)*

COVER: *Prehistoric San Bushman Rock Art, Cederberg Mountains, Western Cape Province, South Africa. (Photo credit: https://commons.wikimedia.org/wiki/File:Sevilla_Rock_Art_9.JPG Author JessyAM (Licensed under CC BY-SA 6.0).)*

*In memory of Jim Hamm. He opened
the door to the Ancient Archers.*

*And in gratitude to geneticist
Dr. David Reich for his book
"Who We Are and How We Got Here"
He uncovered incredible secrets known only to the
Ancient Archers*

AFRICAN MIGRATIONS	1
55,000 YEARS AGO	2
THE INVENTION	4
SUCCESS	11
THE HADZA	13
EARLY MIGRATION OF THE BOW	15
Iraq (50,000 BP)	15
Sri Lanka (48,000 BP)	17
Italy (45,000 BP)	18
Japan (38,000 BP)	21
Timor Island (35,000 BP)	21
Russia (29,000 BP)	22
SOUTHERN FRANCE	25
AUSTRALIA	26
PEACEMAKER	29
Notes	32

AFRICAN MIGRATIONS

In ancient times our ancestors did not long survive when they entered the Land of the Neanderthal. A 210,000 year old partial and arguably modern human cranium was discovered in Southern Greece.¹ The Neanderthal evolved in Europe some 400,000 years ago and remained there another 170,000 years after this migrant disappeared.²

There was a migration from Africa into the Levant perhaps 120,000 years ago. This is the approximate age of robust modern humans uncovered in two caves in Israel. In a nearby cave evidence of Neanderthals was also found that dates to the same period.³ The tenure of the robust moderns in this region was short lived. The Neanderthals persisted in the Levant for another 65,000 years.⁴

Yet another migration happened around 55,000 years ago.⁵ This exit from Africa was across the Sinai and into the Levant.⁶ The Neanderthals were still there. This we know because the migrants interbred with them leaving a shadow of the Neanderthal in the DNA of all non-African people living today.⁷ (This was not the original sin, that would come 52,000 years later as proclaimed in the Book of Genesis.)

It would have been beneficial if a warning sign had been posted in the Sinai.

This is the gateway to a world you have never seen. It is incredibly beautiful but also has wild and dangerous things you know nothing about. In front of you is the Land of the Neanderthal. They live and hunt like the wolf.⁸ They are your cousins and think like you.⁹ They are armed and should be considered dangerous.¹⁰ One of their weapons is the javelin.¹¹ Good luck!

The Oracle of Sinai, 53,000 B.C.

This time something was different. This time it was the Neanderthal who would disappear. A small wave of Africans, likely no more than a few thousand, would amazingly become the founders of the entire non-African world.¹² When they were done there would be no Others.

55,000 YEARS AGO

Much is known about this migration because it was successful and it left a DNA trail to prove it. Evidence that this migration started as a small group is observable in the pronounced reduction of the genetic diversity in all of today's non-Africans. This kind of thing happens when a small population expands rapidly into a large, unpopulated territory. Furthermore, there is a continuous decrease in genetic diversity the farther one travels from Africa.¹

And once the Migrants passed through Neanderthal territory in the Near East and then into Southeast Asia their genetic trail shows that they interbred with yet another archaic human group, the Denisovans. The DNA of today's Indigenous Australians, among others, bears witness to this ancient tryst.²

Helicobacter pylori is a human-host gastric pathogen. It, too, went through a genetic bottleneck at the time of the Africa migration. Its greatest genetic diversity is found today in East Africa and its diversity decreases as its distance from East Africa increases. It left East Africa approximately 58,000 years ago.³

Two predators occupying the same ecological niche will be mortal enemies.⁴ Witness the lion and leopard, the wolf and coyote, the grizzly and black bear and predictably Neanderthals and Migrants. Europe is a big place especially if one is on foot. Yet in only a few thousand years after the Migrants entered Europe ~45,000 years ago, the Neanderthals were gone.⁵ Their 360,000 year reign had abruptly ended. (Note, this was not the first time the Migration entered Europe. It previously failed in Southern France ~54,000 years ago,... discussed later.)

Did the Upper Paleolithic sewing needle usher the Neanderthal into extinction? There is a lot to be said for warmer clothes but no matter how well we dressed our apparel surely did not intimidate the Neanderthal who were killers of giant straight-tusked elephants, woolly

rhinoceroses, woolly mammoths and each other.^{6,7} The Neanderthal's more immediate concern, after the Migrants arrived, was a new kind of sudden and unexpected death.

Something got invented in Southern Africa that predated both the Migration and the sophisticated Upper Paleolithic culture. It was a game changer. It was a work of genius.

THE INVENTION



Prehistoric San Bushman Rock Art, Cederberg Mountains, Western Cape Province, South Africa. (Photo credit: https://commons.wikimedia.org/wiki/File:Sevilla_Rock_Art_9.JPG Author JessyAM (Licensed under CC BY-SA 6.0).)

It was serendipitous that someone in Southern Africa dropped a used bone implement in a hearth and some 61,000 years later the South African archaeologist Dr. Lucinda Backwell would immediately recognize that this bone point was an arrowhead, the kind used well into historical times by the San People.¹

The ancient point was studied under a microscope. CT scans were used to look inside. Replicas were made by members of the San, tested on an animal carcass and then subsequently re-analyzed. The high velocity impact damage of the replicas was consistent with the ancient point.

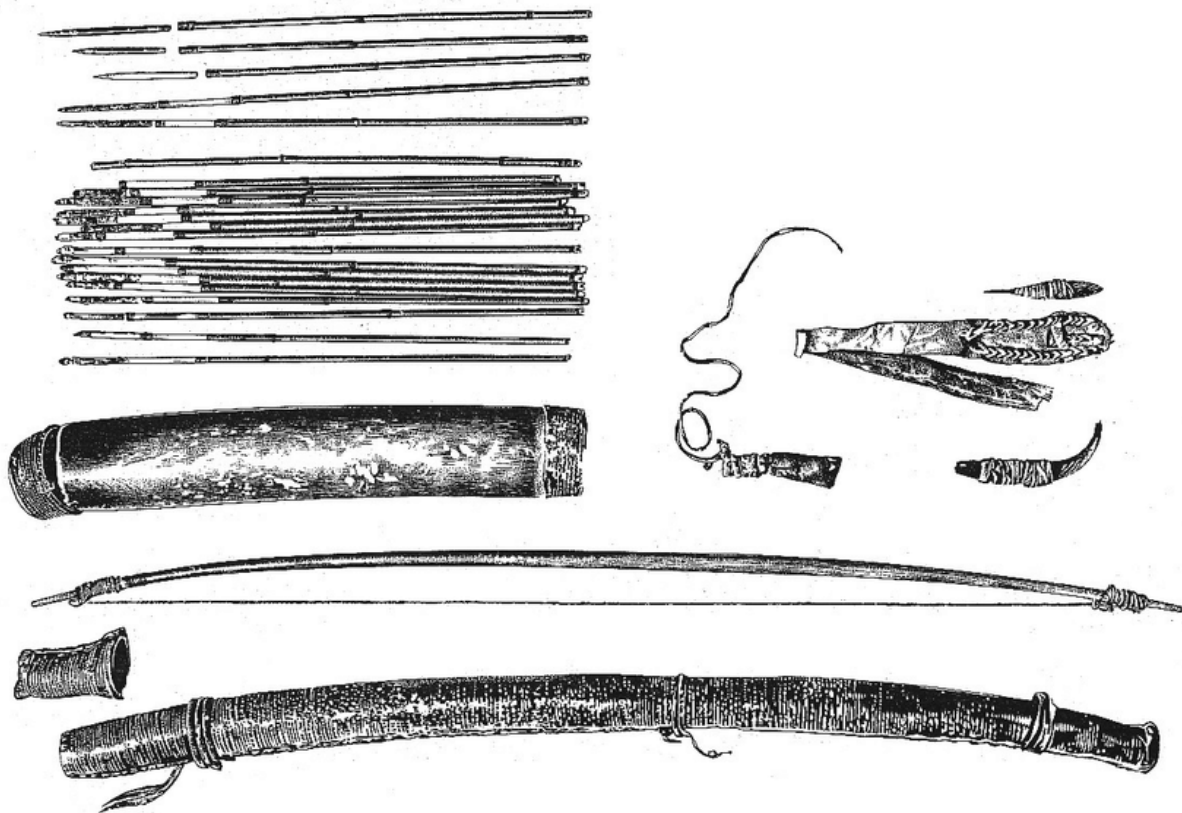
Researchers concluded that the ancient point was used as an arrowhead and later discarded in the hearth.²



Sibudu replicas (Photo: Courtesy of Dr. Lucinda Backwell, University of the Witwatersrand).

In 1926 a San hunting kit was found in a rock shelter in the Mhlwazini valley of South Africa. It was clearly constructed in the not too distant past because some of the arrowheads were made of iron. Other arrowheads were made of bone and are consistent with the ancient Sibudu arrowhead.³

The distance from Mhlwazini valley to the hearth in Sibudu Cave is 120 miles and 61,000 years.



1926 San Hunting Kit. (Image: Courtesy of KwaZulu-Natal Museum, South Africa.)

The Sibudu bone point is not, however, the earliest evidence of the bow-and-arrow. Also found in this cave were 64,000 year old small, sharp, stone blades with one dull side. Analyses of these small blades revealed that some had animal residue and high velocity impact damage that was deemed consistent with their use as arrowheads.⁴ At a different cave in South Africa 71,000 year old versions of these same projectiles were found.⁵ None of these sharp blades look much like arrowheads. (There is, however, evidence that this type of projectile may have killed a Neanderthal 50,000 years ago in Northern Iraq,... discussed later.)

The bottom most layer of Sibudu Cave is older than 77,000. Found in this layer were bifacial points the size of arrowheads. Some points retained residue from the Malvaceae shrub whose light, strong and straight stems were used well into historic times as arrow shafts.⁶



Examples of small blades used for arrowheads (Pitt Rivers Museum, Oxford, England). With one exception there are two blades on each foreshaft (the foreshafts were designed to be inserted into the hollow reed main shaft of an arrow). At least one of these foreshafts (4th from left) was made in historic times for its blades were chipped from bottle glass.⁷ (Photo: Courtesy of Dr. Justin Pargeter, New York University.)

The bow is not an obvious thing to make nor is it a simple thing to make. What inspired the "Genius of South Africa" to make such a weapon will never be known. Modern bowyers who re-create the ancient bows are keenly aware of the skill of the ancient bowyers.⁸ The single most important step is to know your wood for it must be able to withstand the compression force on the inside ("belly") and the stretching force on the outside ("back").

There are some 750 native tree species in North America.⁹ Existing museum artifacts reveal that eight of these trees are known to have been used by Native Americans to make their war/hunting bows.¹⁰ Only one tree in nearly a hundred species was good enough.

Two of the eight trees, the Osage Orange and Pacific Yew, excel. Even then the design of the bow is adjusted to reflect the different properties of the wood. The cross section of the bow made from the Osage orange is generally rectangular in shape while the cross section of the bow made from the softer yew tree is made thinner and wider.¹¹ Even the bow staves are cut differently. The yew stave includes the sapwood with the heartwood. When the stave is transformed into the bow, the heartwood becomes the belly and the sapwood the back. The Osage orange stave typically consists only of heartwood. The newer outer growth in the stave becomes the back while the older inner growth is used for the belly. But before work begins, the stave is cured. If not, the bow will have to be oiled (greased with animal fat) and re-tillered as it gets stronger with age.¹² For best results the Medieval English cured the wood for their longbows for 4 years.¹³

The other somewhat lesser trees all have their peculiarities. One design does not fit all. And no matter which wood is selected the cardinal rule of all bowyers, both ancient and modern, is do not cut through a growth ring on the back of the bow for that is where the bow will break.¹⁴ And after the stave is transformed into the bow it must be properly shaped. The Hadza of Tanzania place their bows into hot ashes and then use the fork of a tree to straighten the sides and to curve the back.¹⁵

The bow string is made from sinew, animal intestines or plant fiber. One method is to first strip the sinew or plant fiber down to 8 or 10 threads and then twist the threads together clockwise making sure that the thread lengths are staggered. After making a second string in the same manner the two strings are then twisted together counter clockwise.¹⁶

Making arrows is an art. As with bows the selection of wood for the shaft is critical albeit the selection criteria is different. Straight shoots of the desired wood should be cut in winter. The bark is then peeled and the diameter of the shaft is reduced and straightened by planing. The shafts are then bundled together and allowed to season for 2 to 6 months in a shady dry place. After seasoning, the arrows are reduced to their finished diameter by more careful planing. The finished diameter is measured by a shaft-sizer which is made of bone or wood with a hole the size of the finished diameter drilled through it. Once the arrow shaft has been reduced to the finished size it is straightened by carefully heating and then bending by hand.¹⁷

The preparation of feathers and their attachment to the shaft with sinew and glue as well as the manufacture of stone or bone arrowheads and their attachment to the shaft is a time consuming process and this description would be overly tedious. It is sufficient to say it takes a half day to make one arrow from a seasoned shaft.¹⁸

Ancient shaft-sizers made of bone are found in museums throughout the world and are labeled "baton de commandement", whatever that may mean. These are the micrometers of the ancient world and their purpose was to ensure consistent shaft size and therefore projectile performance. According to expert bowyer Jim Hamm he believed that most of these museum pieces were used to size shafts.¹⁹ The diameter of the holes in these artefacts do seem to cluster around two ranges, 5-9 mm and 16-30 mm. The smaller for arrow shafts and the larger for darts, javelins and spear shafts with the darts at the lower end of this range.



Baton de commandement found in Veyrier, Switzerland (Museum of Art and History, Geneva, Switzerland). It is ~13,000 years old with a 29 mm hole, the correct size for a spear. (Photo credit:

https://commons.wikimedia.org/wiki/File:B%C3%A2ton_de_commandement-MAHG_A-8816-P8050505-gradient.jpg Author Rama (Licensed under CC BY-SA 3.0 FR).)

In 1950 an elder of the Nez Perce Tribe of North America taught a young boy how to make their tribal bow. The boy learned by watching. The bow was short and powerful. It was made from the horn of the wild sheep. It was the same bow used by the ancestors of the Nez Perce to hunt buffalo. These bows had a draw weight of 70 - 75 pounds and shot fast.²⁰ If not for this one elder and one small boy the art of making this bow would have been lost. Some years later the tribe secured a grant for \$50,000 so that the then grown boy could show others the making of this bow. It takes a gap of only a couple generations before young boys have no one to watch.

SUCCESS

There is a body of research that concludes that innovation increases as populations grow. Research has also found that innovation can be lost when populations decline. This occurred when ancient sea levels isolated Tasmania from the Australian mainland. Archaeological evidence shows that this smaller population experienced a significant cultural devolution not seen in their more advanced Australian counterparts. A devolution that included the loss of fishing skills and the making of cold weather clothing.^{1, 2, 3}

The number of domestic and foreign patents granted by the U.S. Patent Office in 2020 is more than triple the number of patents granted in 1990 (before the coming of the Internet).⁴ The Internet is creating a global village of 8 billion people.

*If I have seen further, it is by standing upon the shoulders of giants.*⁵

Sir Isaac Newton 1675

All people living today share a common ancestor who lived no less than 320,000 years ago.⁶ For an unimaginable quarter of a million years our ancestors lived in small hunter-gatherer groups in Africa and progress was muted. There was, however, a dramatic population expansion in Southern and Eastern Africa broadly dated between 80,000 and 60,000 years ago.^{7,8} The bow was invented over 77,000 years ago in Southern Africa.⁹ According to one very renowned researcher:

*..it is reasonable to assume that the introduction of more effective hunting weapons would have substantially increased the efficiency and productivity of hunting activities and, therefore, the overall productivity of the food resources available to the human groups.*¹⁰

Sir. Paul Mellars, Cambridge University, 2006

The initial awakening of the Upper Paleolithic culture came thousands of years after the Migration left Africa. We have it backwards. The Upper Paleolithic, in all of its glory, was not the engine that drove world-wide success. It was, instead, its beneficiary. A benefit derived from a larger population whose distant roots were in Southern and Eastern Africa.

The Upper Paleolithic had more shoulders to stand upon.

Thank You for previewing this eBook

You can read the full version of this eBook in different formats:

- HTML (Free /Available to everyone)
- PDF / TXT (Available to V.I.P. members. Free Standard members can access up to 5 PDF/TXT eBooks per month each month)
- Epub & Mobipocket (Exclusive to V.I.P. members)

To download this full book, simply select the format you desire below

