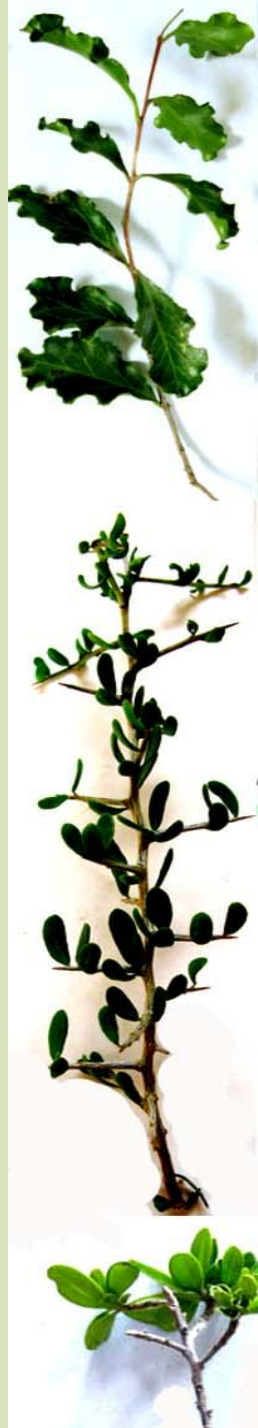


# Links to a Forgotten and Untold Past

vegetation surviving in association  
with prehistoric habitation and  
presence sites



RHODES UNIVERSITY  
*Where leaders learn*



# Anthropogenic

- Caused or influenced by humans
- Created by people or a result of human activity

## **Review by D Pearsall of “Phytoarchaeology” by R R. Brooks & D Johannes**

*An observation made by Robert R. Brooks after looking at two archeological sites located thousands of kilometers apart - that vegetation growing on the sites differed dramatically from that of the surrounding terrain - led him and Dieter Johannes to begin investigating the relationship between vegetation and archeology.*

## **G W Dimbleby – “Plants and Archaeology”**

- *In recent years there has been a spate of books on archaeology - - - but hardly ever do they reveal any interest in the landscape in which man was living; still less do they reveal any awareness that man was inevitably modifying that landscape.*
- *He (man) had the power to modify his environment, and it would soon have been apparent to him that in doing so he could favour some of the wild species which were important to him as items of food.*
- *Geologically two million years is but yesterday, and the plants on the earth were very much the same as they are today; taxonomically, that is, not in distribution.*

# Thicket

❑ Dense growth of small trees or bushes

Synonyms: Brush; Forest; Grove; Bush; Hedge; Woods; Bower; Copse; Coppice;

## Encyclopedia Britannica

*Thicket - a dense grove of small trees or shrubs that have grown from suckers or sprouts rather than from seed. A coppice usually results from human woodcutting activity and may be maintained by continually cutting new growth as it reaches usable size*

**Mucina & Rutherford** – “Vegetation of South Africa, Lesotho and Swaziland”

*The fynbos thickets have never been the subject of an exclusive enquiry. - - Due to the very limited extent of patches of fynbos thicket and virtually no floristic data - - this type was not mapped.*

**Cowling & Holmes** – used the term ‘Western Thicket’ for this vegetation type.

**This type matches my ‘anthropogenic thicket’, much closer than any other veg type.**



# Imithi Amayeza Project – use of traditional plants by modern communities



Transkei



George Diabetes clinic



George Thembaletu Clinic



Touwsranten community Hoekwil

# Genera most frequently present in anthropogenic thicket patches

## **Anthropogenic Thicket Genera –**

Diospyros (Royena); Osyris (Santalum); Lycium (Wolf or Goji-berry); Olea; Ficus; Dioscorea; Euphorbia (Phyllanthus); Rhus (Searsia); Asparagus; Aloe; Buddleja; Grewia; Cussonia; Maytenus; **(All remain important in Xhosa, Zulu, Sotho and Venda culture)**

## **International Weeds – the earliest global travellers – HOW & WHEN?**

Ricinus communis; Chenopodium spp; Urtica urens; Stellaria media; Phytolacca octandra; ?Achyranthes aspera; ?Solanum nigrum; **(All used by Xhosa etc as above)**

**ALL are useful food and/or medicinal plants** occurring in Africa, and used globally, along early man's migration routes **by both hunter-gatherer-pastoralist groups and Black African groups** . (excepting in central and northern Western Europe)

**Sharing of Indigenous knowledge in the past** - San and Khoi botanical knowledge and beliefs are definitely present in Black African usage and culture as well as white traditional *Kaapse Medisyne en Raate*. The most likely means of sharing original plant knowledge is by diffusion or osmosis between neighbouring groups or by assimilation of one group into another by marriage or as slaves or labourer-servants. South African Ethnobotany cuts across and incorporates many layers of culture and time.



## Fruits & seeds



**Asparagus setaceus**



**Atriplex semibaccata**



**Carissa haematocarpa**



**Carissa bispinosa**



**Carpobrotus sp.**



**Rhamnus prinoides**



**Ostrya compressa**



**Euclea undulata**



**Diospyros villosa**



**Olea europaea sbsp. africana**

## Leafy greens



**Solanum nigrum**



**Solanum retroflexum**



**Abutilon sonneriatum**



**Tetragonia decumbens**



**Achyranthes aspera**



**Chenopodium album**



**Exomis microphylla**



**Sisymbrium capense**



## Medicine & poison



**Solanum tomentosum**



**Withania somnifera**



**Acokanthera oppositifolia**

## Roots & Tubers



**Drimia sp.**



**Asparagus sp.**



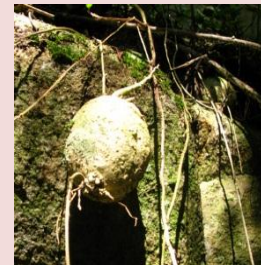
**Chlorophytum comosum**



**Rhoicissus digitata**



**Asparagus sp.**



**Kedrostis nana**

## Rope & cordage



**Acacia karoo**



**Fishing net**



**Cyperus string**



**Trapping net**



## Heimersrivier Sites

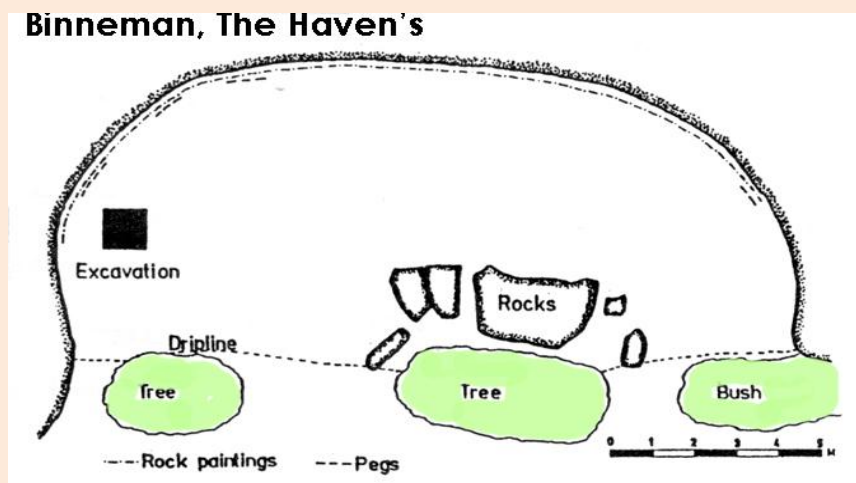
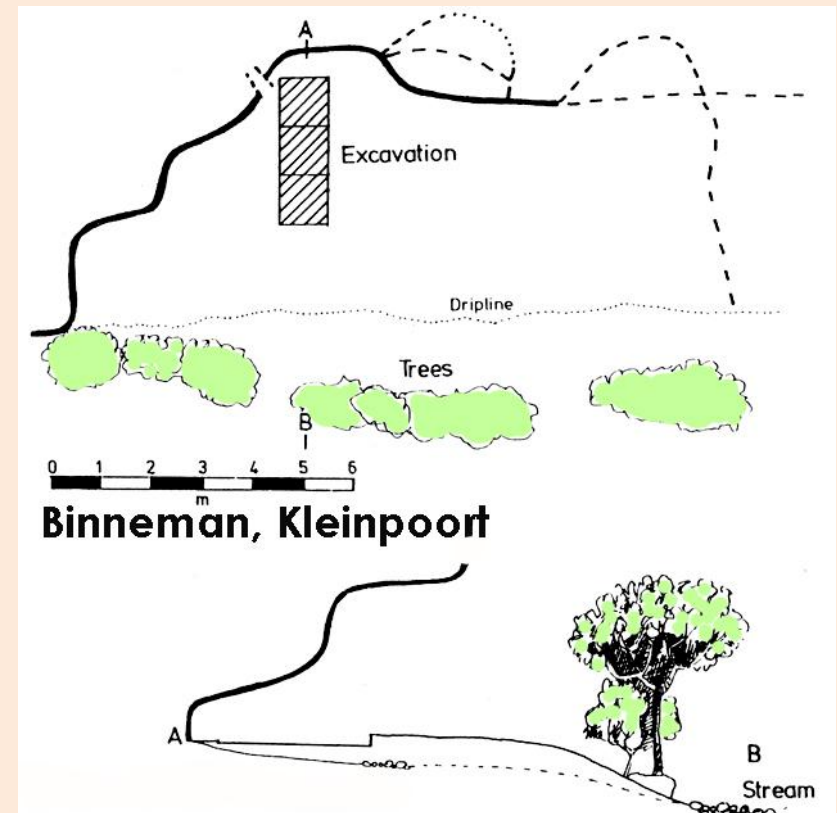
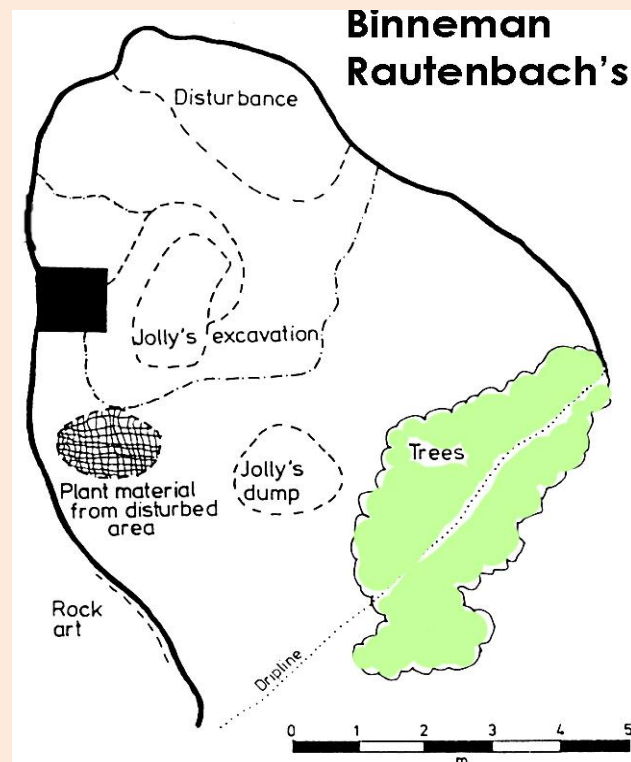


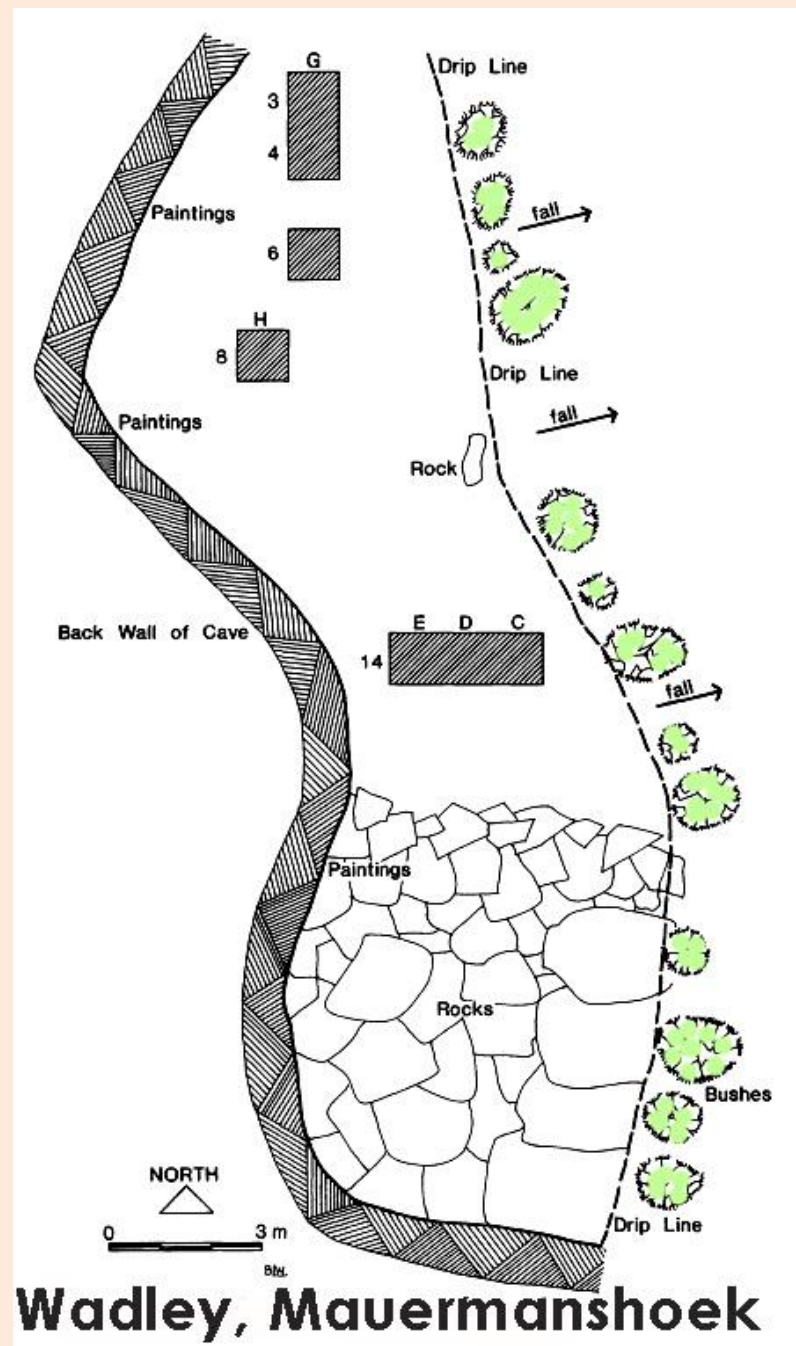
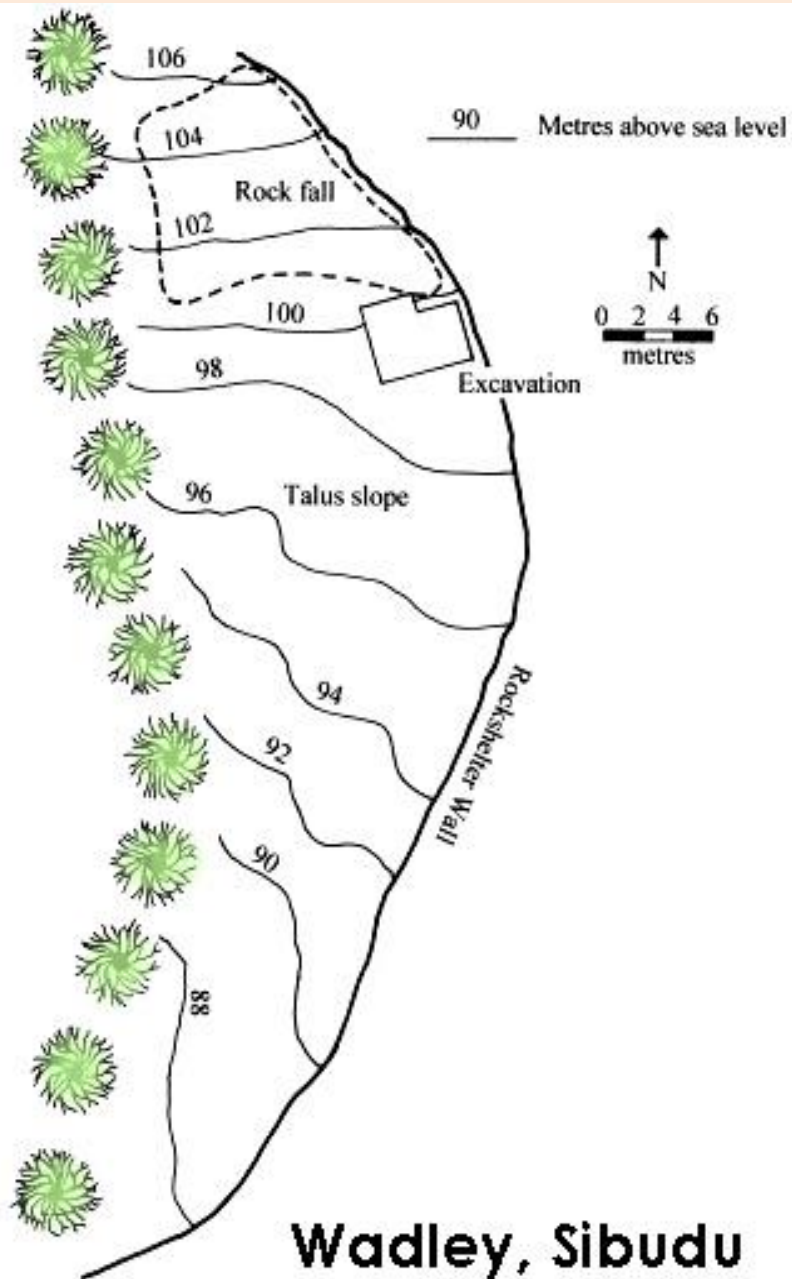
**Habitation =**  
Pottery, Paintings  
Tools and cores  
Sea shells  
Ostrich eggshell  
Honey ladders  
Grinding stones  
Bedding, ochre





The landscape and plants are integral to understanding sites and life-ways, but are largely ignored. Sites are described as if in a vacuum. Macrobotanicals are only recently being collected and studied. Exceptions show typical wall of vegetation. And some even list plants found in strata of excavations.

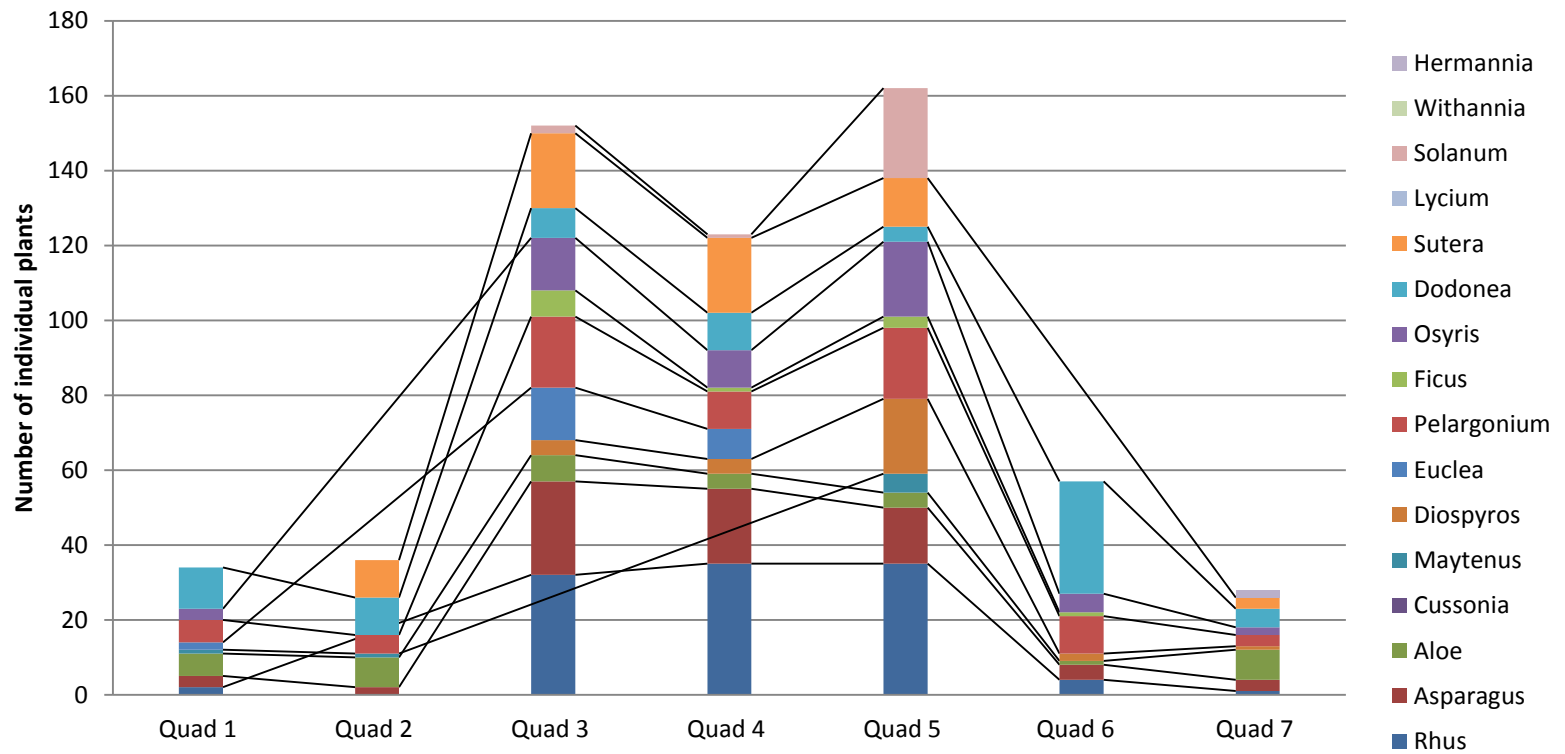








## Herold Falling Buck site



# **How humans “modified” the landscape they foraged over and inhabited over time**

## **Chemical changes in the soil**

**Detritus; sanitation; ash; bedding; = more humus; nitrates; altered Ph; = thicket niches**

## **Use of intentional Fire**

**Firebreaks near habitation; new grass for game; encourage geophytes; safety from predators; cooking food; = more grassland; less forest; = thicket niches;**

## **Collection & distribution of plants**

**Food - leaves, fruit, seed, bark, roots; green wall protection; bedding; preservation of food; firewood and tinder; construction; jewelry/decoration; ritual; cordage; = accumulation and excretion of seed; selection; densifying of useful plants; = thicket niches;**



**Did hominids follow the plants they needed?  
Did plants follow the hominids who used them?**

**Ancient and modern Migration routes are surprisingly  
similar for plants and hominids**

From Australopithicus to Homo sapiens, hominids have created enriched & protected ecological niches that favour anthropogenic thicket. Pollen research by Bonnefille shows that at 2 million yrs bp the plant communities growing at the earliest hominid Fossil sites in the East African Rift Valley included so many of the same genera as the sites I visit today, that it cannot be simply ascribed to chance or coincidence.

Globally, the same genera can be found in ethnobotanical lists for almost every group of “indigenous people” following even a rudimentary gathering, hunting or pastoral way of life (excepting Western Europe).

NB –Peoples do not need to remain “primitive” in appearance or lifeways. It is clear that many apparently acculturated or westernised peoples retain their Indigeneity and their culture and sue of plants reflects this. Plants form a strong link between apst and present.

## Quezel – Plant migrations

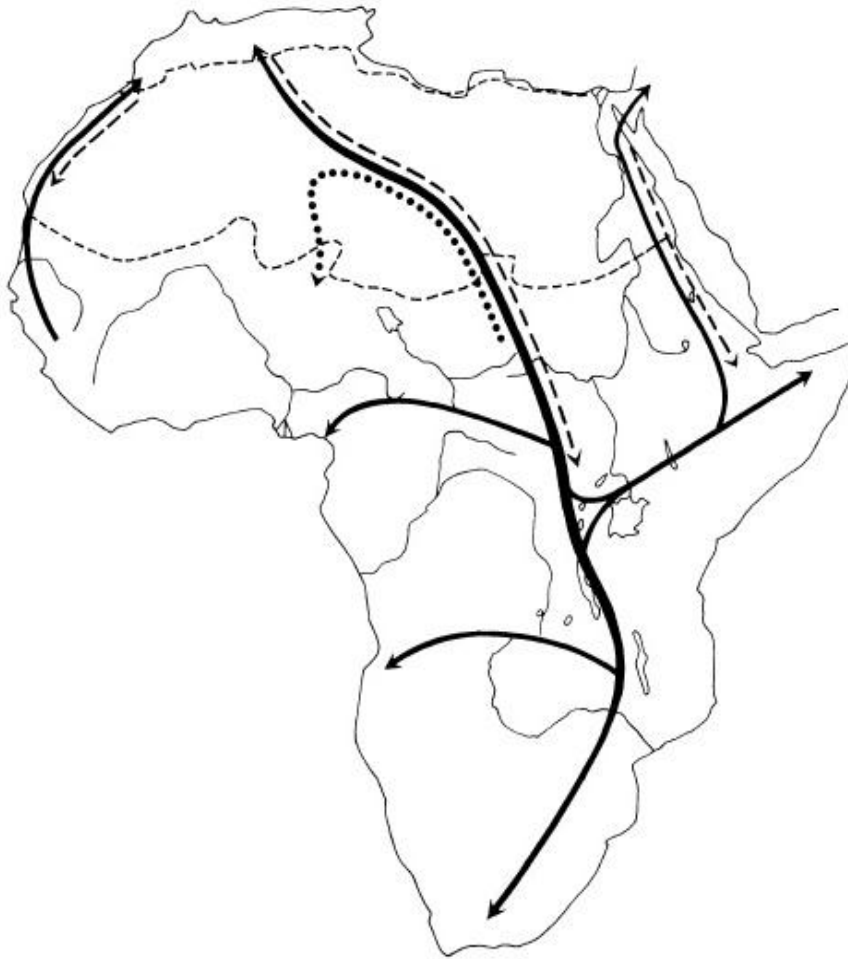


FIGURE 11. Migration routes in Africa (Pliocene and Pleistocene). Heavy dark arrow: tropical elements; dotted arrow: Southern Saharan orophylic elements; dashed arrow: Mediterranean elements.

## Barham & Mitchell – “The First Africans”

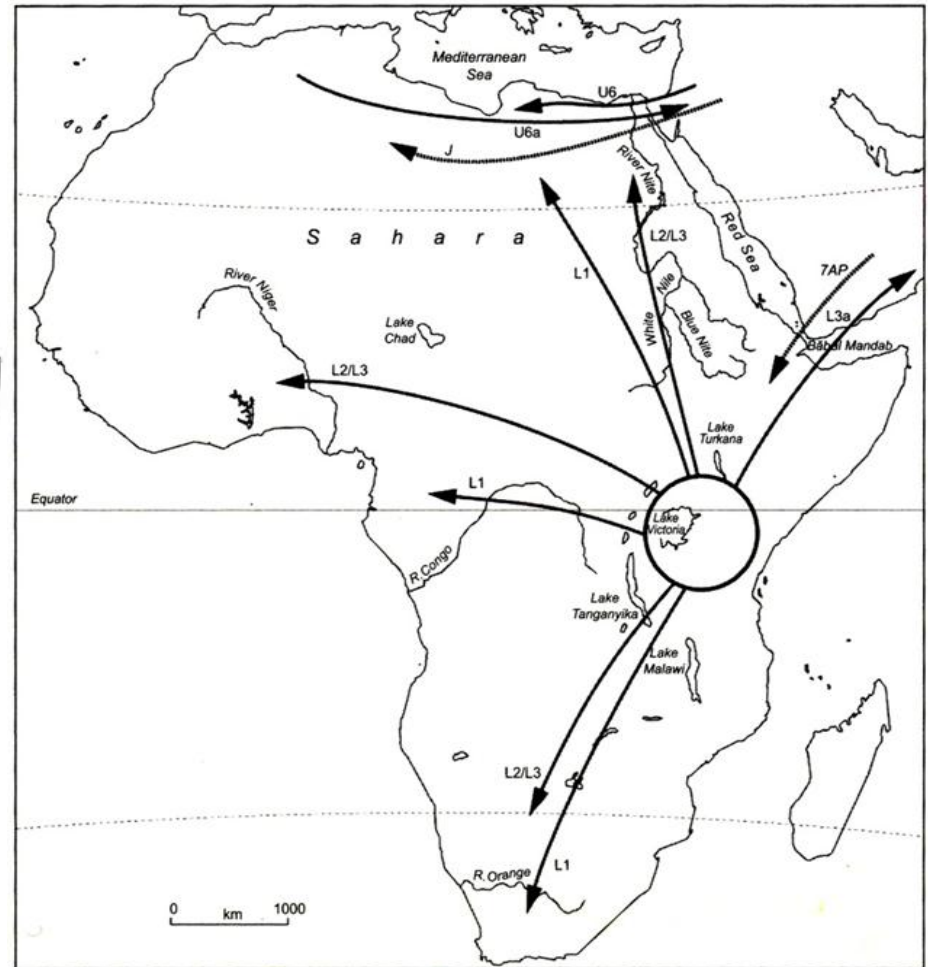
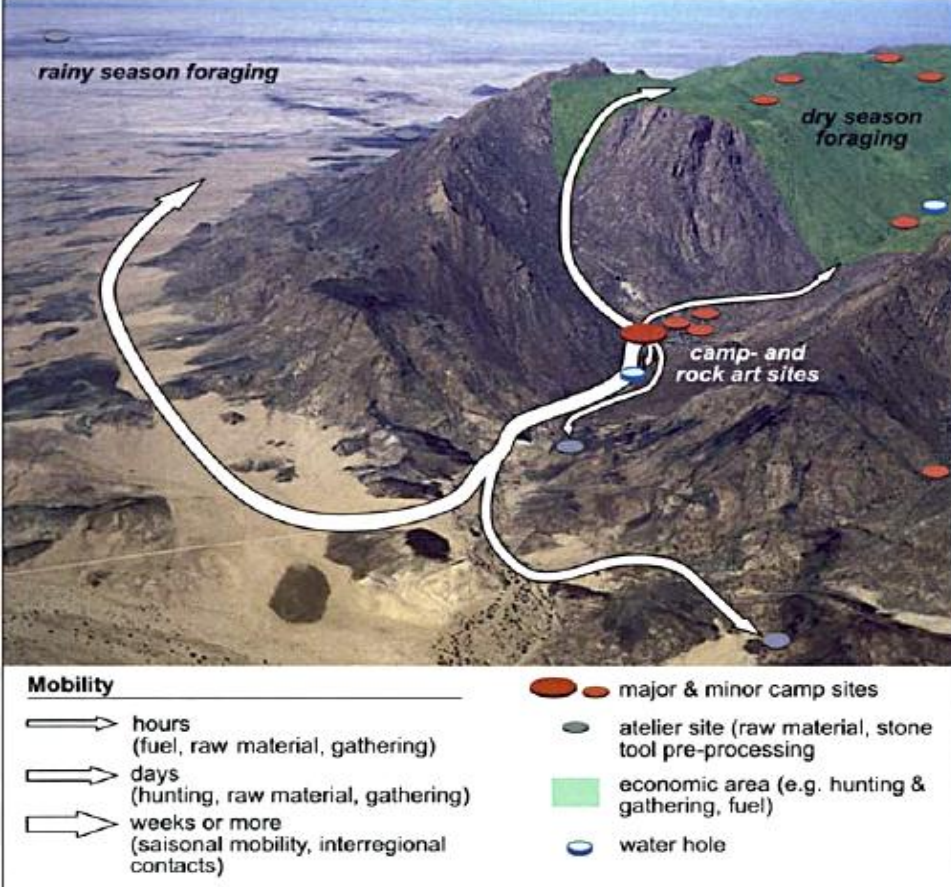
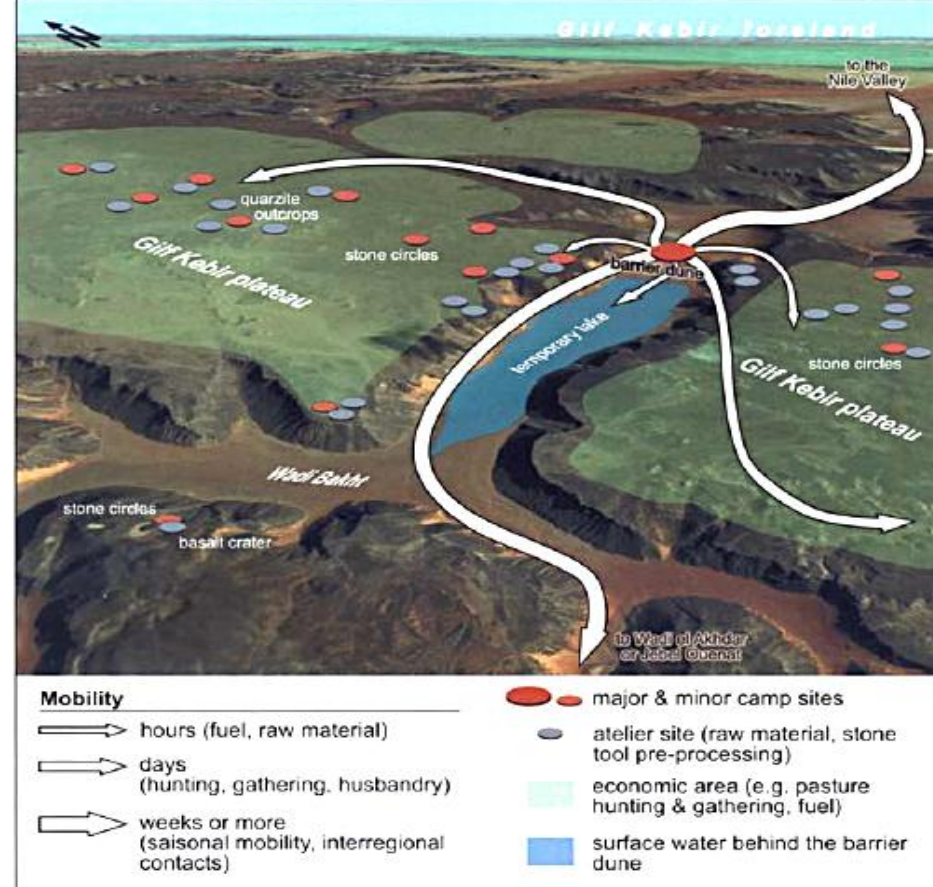


Figure 7.9. Africa, illustrating the genetic evidence for movements in and out of the continent during MIS 4 and 3 (after Watson *et al.* 1997; Maca-Meyer *et al.* 2003; Forster 2004; S. Oppenheimer 2004). Mitochondrial lineages are indicated in normal typeface; Y-chromosome lineages, in italics. For estimated dates and further information, please see the references and main text. Directions of movement indicated were not contemporary and are only schematically indicated here.





**Figure 6.10.** A section of the Later Stone Age Brandberg/Daureb landscape indicating resources and reconstructing the use patterns in a schematic representation. Note that the ecotope did not undergo a change comparable to that of the Sahara (Photo: courtesy of H. Mooser) (See also Color Plates)



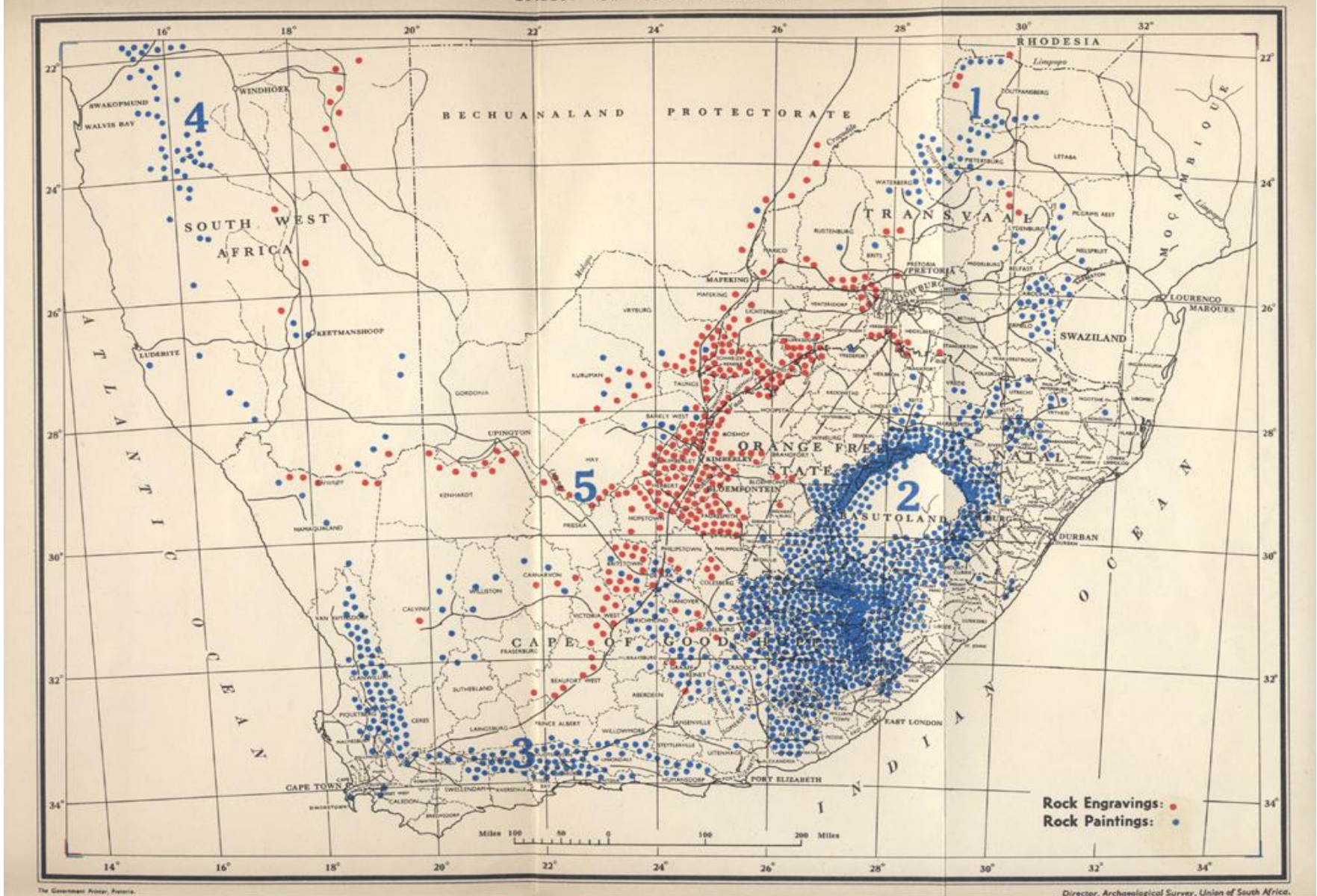
**Figure 6.9.** Reconstruction of the Wadi Bakht landscape focusing on resources and use patterns during the phase Gilt B (c. 6500–4500 bce) (See also Color Plates)

**Tilman Lenssen-Erz & Jorg Linstadter – “Resources, Use Potential, Basic Needs; A Methodological framework for Landscape Archaeology**

+

**Lewis R Binford – “ Willow Smoke and Dogs' Tails: Hunter-Gatherer Settlement Systems and Archaeological Site Formation ”**





C van Riet Lowe, 'Archaeological Survey; The Distribution of Prehistoric Rock Engravings & Paintings in South Africa' (published 1958)

# **Climate, Geology, Solar energy, natural forces largely determine what plants grow where.**

**BUT - We overlook niche construction, migration routes and resource use by early and later hominids and their effect on plant and animal distribution.**

- **Niche construction is inherent in all animals, they manipulate landscape.**
- **Animals, especially humans, transport things / plants – either intentionally or accidentally (= manuports).**
- **Hominids ancient and modern were/are always dependent on plants for survival.**
- **Immigrants took/take familiar useful plants to grow where they temporarily or permanently settle.**
- **Travellers gather & carry fruit, seed, grain and roots, as food on the journey or to plant later. Domestication started long before 10,000 bp.**
- **We hunt/farm/eat animals - but animals are dependent on plants.**
- **Plants, culture, & knowledge often travel independently or osmotically.**



# Last thoughts

**D E. Moerman & G F. Estabrook** - The botanist effect: counties with maximal species richness tend to be home to universities and botanists  
*- - botanical activity occurs disproportionately in the vicinity of universities or Institutions where trained botanists are employed. Thus plant species richness is, at least to some degree, a function of the location of botanists.*

**C O Sauer 1941** - Introduction to “Phytogeography” - *the archaeologist must rely on workers in other disciplines - geologist, palaeontologist, ecologist, palaeobotanist, soil chemist, geographer, to mention but a few. It is fully apparent that unless there is teamwork with other disciplines, we cannot hope to extract a fraction of the evidence that in many instances our sites could yield. (+ Palaeoethnobotanist etc. etc.)*

*For centuries, we have debated what it is that sets humankind apart from animals. Is it the ability to make tools? To walk upright? To reason? To laugh? To create art? To perpetuate evil? All of these are true, some more than others, but the one characteristic that sets man clearly apart is his obsession with his origins.*



# The West and the Rest!

*This was, when you come to think of it, the original affluent society. By common understanding an affluent society is one in which all the people's wants are easily satisfied ....but wants are easily 'satisfied' either by producing much or desiring little, and there are, accordingly, two possible roads to affluence.*

*Sahlins rooted the Zen concept of 'want not, lack not' in the mobility of hunter-gatherers - most groups carry with them all their material possessions, which must thus be kept to a minimum - In a word, 'mobility and property are in contradiction'*

**Peter Rowley-Conwy** “Time, change and the archaeology of hunter-gatherers: how original is the Original Affluent Society?” - referring to the phrase used in “Man the Hunter” by Lee and DeVore 1968, and by Marshall Sahlins to describe hunter-gatherers.

**Nancy Makepeace Tanner** “On becoming human”

*..... Ideas of economic, political, and cultural "progress" and "development" (often joined with biological racism), in which the white men of western Europe imagined themselves at the apex of "progressive social evolution", arose after the West's "discovery" of the rest of the world and were still current in Darwin's era. ....*