Università degli Studi di Ferrara

Marco Peresani

Cronologie e culture del Paleolitico
Lezione 3 – the earliest occupation of Europe

Università di Ferrara
Dipartimento di Studi Umanistici
Sezione di Scienze Preistoriche e Antropologiche

Mains steps in cultural evolution

Pebble industries (Europe)

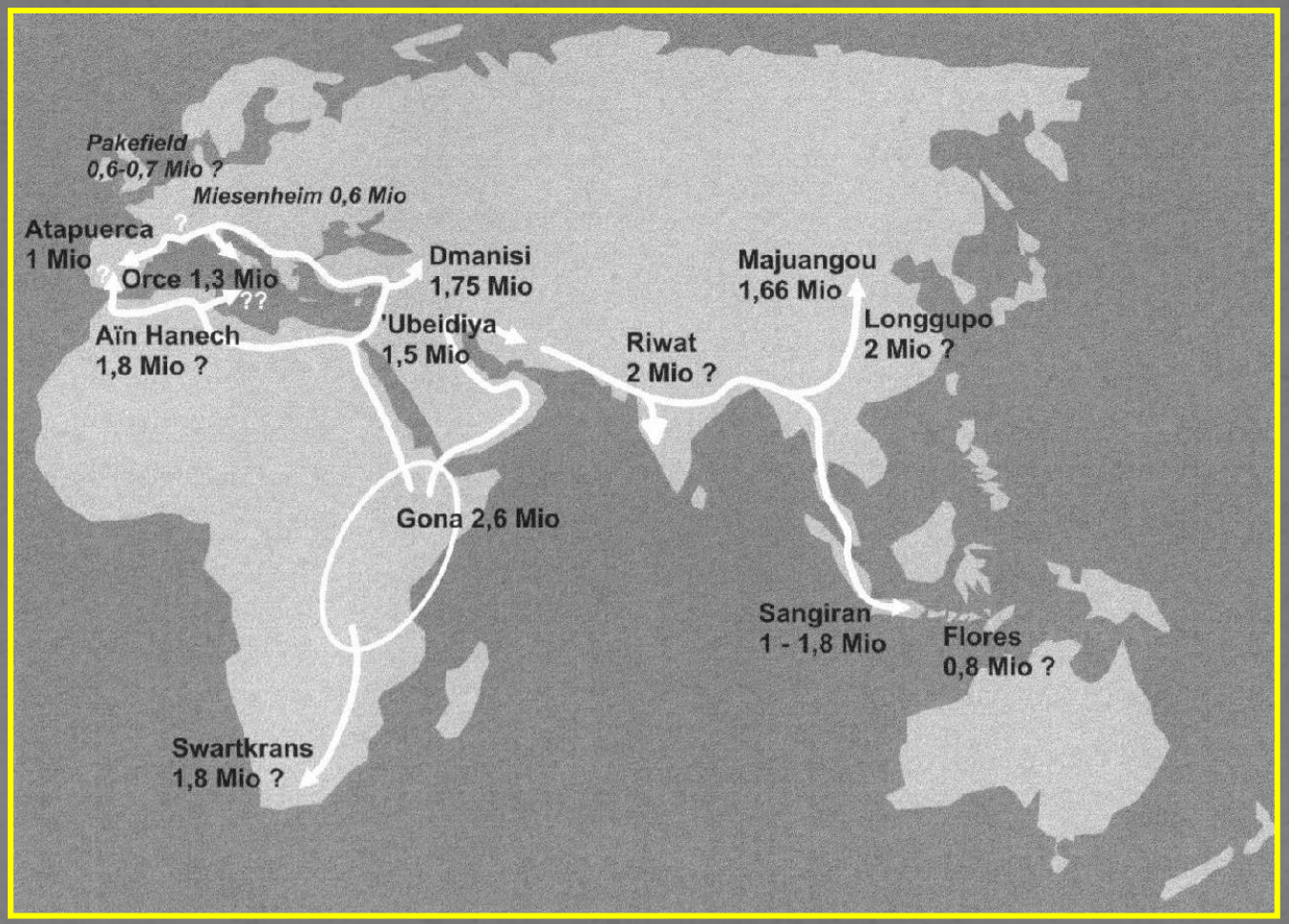
(Modo 1) 1.8 MA

Chopper

Pebble industries (Africa)

(Modo 1) 3.3MA

Outside Africa dispersal routes and the first peopling of Europe

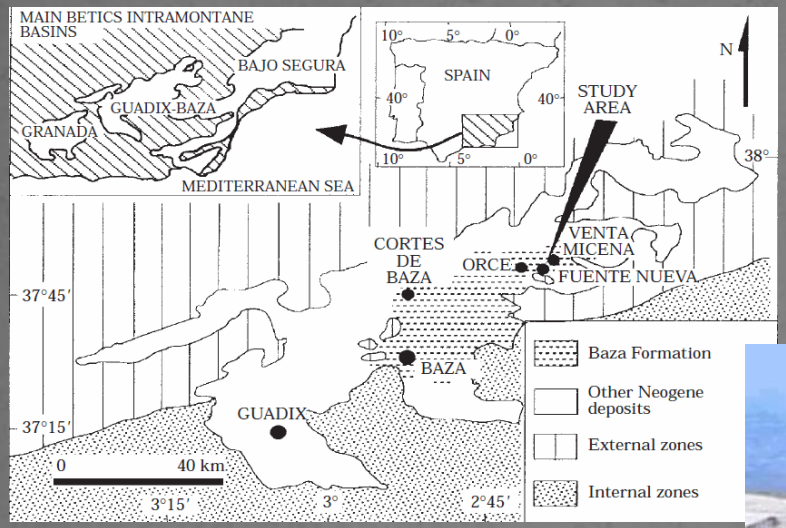


The first peopling of Europe (1,8-0,7 Ma)

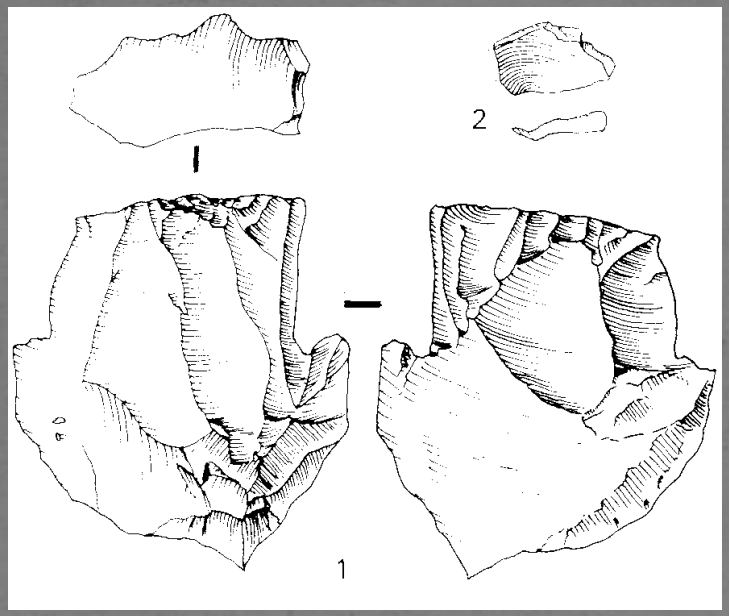
Dmanisi (*Georgia*), 1,8 Millions years

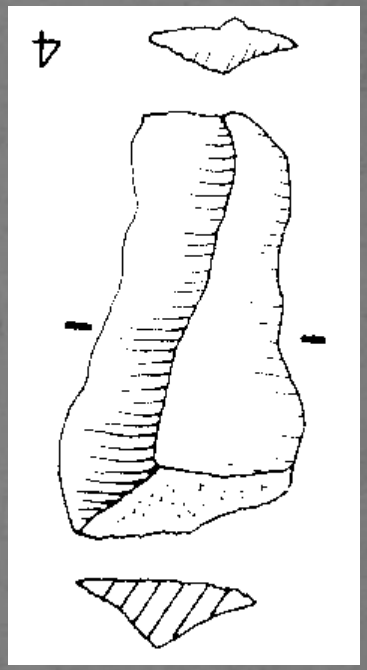

Pont de Lavaud & Lunerie
Le Vallonet
Montepoggiolo
Sima del Elefante & Gran Dolina
Pirro Nord
Dmanisi
Fonte Nueva 3 & Barranco Leon

Fuente Nueva-3 (Orce, Granada, Spain) and the first human occupation of Europe



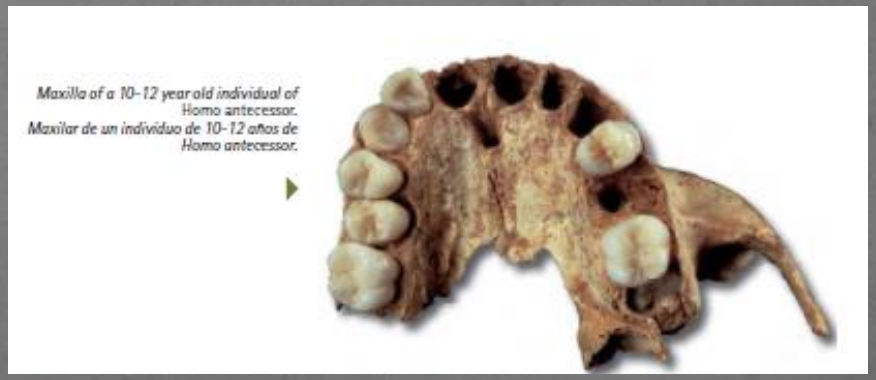
Fuente Nueva-3 (Orce, Granada, Spain) and the first human occupation of Europe





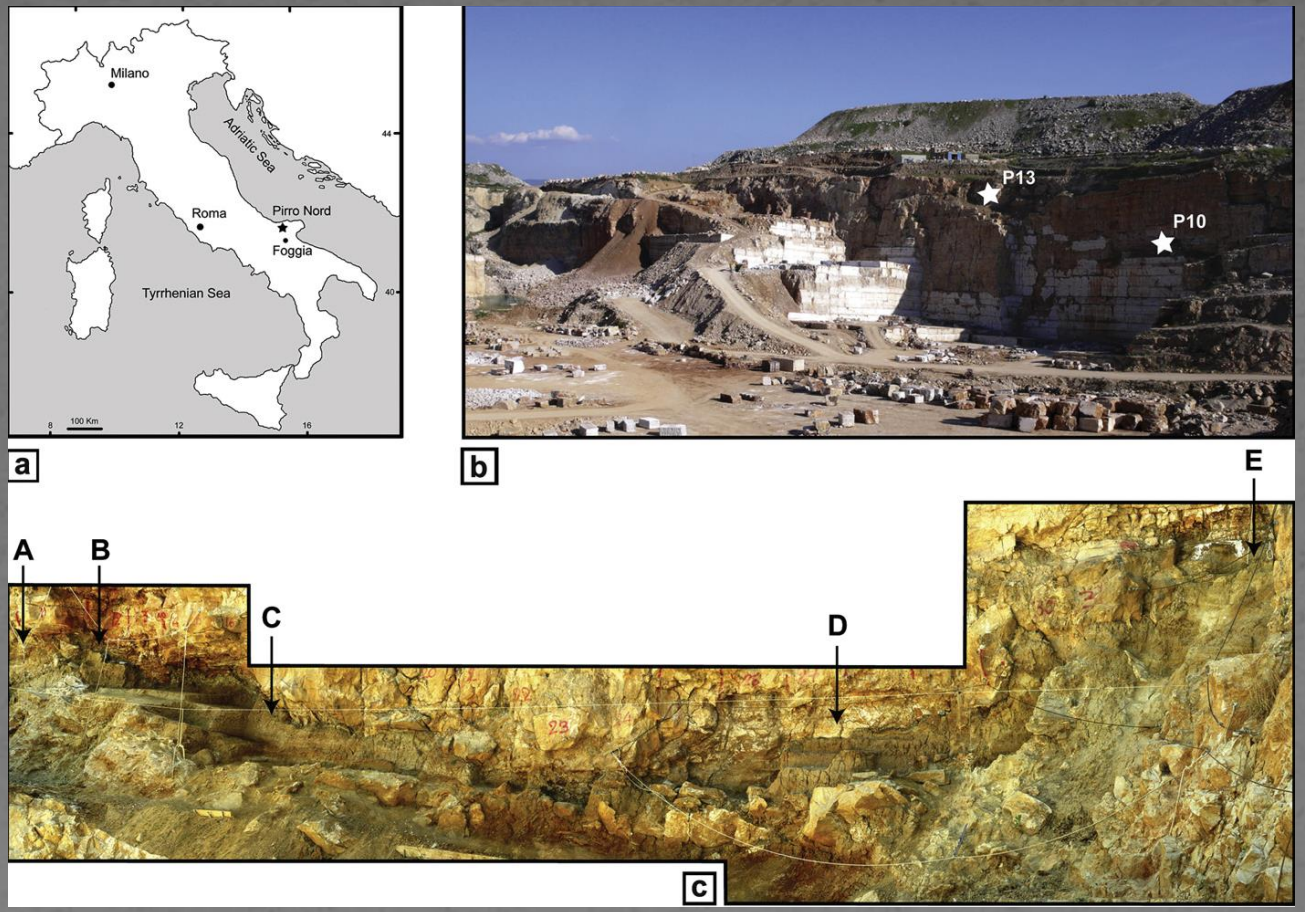
Lithic artefacts from archaeological level 2 at Fuente Nueva-3: (1) core with a blade-like tendency, and flake (4).

The Sierra de Atapuerca



Maxilla of a 10-12 year old individual of Homo antecessor.
Maxilar de un individuo de 10-12 años de Homo antecessor.

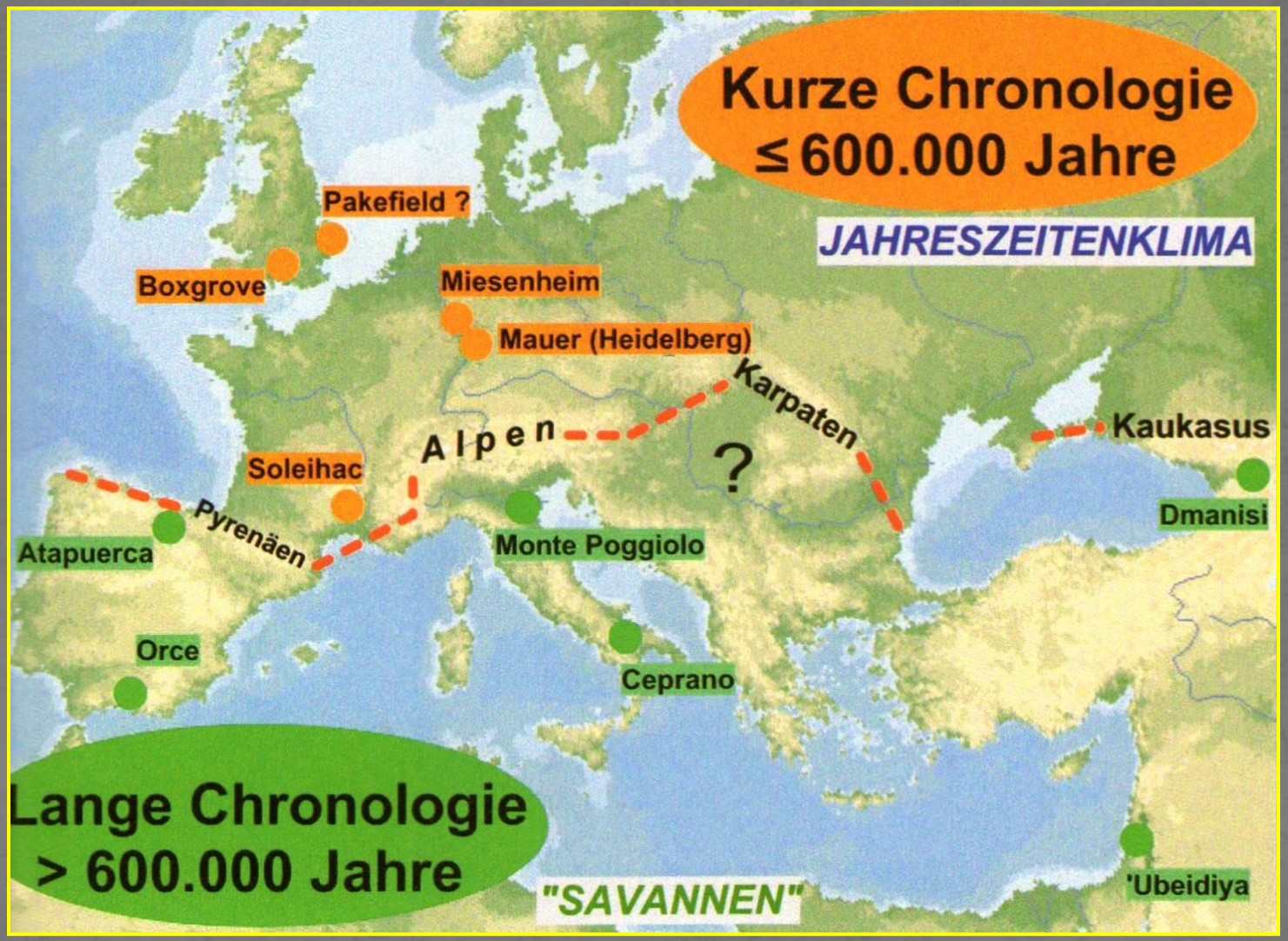
ATD 6-69 Homo antecessor, Sima del Elefante and Gran Dolina (Atapuerca, Spagna) (1,2-0,7 Ma)



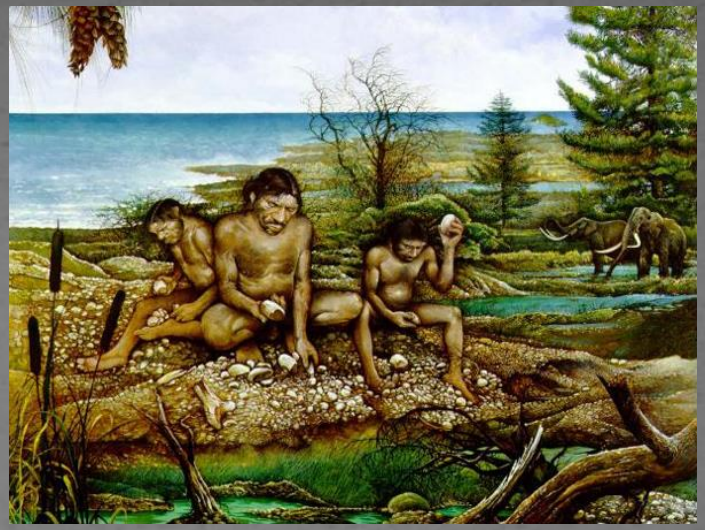
a. Geographic location **of Pirro Nord**. b. The southern side of a quarrying complex, former Pirro Nord quarries. Numbered asterisks mark the position of the palaeontologicaleanthropological diggings at Pirro 10 and Pirro 13. c. Photomosaic panoramic view of Pirro 10 site. Capital letters indicate the position of the stratigraphic logs.

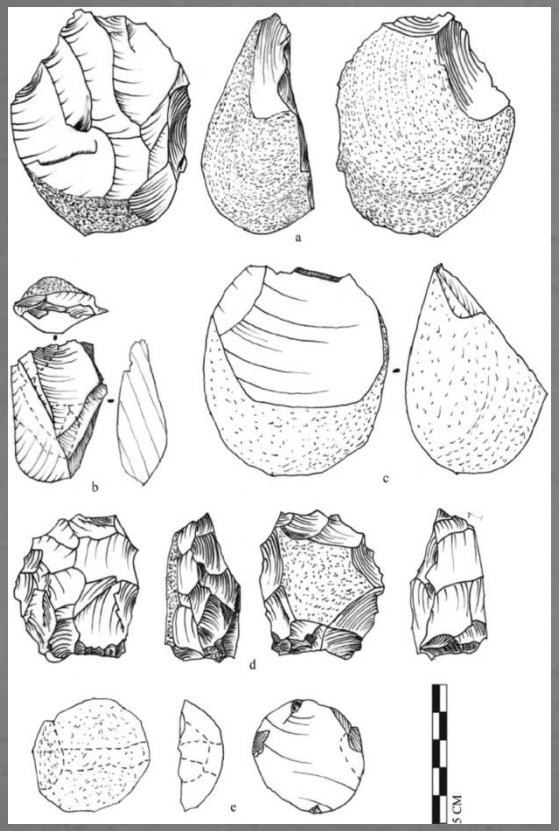
Pirro nord, Italy

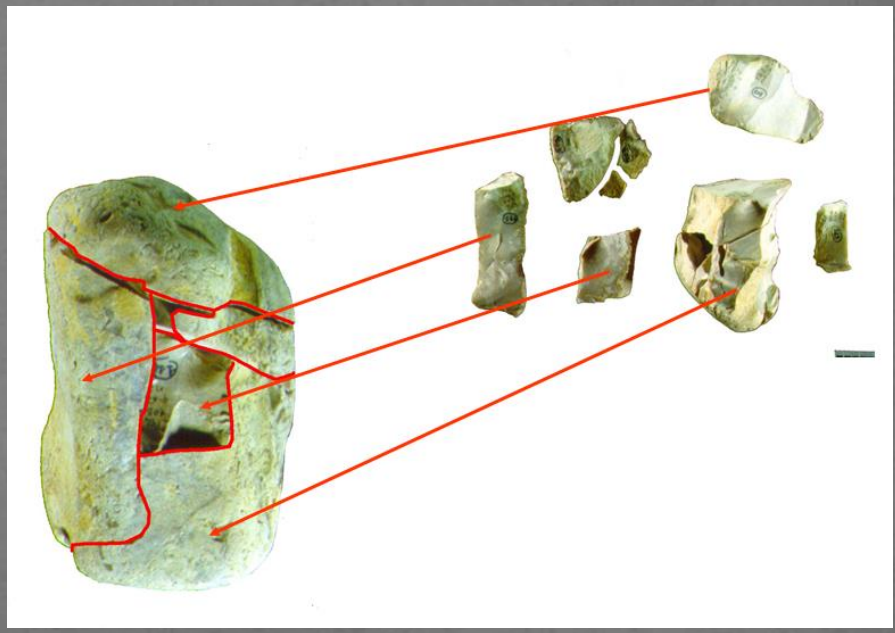
Short or long chronology for the first peopling of Europe?



Ca’ Belvedere di Monte Poggiolo
(800 - 900 ky)

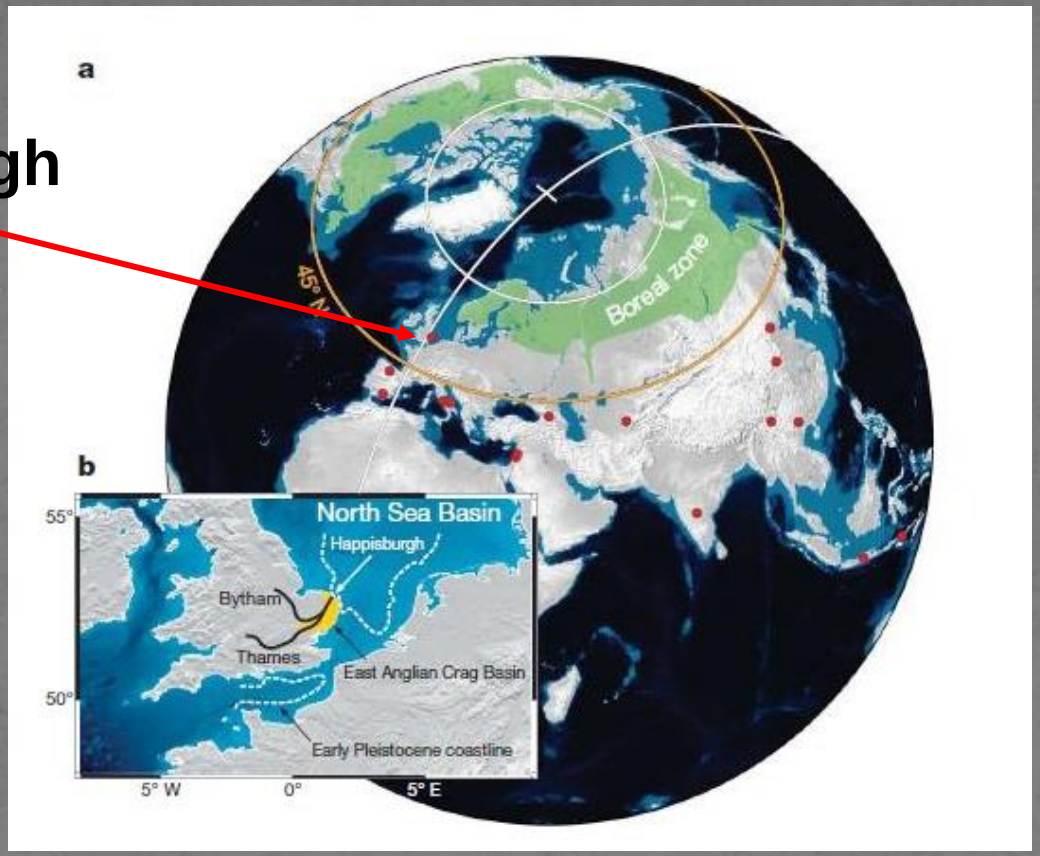






The oldest Palaeolithic site North of 45˚ parallel

Happisburgh

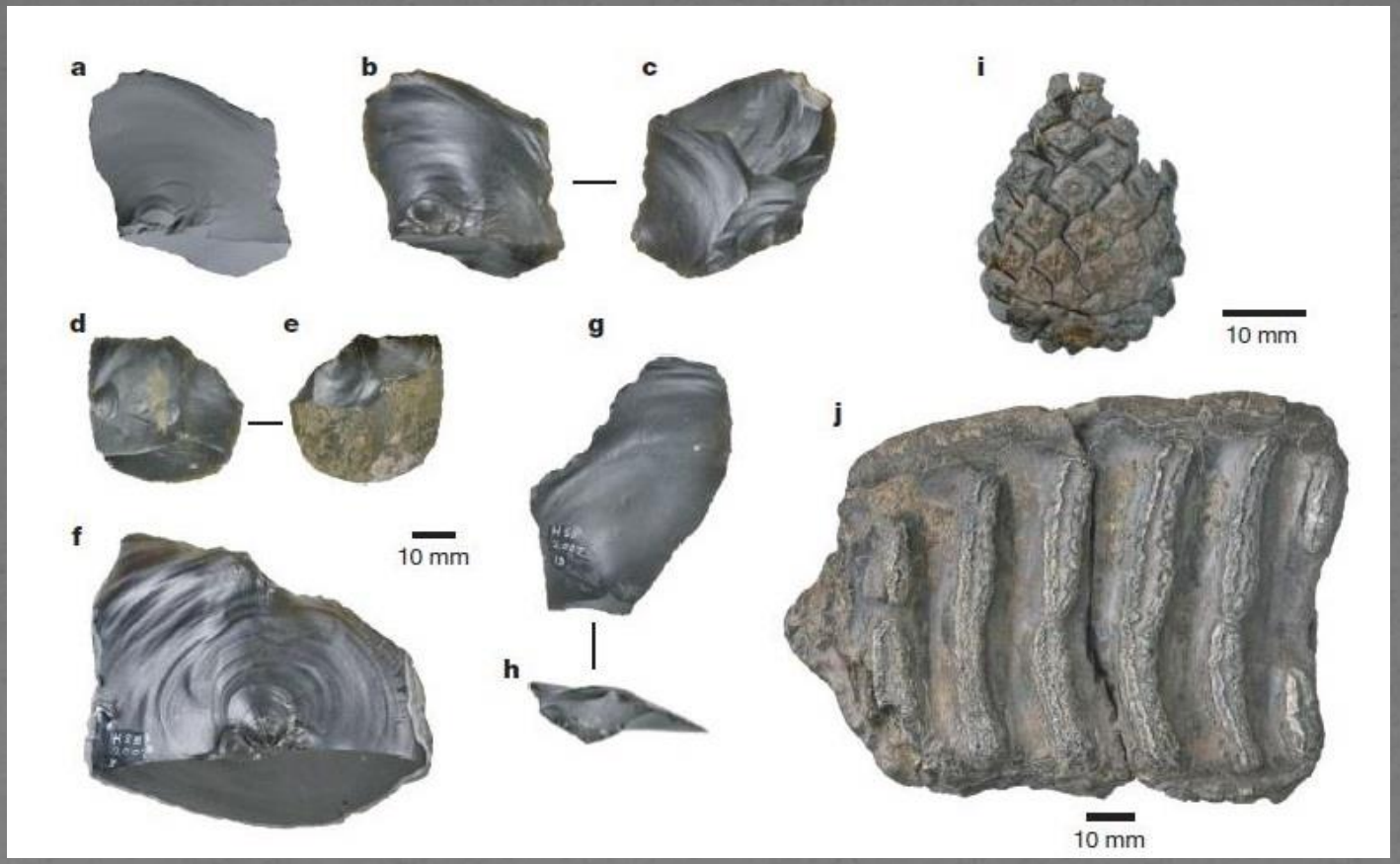


Location of Happisburgh and other Early Pleistocene archaeological sites in Eurasia (red dots) in relation to 45˚ N and the present-day boreal zone. b, Reconstruction of the palaeogeography of northwest Europe at the time of the human occupation at Happisburgh, showing the Thames draining into the North Sea ,150 km to the north of its present-day estuary.

The dispersal of early humans from Africa by 1.75 Myr ago led to a marked expansion of their range. This range encompassed tropical forest, savannah and Mediterranean habitats, but has hitherto not been demonstrated **beyond 45˚ N**. Until recently, early colonization in Europe was thought to be confined to the area south of the Pyrenees and Alps.

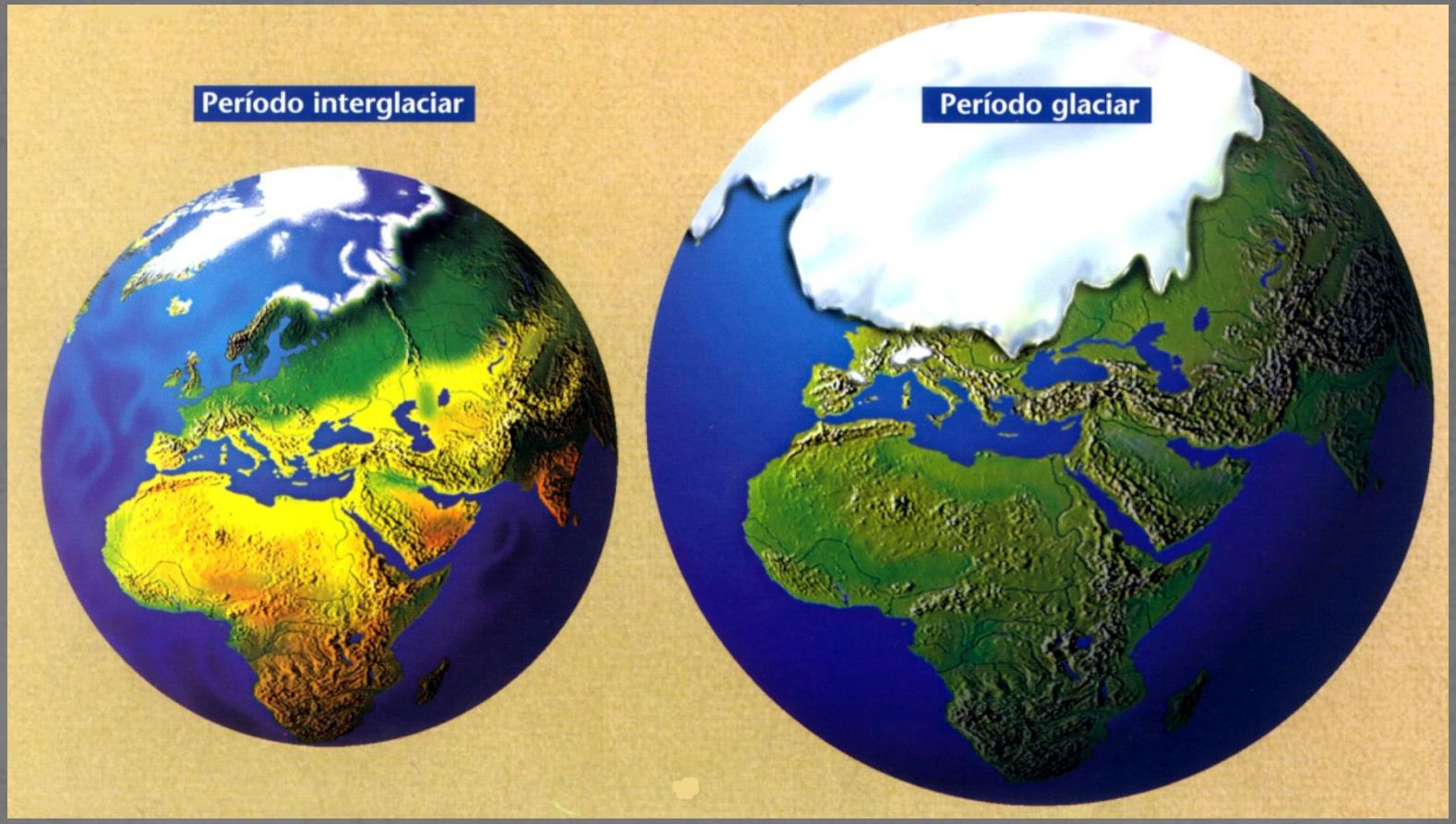
However, evidence from **Pakefield** (Suffolk,UK) at 0.7Myr indicated that humans occupied northern European latitudes when a Mediterranean-type climate prevailed. This provided the basis for an 'ebb and flow' model, where human populations were thought to survive in southern refugia during cold stages, only expanding northwards during fully temperate climates. New evidence from **Happisburgh** (Norfolk, UK) demonstrates that Early Pleistocene hominins were present in northern Europe 0.78Myr ago when they were able to survive at the southern edge of the boreal zone. This has significant implications for our understanding of early human behaviour, adaptation and survival, as well as the tempo and mode of colonization of Eurasia.

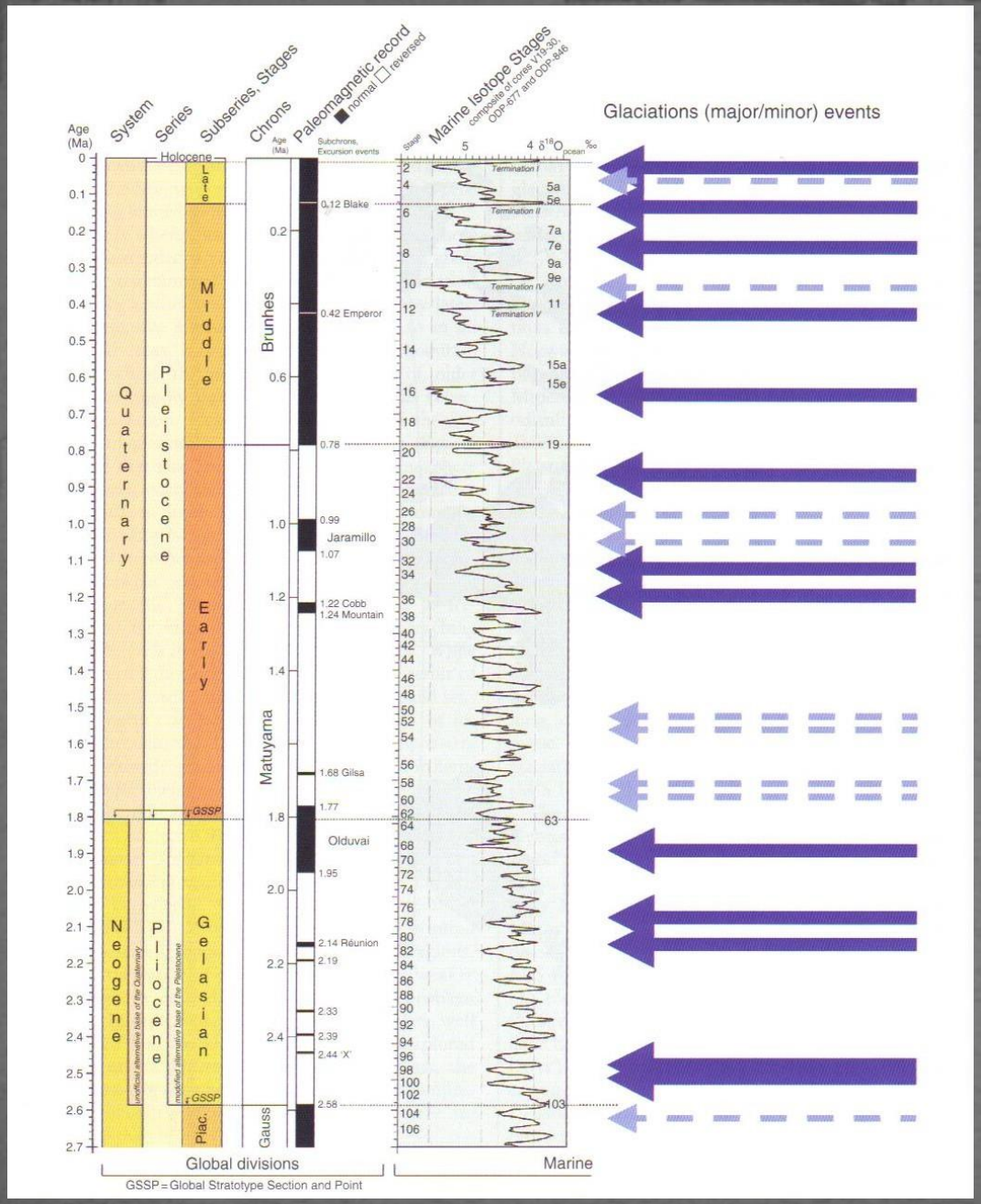
Lithic artefacts and palaeontological remains from Happisburgh

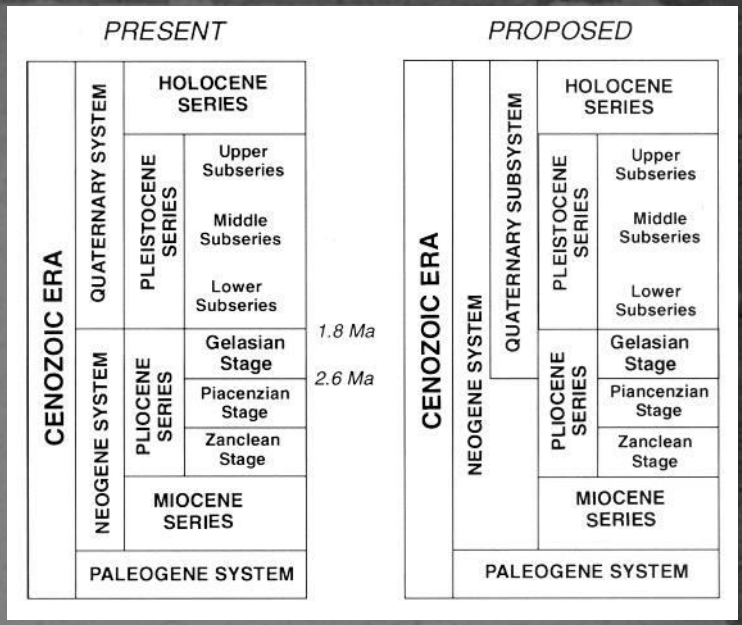


Flint artefacts include hard-hammer flakes, notches, retouched flakes and cores (a–c, hard-hammer flake; d, e, multiple notch; f, hard-hammer flake; g, h, hard-hammer flake, showing pronounced point of percussion on plain butt); i, cone of *Pinus* cf. *sylvestris*; j, Upper second molar of *Mammuthus* cf. *meridionalis*.

Climatic change and geographic and ecological impact during the Middle and Late Pleistocene

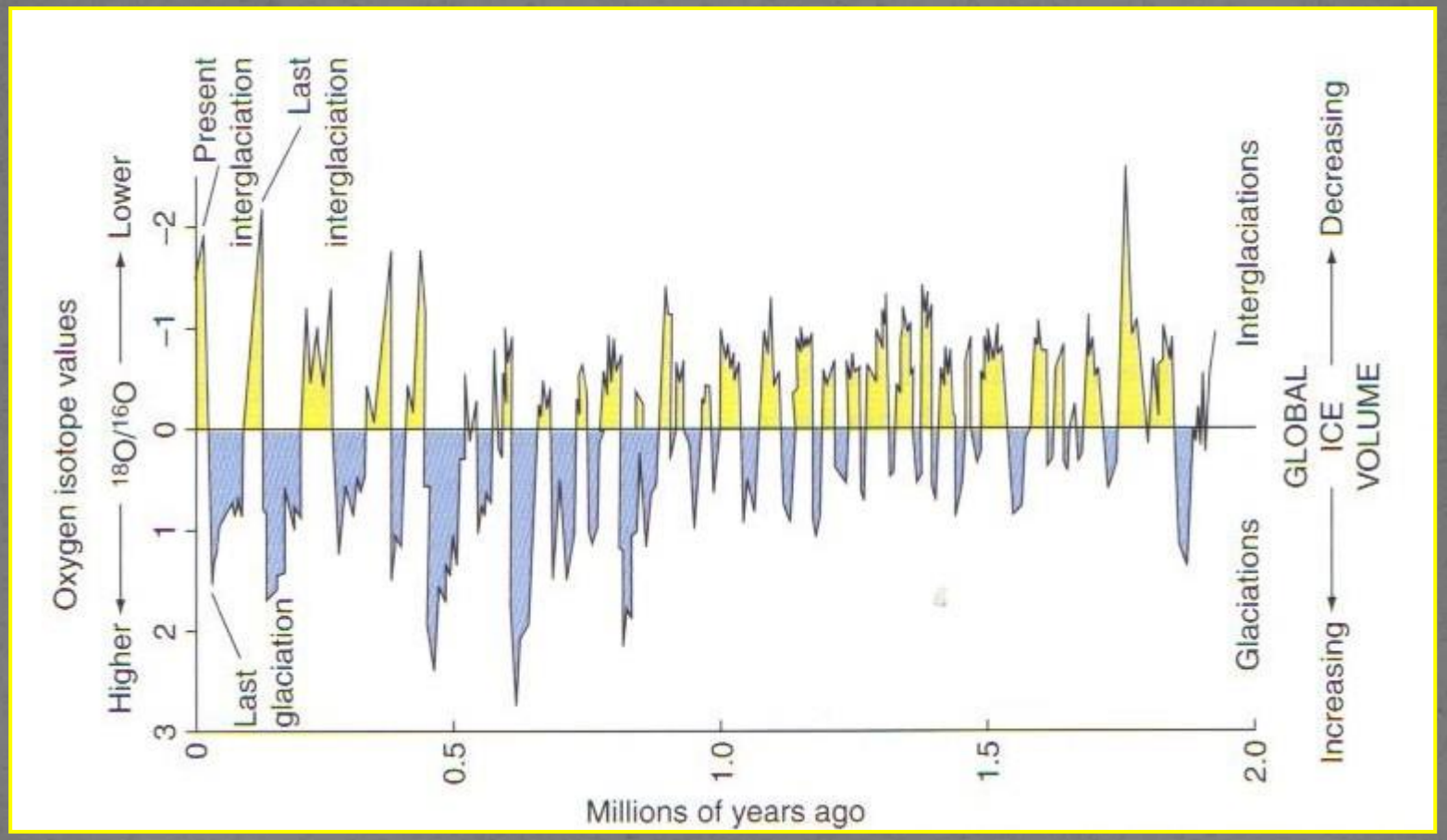




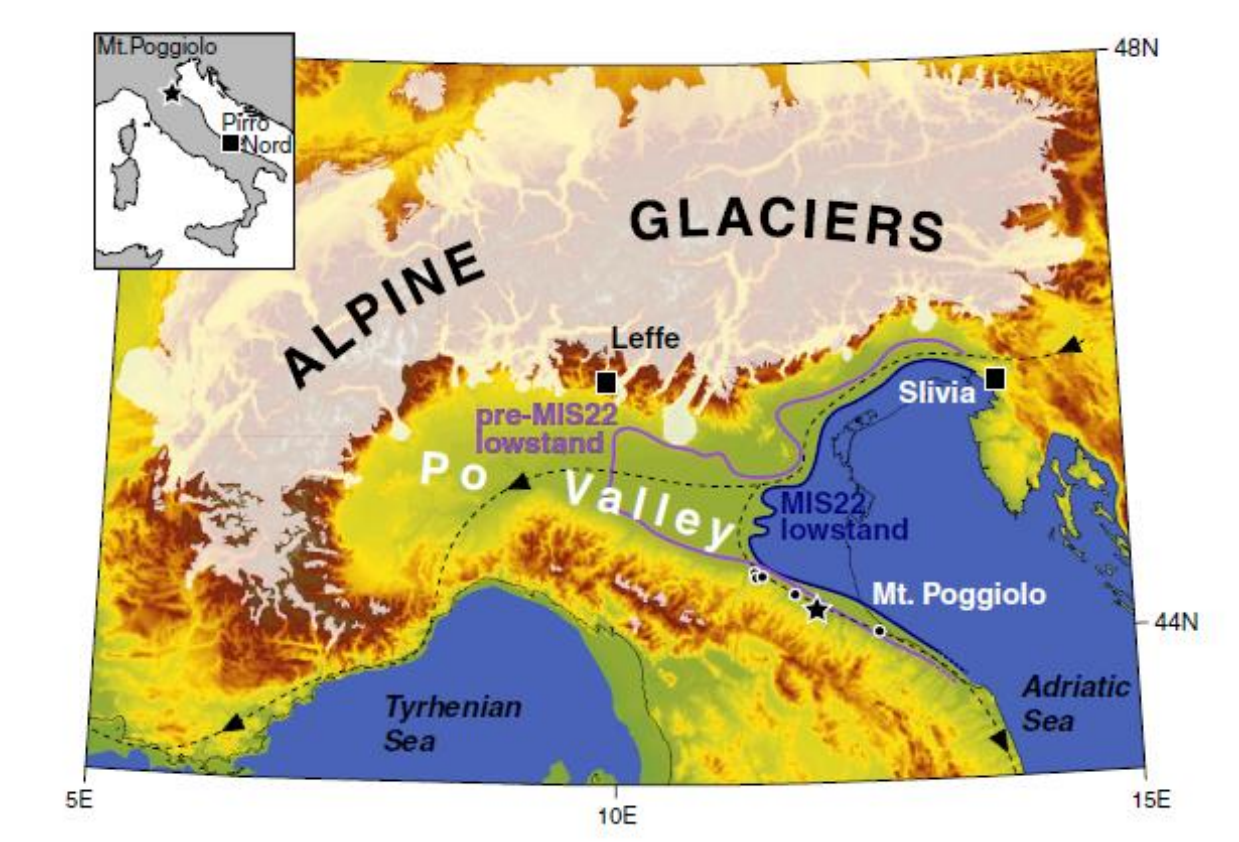


The most relevant glaciations during the Quaternary

Change in the magnitude of glacial cycles after the Middle Pleistocene Revolution

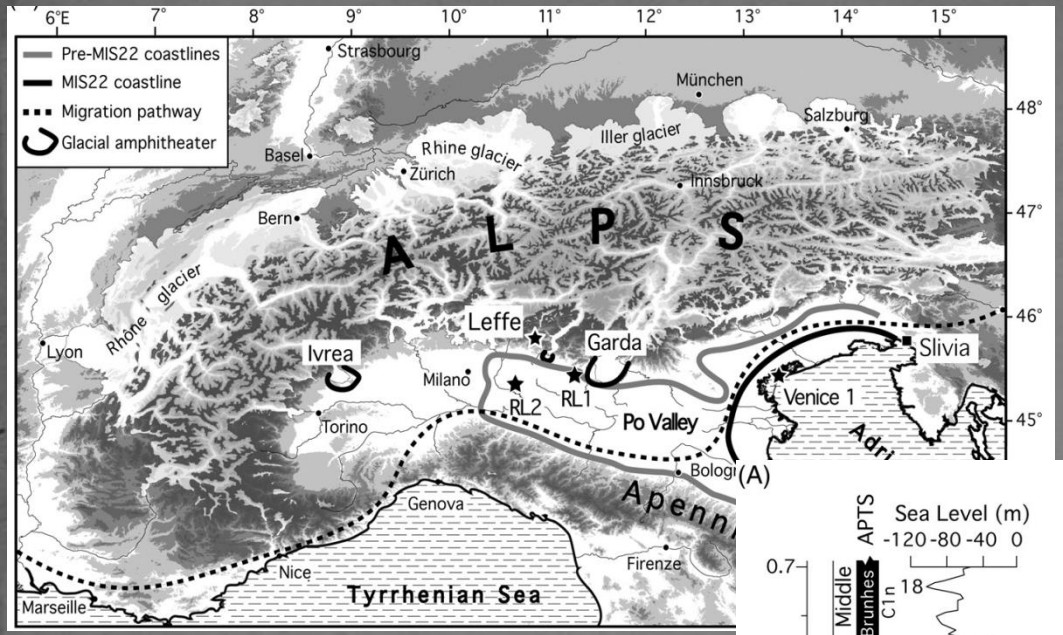


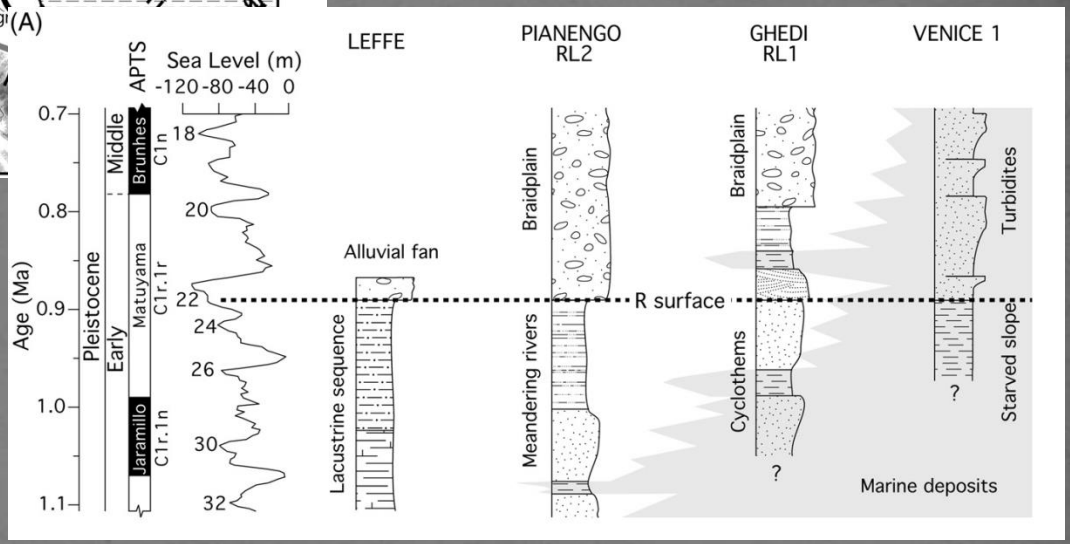
Faunal migration routes at the onset of the Middle Pleistocene



Paleogeographic map of northern Italy at MIS 22 time with indication of the immediately younger (MIS 21 at ~0.85 Ma) Monte Poggiolo site (star) and other potentially coeval tool-bearing sites from the Apennine margin (circles). As a consequence of the onset of high-energy sedimentation in the Southern Alps-Po Valley caused by the MIS 22 low-stand, large stretches of the Po Valley became exposed for the first time, thus potentially opening new migration pathways (black dashed line = potential migration pathway). From Muttoni et al., 2011.

Sedimentary evolution of the Po Plain at the onset of the Middle Pleistocene





Correlation of stratigraphic data from the Southern Alps-Po Plain area around MIS 22 (~0.87 Ma). (A) At MIS 22 time, the intensification of glacial activity in the Alps triggered the onset of high-energy sedimentation in different orographic and geodynamic settings of the Southern Alps-Po Valley system. From Muttoni et al., 2010. PPP.

Faunal migration routes at the onset of the Middle Pleistocene

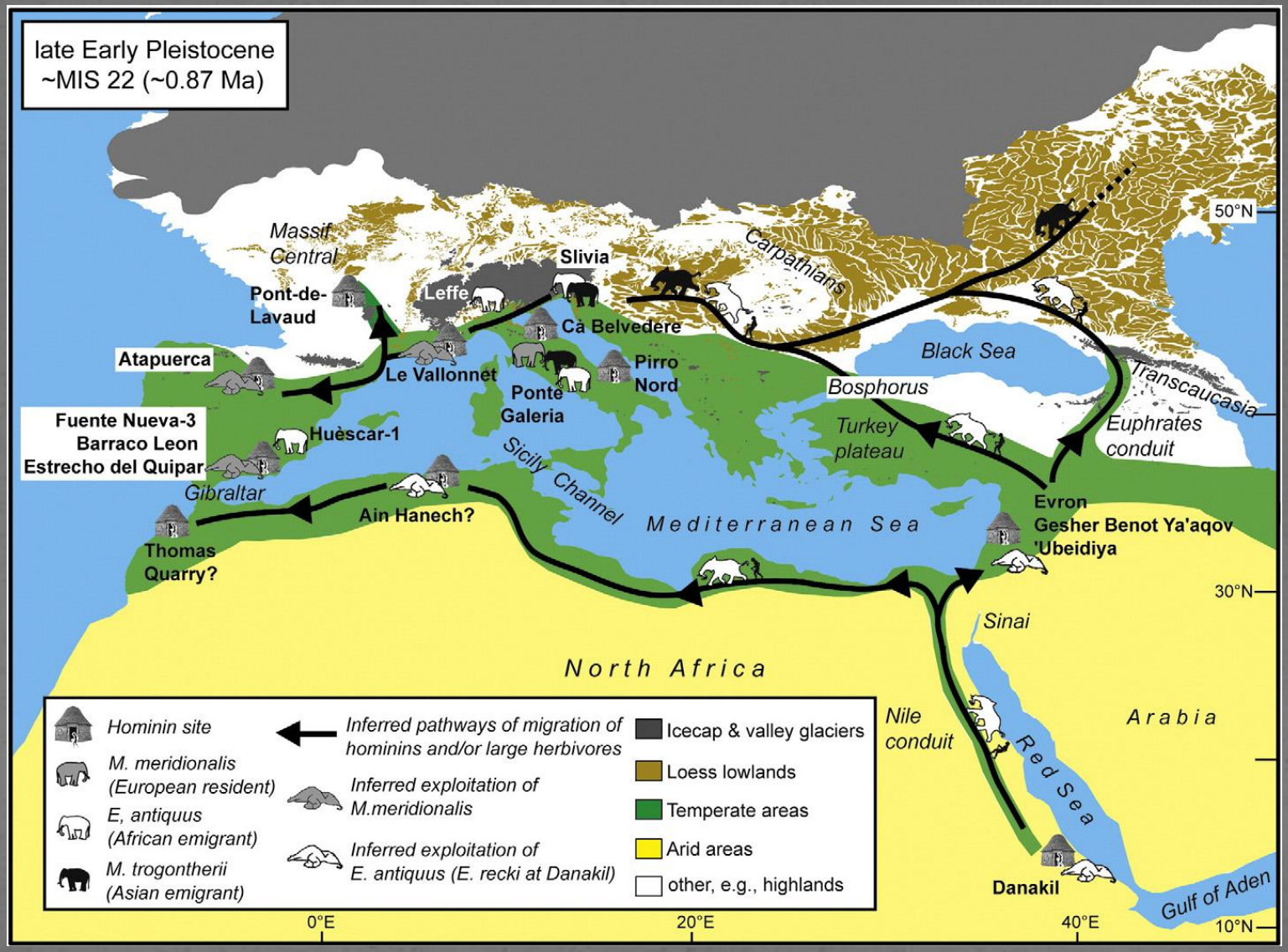
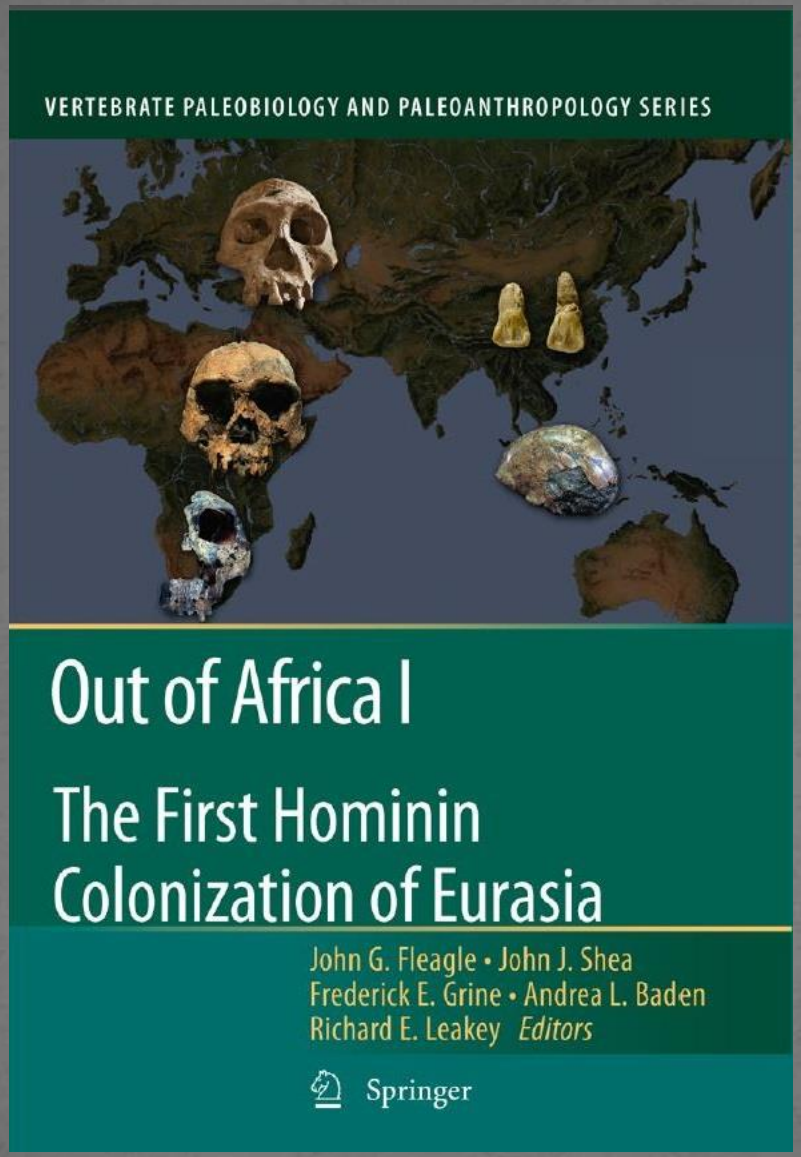


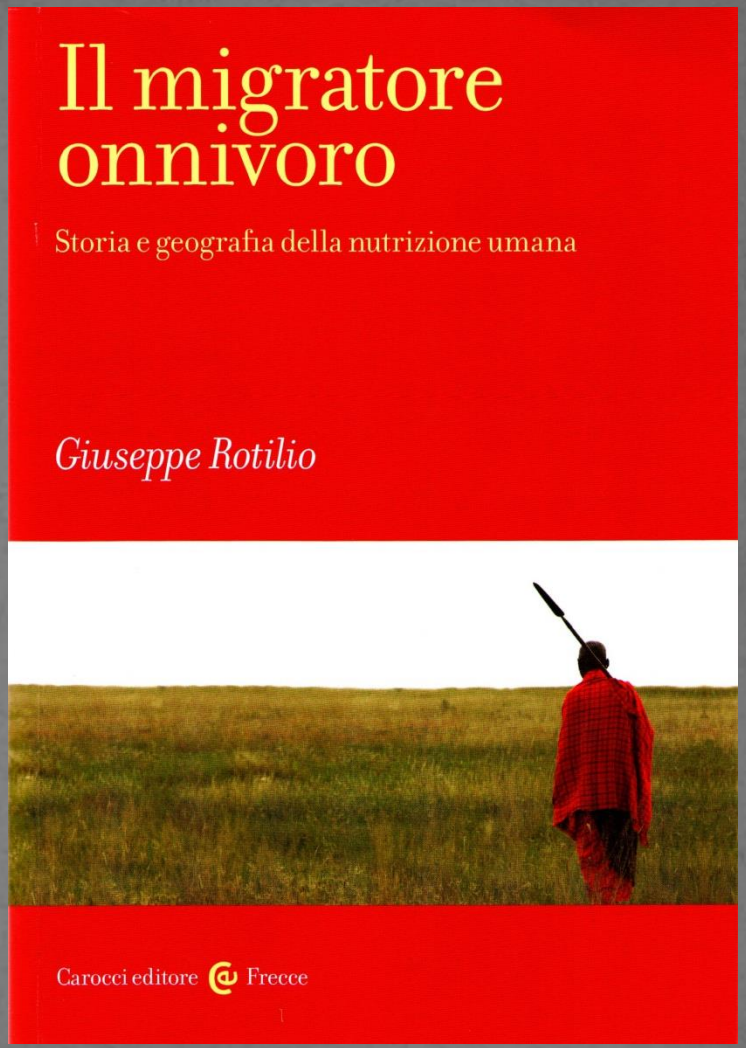
Figure caption next slide

Paleogeographic scenario of Europe showing possible pathways of migration of large herbivores (notably elephants) and hominins during the late Early Pleistocene at ~0.87 Ma (~MIS 22). Sites exclusively bearing proof of hominin and/or elephant presence straddling this time interval are illustrated.

Alpine-type valley glaciers in dark gray; Pleistocene loess deposits in brown; MIS 22 coastlines are at the -120 meter isobath; in green and yellow are the inferred distributions of temperate and arid areas are in green and yellow respectively.

From Muttoni et al., 2010. PPP.


VERTEBRATE PALEOBIOLOGY AND PALEOANTHROPOLOGY SERIES
Out of Africa I
The First Hominin Colonization of Eurasia
John G. Fleagle • John J. Shea
Frederick E. Grine • Andrea L. Baden
Richard E. Leakey Editors
Springer


Il migratore onnivoro
Storia e geografia della nutrizione umana
Giuseppe Rotilio
Carocci editore Frecce

Humans: from scavengers to top predators

- First great evolutive step: to adopt a diet based on the assimilation of animal proteins
- First humans: scavengers or hunters?

From Darwin (1871) to Ardrey (1976):

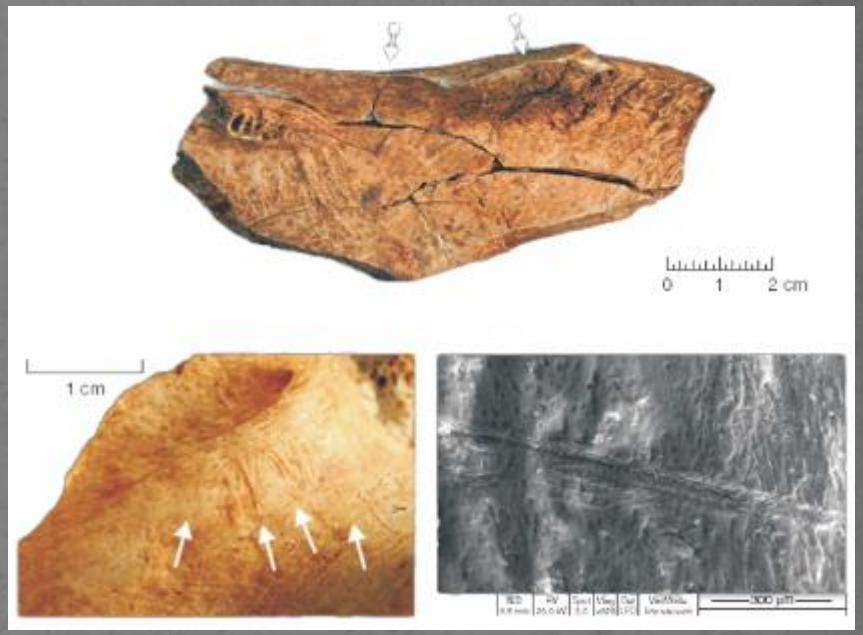
"THE HUNTING HYPOTHESIS"

Criticisms to the theory: Brain (1981), Binford (1981), Isaac (1978,1983)

"THE MARGINAL SCAVENGER"

When the first evidence of hunting in Europe?

Data from Atapuerca
TE9-TD6
1,2-0,8ma



Atapuerca, TE9: cut-marked bones with percussion cones
Carbonell et al. 2008

Pseudo-artifacts of bone, Sterkfontein