

# Chapter 2 Notes

## 1. Swingers to Walkers (23-3m ya)

- **Early Apes (23 million years ago)**

- Perfectly adapted for forest life with long arms, curved fingers, flexible shoulders
- Forward-facing eyes to judge jumping distances

- **Climate Change Challenge (10 million years ago)**

- Earth cooled, forests shrank, savannas grew
- Some apes ventured into open grasslands

- **Walking Upright (7 million years ago)**

- First "hominins" stood on two legs
- Advantages: seeing over tall grass, traveling longer distances, keeping cooler, freeing hands

- **Notable Early Hominins**

- **Ardipithecus (4.4 million years ago):** Could walk upright and climb trees
- **Australopithecus (4 million years ago):** Clearly built for walking upright
- **Lucy (3.2 million years ago):** Famous skeleton showing upright walking

## 2. Homo habilis (2.8-1.5m ya)

- **Major Change:** First creatures to create tools rather than waiting for mutations
- **Oldowan Tools:** Simple stone flakes and choppers

- **Walking Upright (7 million years ago)**
  - Cut meat from animal bodies
  - Crack open bones for nutritious marrow
  - Process tough plant materials
  - Better defense against predators
- **Tool-Brain Cycle:** Better nutrition → larger brains → more sophisticated tool-making → even better nutrition

### 3. **Homo erectus** (1.9m-110k ya)

- **Body Features:** Taller (4.5-6 feet), stronger, 50% larger brain than Homo habilis
- **First to Leave Africa:** Spread across Asia to Georgia, China, and Indonesia
- **Fire Mastery (1 million years ago)**
  - Provided warmth, protection, light, and cooking
  - **Cooking changed human bodies:** smaller jaws, less strong teeth, shorter digestive systems, larger brains
- **Advanced Tools:** Created carefully crafted "Acheulean" hand axes
  - Used for 1.5 million years - longest-lasting technology in human history
  - Show planning and symmetry, perhaps the earliest beginnings of art

### 4. **Branching Family Tree** (700k-40k ya)

- **Homo heidelbergensis** (700,000 years ago): Important in-between species with larger brains
- **Three Branch-Off Species:**
  1. **Neanderthals (Europe):** Adapted for cold with thick, muscular frames, shorter limbs, larger noses

2. **Denisovans (Asia):** Less known, spread across Asia with special adaptations for high altitudes
3. **Homo sapiens (Africa):** Taller, slimmer bodies, higher foreheads, rounded skulls

## 5. The Thinking Revolution (100k-70k ya)

- **Brain Change:** Shape became more rounded, working far more efficiently
- **New Mental Abilities:**
  - Abstract thinking—imagining things that don't yet exist
  - Future planning—thinking about next season or year
  - Symbolic thought—using marks to represent animals
  - Complex language—building and sharing detailed knowledge
  - Social intelligence—tracking complex relationships
  - Creative problem-solving—combining existing tools and ideas in new ways
- **Unique Human Trait:** Lack of fixed instincts, allowing greater ability to change
- **Skillful Hands:** Perfect partner for creative brains with opposable thumbs and sensitive fingertips

## 6. The Rise of Homo Sapiens (70k-15k ya)

- **Spread Across Earth:**
  - Reached Australia by 65,000 years ago
  - Europe by 45,000 years ago
  - Americas by 15,000 years ago

- **Creative Explosion** (50,000 years ago):
  - Specialized roles within groups
  - Advanced shelters for different environments
  - Clothing technologies
  - Art forms: cave paintings, carvings, beadwork
  - Social networks across vast distances
- **Daily Life Improvements:**
  - Advanced hunting and gathering tools
  - Varied diet from many food sources
  - Division of labor: hunters, gatherers, toolmakers, healers, storytellers
  - Clothing with practical and identity purposes

## 7. Tough Reality of Paleolithic Life

- **Daily Challenges:**
  - No permanent housing or sanitation
  - Weather extremes without protection
  - Food insecurity and constant danger
  - Short lives (30-40 years)
  - Limited choices and knowledge
  - Most time spent on survival tasks