

# SYNOPSIS OF EVOLUTION OF THE HUMAN MIND

Species	Representation Modes			Mental Model
	Tool Mode	Art/Spirit	Signs	
<b>1. Australopithecus</b> 4.5-2.5 MYA (2.6-1.0 Paranth.)	chimp, orangutan -- capuchin flakes Bouri 2.5M Oldow	--	--	'Perceptual Modeling of World' (D) situation-events; episodic& proced.mem.
<b>2. Homo rudolf./habil.</b> 2.5-1.6 MYA (1st African diaspora) Africa-Omo 2.5-2.4M (S.i.) -Urha 2.5-2.1M (H.r.) Longgupo 1.96M (Sp.ind) Orce 1.7-0.99M (Sp.ind) Africa-Olduvai 1.8, 1.6M (H. habilis)	Oldow. core/flakes K. Gona 2.6-2.5M Omo 2.4-2.3M hammer, anvil = tools to make tools Renzidong- 2.5-2M Riwat 2.5 />1.9M ?Yiron, Israel 2.4M ?St. Ebla 2.4-2.2M	metaphor core, crystals rhomboids, baboon-head anvil? 1.8M FxFj1 1.88M	mimetic gesture?	'Mimetic Modeling': mime - dance - gesture - rhythms group ritual; modulated vocalization(D); rhythm-L brain; prosody-R expanded social + foraging intelligence, new technical intelligence (M); 'preoperations A' (W)
<b>3. Homo ergaster/erect.</b> 1.9 to 1.4MYA / 1.8 to 250 KYA (2nd African diaspora) H.erg. - Africa 1.9-1.4M H.erct. - Java 1.81, 1.66M Dmanisi 1.8Ubeidiya 1.4M H.erct. 1.25M (Olduv.) Lantien - 1.1/800K? Europe - G.D. 0.99-.78M <b>Late heidelberg./erectus</b> Mauer 500K ; Arago, Bodo, Salé 400K; Bilz. 350-300K, Pit of Bones 300K, St, Sw	flake blanks Clactonian=CCC Acheulian Konso-Gard. 1.4M Old.UBII 1.65-1.15 Ubeidiya 1.4M boat - 880-800K Old.BIV 800-600K Ogasaka 600-500K soft hammer 780K Boxgrove 500K spear - 400K Isimila 330-170K	proto- handaxe  handaxe, birthgiver head, animal; BerekhatRam 233-800K Pampau 500+K Swanscb. 400K Wolvercote 200 Cys Aisne 100K	red ochre 8-900K iterative marks = stroke, rays, 'Y' cross-hatch, arc, undulating line, funnel, Vs, Xs StrskSk 6-700K Bilz. 300-350K cupule, meander Bhimbetka >300K Ham-Witt. 200K	'Conceptual-Meaning Gesture Modeling': symbol representation, incl. iconix, metaphorix, activating 'reference'; fetish meaning; 'symbolic mem. controller' + ext. storage; expanded social intelligence to manage intra- specific conflict, 'group-size crisis' [AD]; peacemaking; new distributive + new artistic intelligence (M); 'preoperations B' (W) 'concrete operations' (W)
<b>4. Homo sapiens</b> <b>archaicus</b> 500K to 30K (3rd African diaspora)? Ndotu 400-200K Broken Hill >200K Asia 200/100-53 /27K Austr. ? <b>early Nean.</b> 230-130K Ehringsdorf 230K <b>classic N.</b> 130-28K	prepared core Africa 700K Africa MSA 235K Isr.Mugh. 200-100K Lev.Moust. 150-50 Aterian 100-24K India 163 eMP LaCotte 238K clMP 130-28K Eur. MAT 75K	ditto, combi's fetish circles, stone circles, arrangements; geoglyphs; landscape=art; geometrics HK 86b, 148b 19, 190b=Fontm ayami/m.of.a's	ditto + 'combines' and 'aggregates' cross-in-circle, zigzag, crystal geometrics, stars, circles, nested arcs Qafzeh; Quneitra Kebara; B.-Kiro; Tata; Prol.II 100K La Ferrassie; Lartet	'Abstract Idea Modeling' and sign representation; proto-language intelligence L-brain, Broca-Wernike 'linguistic controller'; L-brain: language R-brain: metaphor, analogy; semantic reference meaning 'concrete operations'(W)
<b>5. Homo sapiens</b> <b>sapiens (early)</b> 200K - 60K (4th African diaspora) Florisbad 200-100K Omo Kibish 130K Qafzeh 120±8K Asia 70K / Austr. 62±6K <b>H. s. s. (late)</b> 60K-- Austr. 35-30K, Eur. 43K Americas 33/13K white = 35% African/65% Asian	blades, micros regional toolkit specialization  MSA/LSA 90K Negev trans. 47-38  Siberia >39K Aurignacian 43K Australia >6K	ditto + iconic art trance imagery: animal pairs, female figurines shamanic figs. hybrid figures spiritual trans- formation processes 'blood relations'	graphic signs w/pairings: UP(E) geometric, Panaramitee; tally, lunar count emblems oral language mythologies	'Mythic and Linguistic Modeling of World; symbols + narratives (D); innovates new symbols using analogic matrices and predictions; external memory of oral tradition; inferred language; 'formal operations' (W) full brainreorganization; deep instincts: creativity, ceremony, justice, love

<p>6. <b>(ditto)</b> 8,000-3,000 BC (5th African diaspora) (pre-Neolithic Uralic counter-diaspora)</p>	<p>Neolithic</p>	<p>(ditto) pottery symbols patterns</p>	<p>script (Vinca) tokens Nostratic</p>
<p>7. <b>(ditto)</b> (6th African diaspora= Exodus of Moses Kurgan counter-diaspora)</p>	<p>Bronze Age</p>		
<p>8. <b>(ditto)</b></p>	<p>Iron Age</p>		<p>writing, book  'Theoretic Modeling, incl. EXMFs, ESSs (set logic, group logic)</p>
<p>9. <b>(ditto)</b> (7th African diaspora= Isis, black Madonna)</p>	<p>Hellenistic Age</p>		
<p>10. <b>(ditto)</b> (8th African diaspora= slavery, emigration )</p>	<p>17th Century -&gt; -&gt;</p>		

Sources: [AD] Aiello, L. and Dunbar, R. (1993), Neocortex size, group size and the evolution of language, Current Anthropology 34:184-193; Aiello, L. (1993) The fossil evidence for modern human origins in Africa: A revised view, American Anthropologist 95,1:73-96; Aiello, L. (1996) "Terrestriality, bipedalism and the origin of language" in Maynard-Smith, The Evolution of Social Behaviour Patterns in Primates and Man; Bednarik, R. (numerous articles); Cavalli-Sforza, L. (1994) History and Geography of Human Genes; Cavalli-Sforza, L. (1995) The Great Human Diasporas; Deacon, T. (1992) "The human brain" in The Cambridge Encyclopedia of Human Evolution; Deacon, T. (1997). The symbolic species: The co-evolution of language and the brain. New York: Norton; Dennell, R. W. (1998). Grasslands, tool making and the hominid colonization of southern Asia: a reconsideration. In M. Petraglia and R. Korisettar Early human behaviour in global context: The rise and diversity of the Lower Palaeolithic record (pp.280-303); [D] Donald, M. (1991) Origins of the Modern Mind; Gowlett, J. (1992) "Tools - the Palaeolithic record" in The Cambridge Encyclopedia of Human Evolution; Knight, C. (1991) Blood Relations; Larick, R and Ciochon R. (1996). The African emergence and early Asian dispersals of the genus Homo. American Scientist 84: 538-551; Marshack, A. (numerous articles); [M] Mithen, S. (1996) The Prehistory of the Mind; Stringer, C. (1993) In Search of the Neanderthals; Stringer, C. (1992) "Evolution of early humans" in The Cambridge Encyclopedia of Human Evolution; Szathmary, E and Smith, J.M. (1995). The major evolutionary transitions, Nature 374:227-232; Wood, B. and Collard, M. (1999). The human genus. Science 284(2 April): 65-71; [W] Wynn, T. (1989). The evolution of spatial competence. Illinois studies in anthropology, No. 17. Chicago: University of Illinois Press; Wynn, T. (1996) "The evolution of tools and symbolic behavior" in A. Lock and C. Peters (eds.), Handbook of Symbolic Evolution.

## Multi-Stage Parallel Processing Model

Drawing on Mithen and Donald, this model of the evolution of the 'mind' differentiates the development of multiple intelligence modules (domains) from the parallel development of representation modes ('mental models of the world,' meta-representations, 'cross-mapping,' 'cognitive fluidity').

	<u>Modular Intelligences</u>	<u>Mental Modeling of World &amp; Representation</u>
Apes/Australop. -	Expanded social module	Perceptual Situational Model of the World
Habilines -	New technical module (as accidental art/symbol) Expanded foraging module scavenging niche, waterine Expanded social intelligence (accidental menstrual synchrony, accidental band aggregation sites)	Imitation Modeling of the World mimetic modeling: mime - dance - gesture group ritual; deictic gesture: pointing? come / goaway / stop / iterate, continue, go; modulated vocalization; rhythm (L-brain); prosody (R- brain)
Homo erectus -	New distribution module? (extended group meat sharing) New artistic-spiritual module (symmetry shaping; passage; 1st color symbolism? ◇ = ◇ as intentional art/symbol) Expanded foraging module (hunting and scavenging niche natural history for diaspora) Expanded social intelligence (alliances? 1st moieties? 1st gender solidarity 'symmetry'?)	Conceptual-Meaning-Gesture Modeling of the World: 'artistic-conceptual-gesture' modeling + symbolic representation, incl. iconix and metaphorix; activating 'reference'; gesture movement presencing; fetish meaning; 'symbolic memory controller' + ext.storage
Homo archaicus -	New language intelligence module (first signs) (◇ + animal, female, head combi's, 4-in-One representation)	Abstract Idea Modeling of the World 'abstract idea modeling' + first sign representation; meaning and reference ('pre-linguistic') 'linguistic controller'; L-brain: Broca-Wernike language - L-brain metaphor - R-brain;
Sapiens sapiens -	Reorganization of brain entraining 'deep instincts' (neocortex, limbic motor rhythmic systems): creativity, ceremony, justice, love; rules of 'blood relations' Expanded language module Expanded social intelligence module (moieties + totemic units; ceremonial aggregation sites) Expanded artistic-spiritual module (◇ : ◇ :: ◇ : ◇ as group analogic structure)	Mythic and Linguistic Modeling of the World 'mythic,' 'linguistic' modeling: symbol systems, narratives, myths; capacity to innovate news signs and make predictions based on signs, using analogic analogic and cross-mapped matrices + external memory via oral tradition and iconography