Cognitive and social aspects of language origins

Alan Barnard

University of Edinburgh
**Homo heidelbergensis**
‘Ig hits Ug and takes the meat.’

**Homo sapiens sapiens**
‘Hé tíkén ē ….’
Then /kゅaᵐmaⁿ-a demanded: ‘I say to you: ask grandfather: “Why is it that grandfather continues to go among people who are different?”’
Outline of this lecture

A few ideas and theories of social and cognitive aspects of language, and some problems

My two theories of the ‘origin of language’

Language in communication (social aspects)
Robin Dunbar + Derek Bickerton
Biological and social evolution
Signifying, Syntactic and Symbolic Revolutions

Language in narrative (cognitive aspects)
Language as cognition
Evolution of linguistic complexity
The Symbolic Revolution, myth and recursion
Some problematic words and phrases

‘Origin’ of language: Birds, chimps, etc.?  

‘Language’: Proto-language? Does rudimentary language count?  

‘Cognitive’ aspects: Brain science, psychology, social anthropology?  

‘Social’ aspects: Individuals, groups, ‘societies’?  

‘Communication’: What’s that, and why do we keep talking about it?
Why assume such a strong relation between communication and language?

Language can be social and cognitive without being about communication (thinking, talking to oneself, etc.)

Communication is social and cognitive whether it involves language or not.
Today’s speakers:

Cognitive and social aspects of language origins
   Alan Barnard

Musical proto-language: Darwin’s theory of language
   W. Tecumseh Fitch

Symbol grounding and the origin of language
   Stevan Harnad

Gestural theory
   Michael Corballis

On the nature of linguistic computations
   Luigi Rizzi

W. Tecumseh Fitch (2010)
Roy Lewis (1960)

*The Evolution Man*

*Pourquoi j’ai manger mon père*
‘People always mate with their sisters,’ Oswald said. ‘It’s the done thing.’

‘Not any more,’ said Father.

‘Exogamy begins right here.’

‘But it’s unnatural, Father,’ I said.

‘Animals don’t make distinctions of that sort, you know. Once in a while one might go outside one’s own horde, I suppose, but it can’t be called a regular rule.’
Then Father said, ‘The main reason [for not mating with one’s sisters] is that they’re too easy; … too little trouble. They prove too uninhibited an outlet for the undisciplined libido. No; if we want any cultural development, we must put the emotions of the individual under stress. In short, a young man must go out and find his mate, court her, capture her, fight for her ….’
‘We’re stagnating as a species’, said Father. ‘We have fire, but we can’t make it; we can kill meat, but we spend half our time chewing it …. ‘The range of things we can do is so narrow. That means we don’t extend our very small vocabulary and our limited grammar; which in turn means a restricted power of abstraction.’
‘Language preceded and breeds thought, you know; and it is really little more than a courtesy to call a language the few hundred substantives we possess, the score of all-purpose verbs, the poverty of prepositions and postpositions, the continued reliance upon emphasis, gesture and onomatopoeia to eke out shortages of cases and tenses.’
'No, no my dear sons, culturally we are little higher than Pithecanthropus erectus, and believe me, he is no go!'
A few theoretical ideas and theories of language origins and evolution:

1. ‘Great man’ view of history (Roy Lewis 1960)

2. Revolutionary transition from a ‘closed’ to an early ‘open’ system of communication (Charles Hockett and Robert Ascher 1964)

3. Cognitive and cultural evolution from gesture to sound-imitation in cooperative hunting (Gordon Hewes 1973)
A few more:

4. Foraging among early hominins required apprenticeship, then referential communication similar to that for children (Sue Taylor Parker and Kathleen Gibson 1979)

5. Sequence of episodic memory, socially-important communication, narrative thought and metaphor (Merlin Donald 1991)

6. Language needed for planning for migration to islands (William Noble and Ian Davidson 1996)

7. Grooming and group size leading to a requirement for language (Robin Dunbar 1996)
And yet a few *more*:

8. Linguistic diversity good for intra-group cooperation, establishing social boundaries, and solving the free-rider problem (Daniel Nettle 1999)

9. Linguistic complexity follows from sexual selection (Geoffrey Miller 2000)

10. Vocalized language evolved through the requirement of communication over distance, between mothers and infants (Dean Falk 2004)
Interrelated social theories of language origins:

Robin Dunbar’s ‘social gossip’ or ‘social bonding’ hypothesis: language emerged in order to enable speakers to maintain social relationships
   -- chimps spend 20% of time grooming, and humans spend 20% of time in conversation
   -- as group size increases, demands for grooming increase
   -- threshold by which some form of languages must emerge from grooming: 30% (in the time of *Homo erectus*)
   -- Otherwise, *H. sapiens sapiens* (with group size of 150) would have to spend 43% of time grooming

Geoff Miller’s ‘Scheherazade effect’ hypothesis: language emerged in order to attract mates or keep them entertained

Terry Deacon’s ‘social contract’ hypothesis: language emerged in order to allow contracts among men to prevent the theft of their partners
My two (not incompatible) theories

- ‘Language origins’ in communication among primates, hominids, hominins, early *Homo sapiens*, etc.
- Language as communication
- The co-evolution of kinship and language: signifying, syntactic and symbolic phases
- Essentially social – related relatively more to *parole*, performance, E-Language …
- ‘Language origins’ in the sense of the origins of linguistic complexity, full syntax, etc.
- Language in thought and in narrative, especially in mythology
- Language at or since the time of the symbolic revolution
- Essentially cognitive – related relatively more to *langue*, competence, I-Language …
<table>
<thead>
<tr>
<th><strong>Robin Dunbar</strong></th>
<th><strong>Derek Bickerton</strong></th>
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<tbody>
<tr>
<td>Social gossip, social bonding, or social brain hypothesis for the origin of language</td>
<td>1990: Two-phase evolution of language</td>
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<tr>
<td>Correlation between brain size and group size in primates</td>
<td>2000 (with William Calvin): Three-phase evolution of language:</td>
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<tr>
<td></td>
<td>1. Protolanguage</td>
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<td>2. Rudimentary language</td>
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<td>3. True language</td>
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Bickerton’s three-stage theory


proto-language \rightarrow \text{rudimentary language} \rightarrow \text{true language}

\begin{align*}
\text{Words and phrases} & : \text{Ig take. Ug meat. Hit Ug.} \\
\text{Simple sentences} & : \text{Ig take meat. Ig hit Ug.} \\
\text{Full syntax} & : \text{Ig hits Ug and takes the meat.}
\end{align*}
(R. Dunbar’s extended brain hypothesis)
Proto-language, rudimentary language, true language
Proto-kinship, rudimentary kinship, true kinship

SIGNIFYING REVOLUTION

Homo habilis, H. erectus, etc.

SYNTACTIC REVOLUTION

H. heidelbergensis, etc.

SYMBOLIC REVOLUTION

Anatomically modern humans

Words and phrases

Simple sentences

Full syntax

Morganian

McLenannist

Lévi-Straussian

Symbolic communication, inclusive kinship, sharing.

Us/them kinship, incest avoidance, exchange between groups.

Fully-developed kinship systems; universal kin categorization; complex relations between groups; explicit rules of sharing, exchange and kin behaviour.

Group size 75-80, up to 110

Group size 120-130

Group size 150
Morgan vs McLennan

• **L.H. MORGAN** *Systems of Consanguinity and Affinity of the Human Family* (1871) & *Ancient Society* (1877)

• Primitive promiscuity ➔ cohabitation of brothers and sisters ➔ communal family ➔ sharing spouses ➔ 'Malayan' classification ➔ tribes ➔ 'Ganowanian' classification ➔ marriage btwn pairs ➔ 'barbarian' family (little authority) ➔ polygyny ➔ patriarchal family ➔ polyandry ➔ private property and lineal succession ➔ 'civilized' family ➔ 'descriptive' classification

• **J.F. McLENNAN** *Primitive Marriage* (1865)

• Struggle for food ➔ female infanticide ➔ shortage of women ➔ polyandry ➔ unknown genitors ➔ matrilineality ➔ male wish to control ➔ bride capture ➔ war ➔ desire for peace ➔ exchange of women as wives ➔ patrilineality, patriarchy and civilization
C. LÉVI-STRAUSS, *Les structures élémentaires de la parenté* (1949)

**Elementary structures:** positive rules of marriage, e.g. to a cross-cousin (implying exchange of people between groups)

**Complex structures:** negative rules of marriage, e.g. cannot marry a sister (incest avoidance)
collateral

lineal

collateral

parallel

cross

cross
Like creoles, kin terminology structures are (almost) always fully-formed.
Origins of human society? Social contract or family and kinship? Since 1861 all social anthropology has favoured the family and kinship view, except ...
Chris Knight (1991)

*Blood Relations*

Symbolic culture, including language, follows from a sex strike by females, menstrual synchrony, exchange of sex for meat, etc.
Freud and Knight

• S. FREUD, * Totem und Tabu* (1913)

• Primal horde with alpha male who has exclusive access to women ➔ he becomes ‘god’ ➔ resentment among young males ➔ murder of alpha male, sex with mothers and sisters ➔ guilt ➔ invention of totemism (with alpha male as totem)


• Primal horde, indiscriminate sex and females raise young ➔ *female sex strike:* synchronous menstruation, demand of meat for sex ➔ hunting and sex taboo new moon to full, feasting and sex full moon to new ➔ symbolism, language, art, religion, etc.
Homo sapiens population bottleneck and geographical concentration in eastern Africa.
Global migration of *Homo sapiens*

The language of myth

Wilhelm H.I. Bleek
1825-1875

Lucy C. Lloyd
1834-1914

Dorothea F. Bleek
1873-1948
Hopi - one word (Masa'ytaka)
English - three words

English - one word (snow)
Eskimo - three words

Hopi - Pâhe
English - one word (water)
Hopi - Keyi
English - two words
Linguistic complexity cannot be explained as a product of conversation or even communication

- Navajo has 11 classificatory verb stems
- Swahili has 18 noun classes
- Inuktitut has an uncountable number of words for ‘snow’
- Naro has 86 (or 204) PNG markers

- /Xam has at least 24 verbal prefixes and 6 verbal suffixes, at least 14 ways to make a plural, etc.

**Why are languages so complicated?**
The social and symbolic worlds of *Homo sapiens sapiens* depend on narrative, and in particular, upon mythology.
Contemporary Bushmen, San, Kua, or Basarwa

Ju/'hoansi (or !Kung), !Au//eisi, etc.

Naro, G/wi, G//ana, Buka, Kxoe, etc.

!Xóõ, ≠Hoã, ’Auni, /Xam, etc.
Blombos Cave
/Han ≠kass’ō

Lucy Lloyd’s Bushman Notebook VIII – 12 (BC151_A2_1_087)
Lucy Lloyd’s Bushman Notebook VIII – 12
(BC151_A2_1_087), pages 7076-7077
He likened Thuan Thuan.

Thuan Thuan.

Man-a ha he kei, Man-a exclaimed.

"Ki hain'ka a, I desire that they may say to friends.

Pakha, K'ôi, father, why

tosar a da a, kô' is it that friends.

In order to their father continue

t'ê ne i hie' e strangers. Then

T'œa' a he'
Then thing which /Kuamman-a this (imperative) say:

‘Ń kaň ka, a ≠kákka !kōįň,
‘I (stress) say to you say/ask grandfather,

tssá ra χá ā, !kōįň
“Why (interrogative) it is grandfather

ta /kũ /é //ē
(habitual action) (continuous action) among go

!k’é ē /χárra?’
people who [are] different?”
A description of habitually continuous action (\textit{ta /kǔ /é //ē}), in an implied declarative sentence, within an interrogative sentence, within an imperative sentence, within another imperative sentence, within an indicative sentence …

within a myth or fable in which animals act as people, but in culturally-meaningful stylized form, and with deception …

told to an English woman by a /Xam man, who had learned it from his mother, who had heard it probably from her mother, who had learned it probably from someone else …

who had put it together with culturally-significant (human and animal) social action, with metaphor and with complex syntax …

for a reason well beyond the requirements of ordinary communication.
!Gaunu-tsaxau, the son of Mantis, is collecting sticks for his father to use as arrows – to shoot at baboons. But some baboons capture him, beat him up, and break his head. They kill him, take his eye out and use it as a ball – which they fight over.

The narrative turns out to be a dream that Mantis is dreaming. But it seems to be true as well. And when Mantis wakes up, he joins in the baboon’s ball game. Hence /Kuamman-a’s question:

*Then /kụamman ń demanded: ‘I say to you: ask grandfather: Why is it that grandfather continues to go among people who are different?’*
The myth – page 2

The child’s eye smells his father’s scent, and it avoids the baboons. Mantis catches his child's eye and anoints it with his perspiration. It ascends into the sky, and eventually hides in a quiver which ends up in the hands of Mantis.

Later Mantis places the eye in water and thereby restores life to the child.

At the end of the myth, Mantis explains to Ichneumon (mongoose), and to the child !Gaunu-tsaxau, why he played ball with the baboons – which was in order to secure !Gaunu-tsaxau’s release and rebirth. …
The myth – page 3

The narrator repeats elements of the story, revealing that Ichneumon doubts that !Gaunu-tsaxau had really died.

Reassurance is given that !Gaunu-tsaxau is weak, apparently proof that he really had died.

_The myth has elements of deception, pretended deception, and the deliberate misuse of kinship terms (three times, Mantis incorrectly refers to !Gaunu-tsaxau as his grandson, when in fact !Gaunu-tsaxau is Mantis’s son)._
Myth in social context

Blue Crane

Mantis (/Kaggen)

Dassie

All -Devourer (/Khuai -hem)

Porcupine /Kuammang -a

Young /Kuammang -a Ichneumon

!Gâunu-tsaxau

Young Mantis

adoption

!Gâunu-tsaxau
Myth in world context
Eaglehawk and Crow:
*Australia, the Northwest Coast, etc.*

In Western Australia, Eaglehawk is Crow’s mother’s brother.

A mother’s brother is a potential father-in-law

One provides food to one’s potential father-in-law

Crow killed a wallaby and kept the meat …

Never forget! This is what language is really about for modern human hunter-gatherers. And 99% of human existence has been as ‘pure’ hunter-gatherers.

Language is about animals, hunting, kinship, deception, and morality – as well as about taking the meat.

*It has metaphor, and it exists not merely in everyday commands, but also within myth …*
<table>
<thead>
<tr>
<th>Column I</th>
<th>Column II</th>
<th>Column III</th>
<th>Column IV</th>
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<tbody>
<tr>
<td>Cadmos seeks Europa who is ravished by Zeus</td>
<td>Cadmos kills the dragon</td>
<td>Oedipus kills Laios</td>
<td>Labdacos = ‘lame’</td>
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<td>The Spartoi kill each other</td>
<td>Oedipus kills the Sphinx</td>
<td>Laios = ‘leftsided’</td>
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<td>Oedipus marries</td>
<td>Labdacos = ‘lame’</td>
</tr>
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<td>Eteocles kills Polynices</td>
<td>Labdacos = ‘lame’</td>
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<td>Antigone buries Polynices despite taboo</td>
<td>Labdacos = ‘lame’</td>
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<tr>
<td><strong>Column I:</strong> ‘overrating of kinship’ (violations of taboos)</td>
<td><strong>Column II:</strong> ‘underrating of kinship’ (fratricide and parricide)</td>
<td><strong>Column III:</strong> ‘denial of autochthonous origin of man’ (men killing monsters)</td>
<td><strong>Column IV:</strong> ‘persistence of autochthonous origin’ (meaning of names)</td>
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