

再歸代名詞/人稱代名詞

- John likes himself.
- John likes him.

	3人稱	1,2人稱
ModE, Russian	yes	yes
OE	no	no
French	yes	no
(none)	no	yes

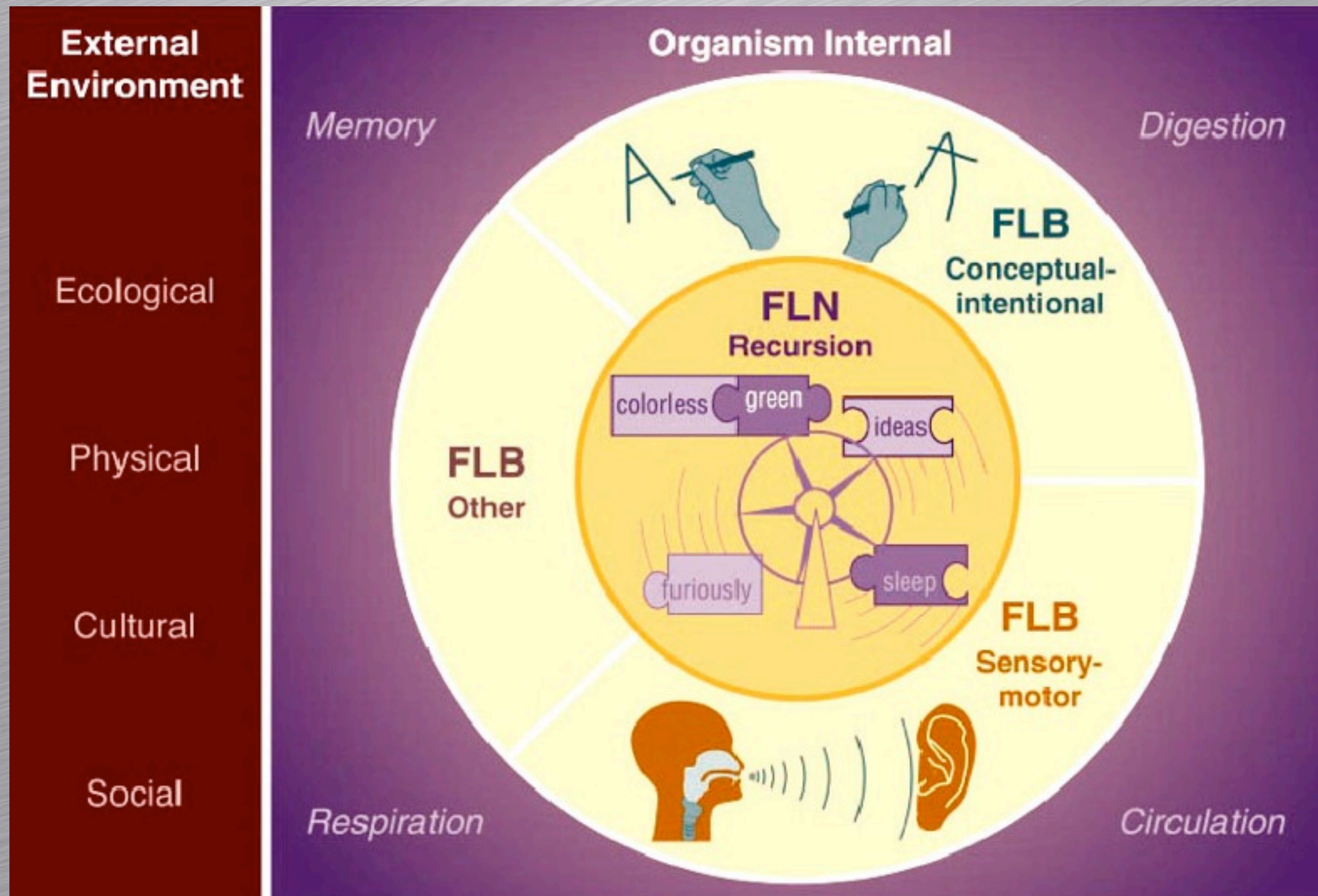
B. Comrie. 2003. On explaining language universals.
In: M. Tomasello ed. *The New Psychology of Language*.

- 1,2人称よりも3人称のほうが再帰代名詞の機能的利点が高い。
 - I like *me / myself.
 - You like *you / yourself.
 - He likes him / himself.
- 同じ利点があるにも関わらず、再帰代名詞が使えないケース。
 - He thinks [that he / *himself is intelligent].
 - He thinks [that Mary likes him / *himself].
- 機能に優先する構造的制約が存在する。

狭義言語機構と広義言語機構

- 広義言語機構 FLB:
 - 感覚運動システム(SM-system)
 - 概念意図システム(CI-system), etc.
- 狭義言語機構 FLN:
 - 回帰 (Recursion, Recursiveness)

M. D. Hauser, N. Chomsky & W. T. Fitch. 2002. The faculty of language: What is it, who has it, and how did it evolve?



出所 Hauser M.D., N. Chomsky & W. T. Fitch. 2002. The faculty of language: What is it, who has it, and how did it evolve? *Science* 298.

- 「回帰性のみが人間および人間言語に固有の特性である。」
 - 回帰性以外には人間言語に固有の特性はない。
 - 人間言語は必ず回帰性を持つ。
 - 言語以外には回帰性を持つ人間の能力はない。
 - 人間以外の動物は回帰性を持たない。
-
- cf. "If future empirical progress demonstrates that FLN represents an empty set, so be it." (W. T. Fitch, M. D. Hauser & N. Chomsky 2005. The evolution of the language faculty: Clarification and implications.)

回歸的言語構造

- 補文構造

- [CP [IP John [VP thinks [CP that [IP Mary [VP thinks [CP that [IP Bill [VP thinks [CP that [IP Jane [VP sings well]]]]]]]]]]]].

- 關係節

- [DP the boy [CP who loves [DP the girl [CP who owns [DP the dog [CP which hates [DP the cat [CP which likes [DP the mouse]]]]]]]]]]
- [DP the mouse [CP [DP the cat [CP [DP the dog [CP [DP the girl [CP the boy loves]] owns]] hates]] likes]]

- 複合語

- [[[[[student] film] committee] program] office]

- 多重属格

- [[[[Mary's father's] brother's] friend's] house]

- P-PP

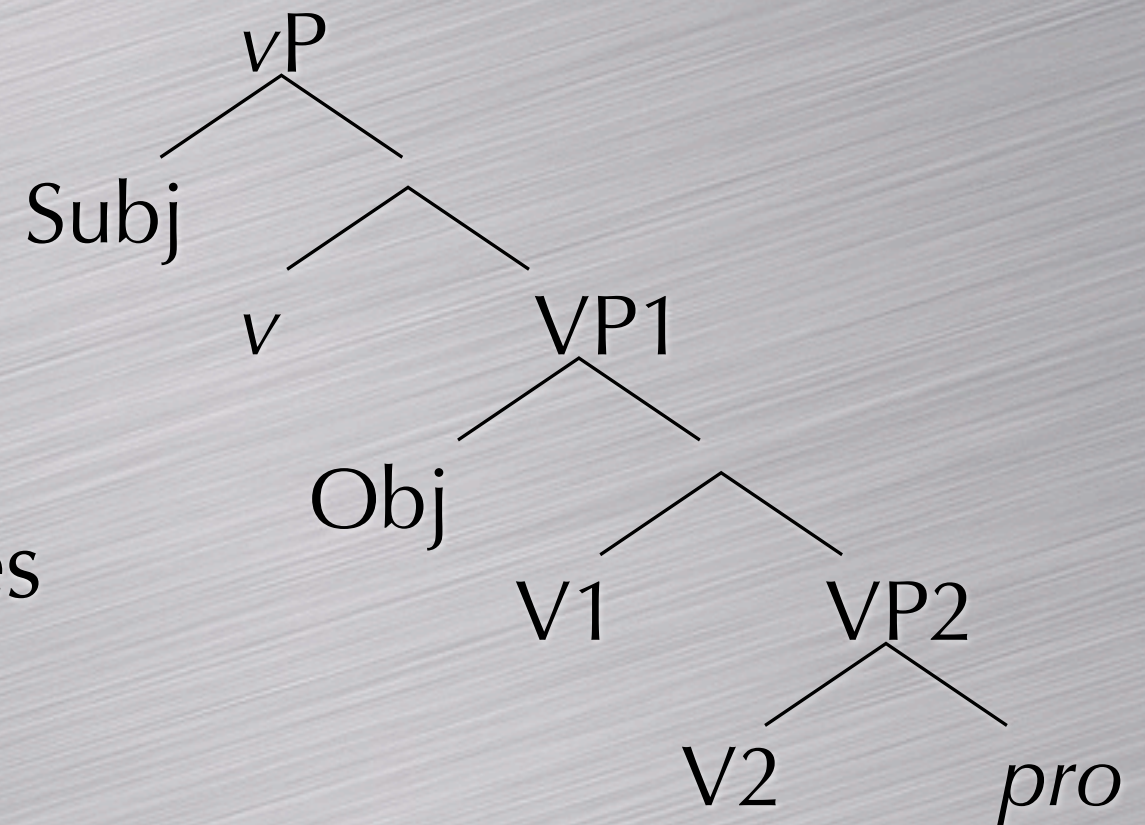
- [_{PP} from [_{PP} behind the curtain]]

- 連続動詞 Serial Verbs

- Ozó ghá suà akhé dè. (Edo)

Ozo will push pot fall

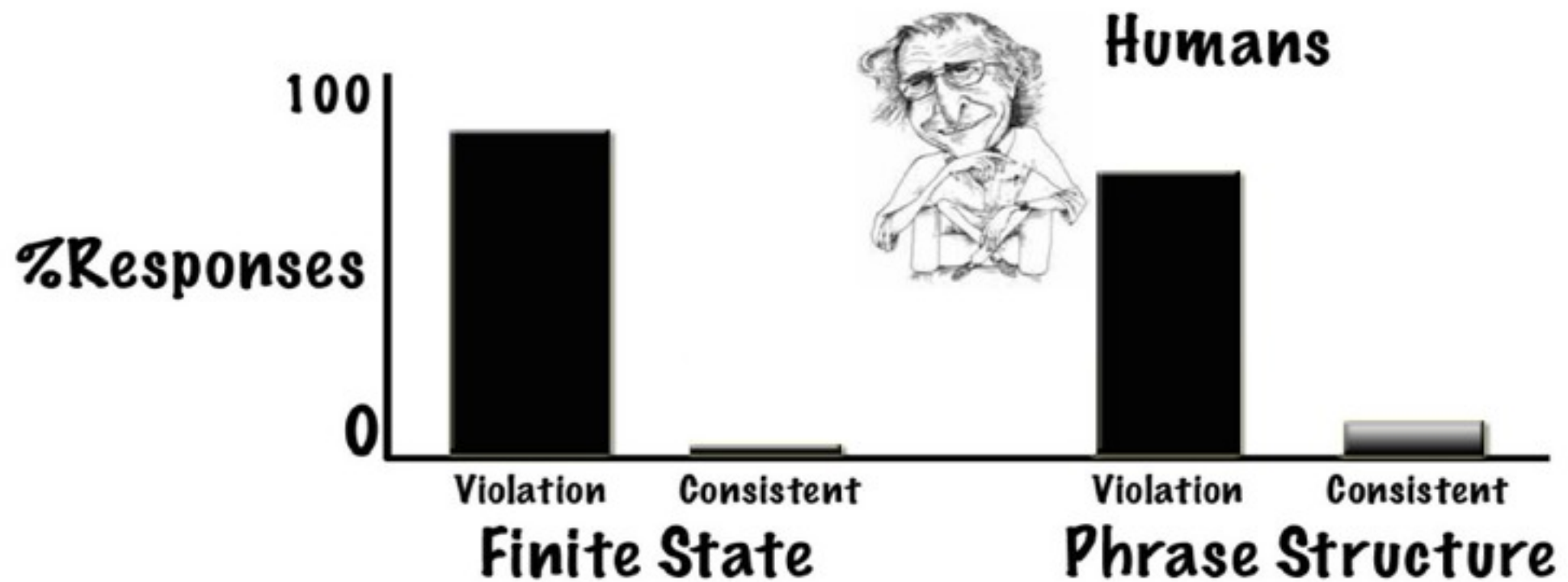
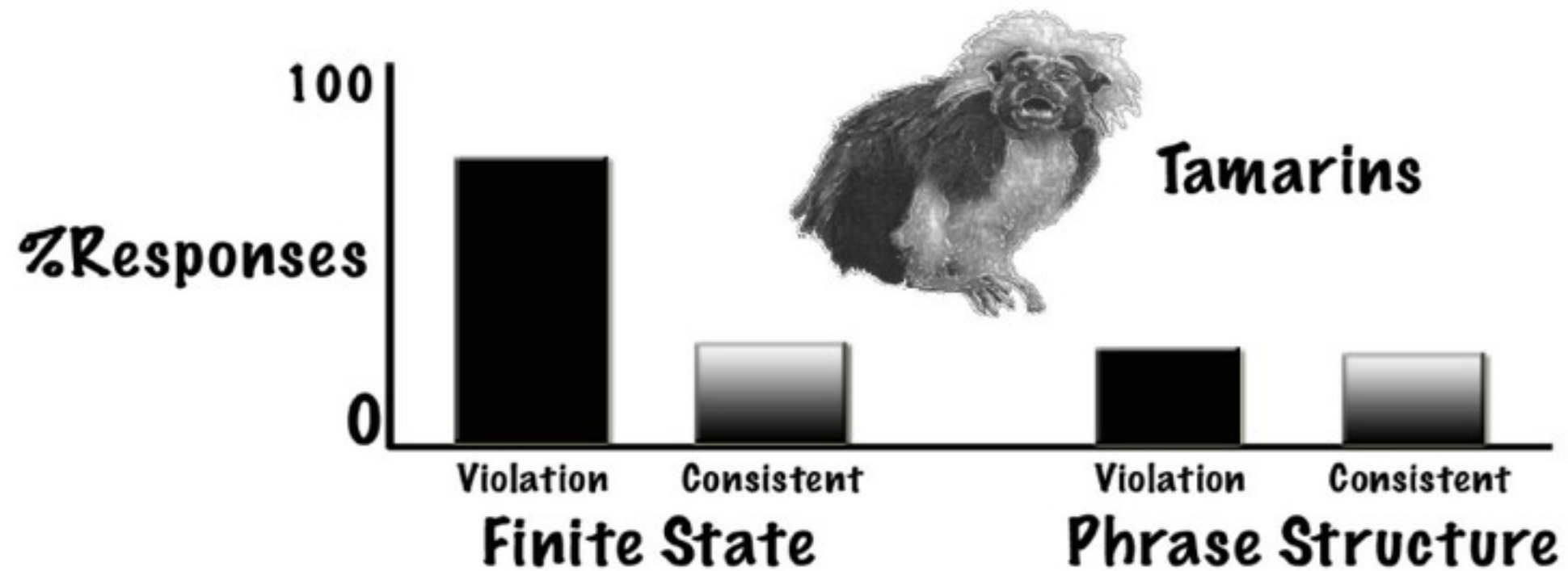
'Ozo will push-fall the pot'



- 複雑述語 Complex Predicates

- 花子がパソコンを叩き壊した

- 次郎がドアを蹴破った



R. Tincoff and M. D. Hauser. Cognitive basis for language evolution in nonhuman primates.

NEWS & VIEWS

LANGUAGE

Startling starlings

Gary F. Marcus

Recursion, once thought to be the unique province of human language, now seems to be within the ken of a common songbird — perhaps providing insight into the origins of language.

Man the tool-maker. Man the cultural animal. Man the mimic. It's tempting to summarize the differences between humans and other species in a concise phrase, but most posited differences have turned out to be overstated. Chimpanzees and gorillas use sticks to fish for termites; orangutans use sticks for autoerotism. And many of these capacities seem to be culturally mediated; they are transferred from one primate to the next by illustration and observation, rather than learned afresh by trial and error¹.

The report by Timothy Gentner and colleagues on page 1204 of this issue² challenges one more putatively uniquely human adaptation: the capacity to recognize complex 'recursive' structure. Gentner *et al.* showed that at least one non-human species, the European starling (Fig. 1), can be trained to acquire complex recursive grammars such as the A^nB^n language (in the case of the starling, *rattle rattle warble warble*; see below).

Recursion, or self-embedding, is without question a hallmark of human language. For example, one can take a phrase such as *love conquers all* and embed it in a frame such as *X knows Y*, yielding, say, *Chris knows love conquers all*. The point is that recursive grammar



D. D. BALLOU/CATIS

Figure 1 | No bird brain. The European starling, *Sturnus vulgaris*, which Gentner *et al.*² show is capable of recognizing complex grammar.

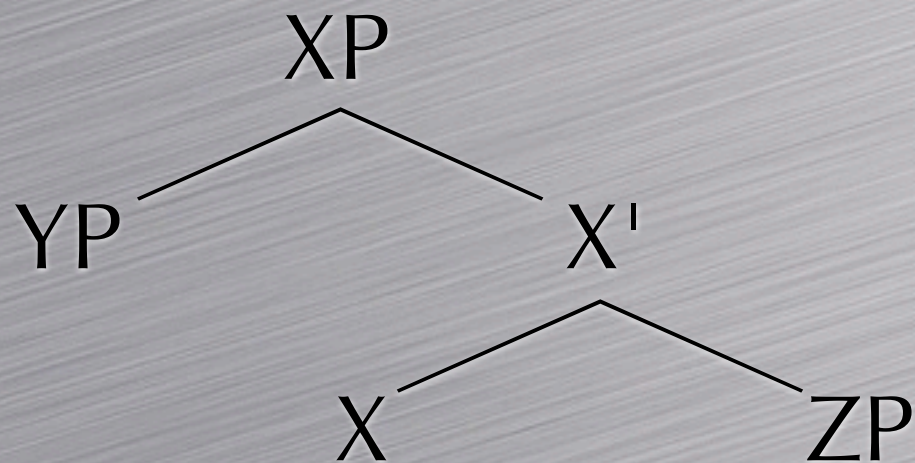
- 句構造規則 Phrase Structure Rules:

$S \rightarrow NP VP$

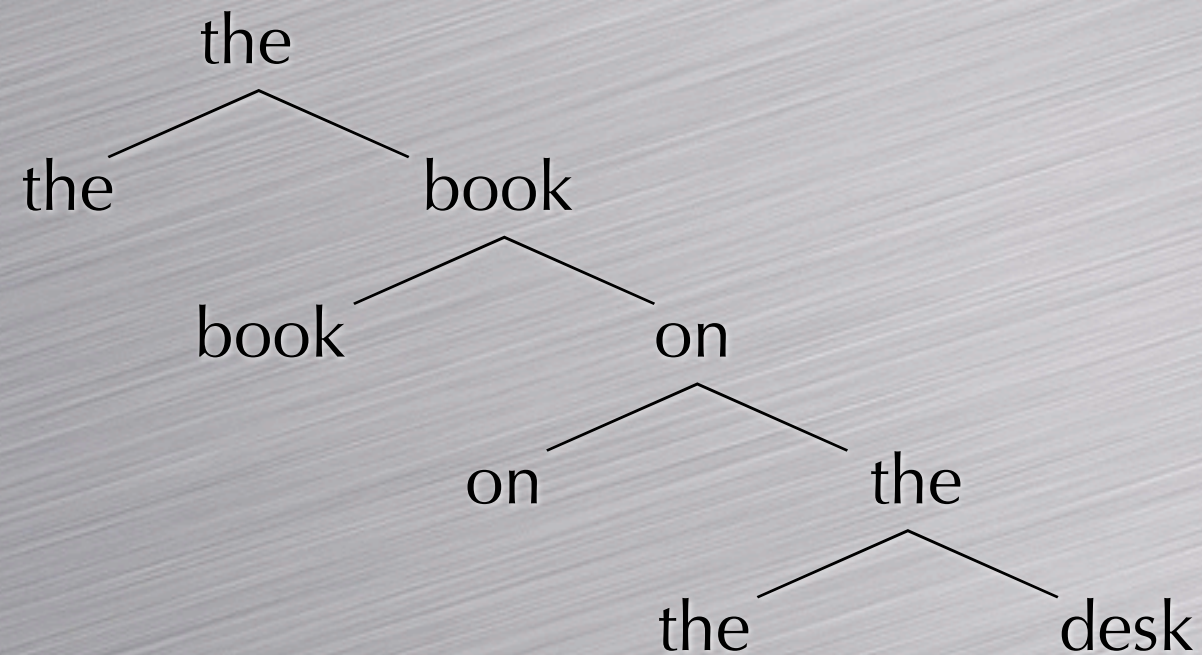
$VP \rightarrow V S$

...

- Xバー理論 X-bar Theory:



- 素句構造理論 Bare Phrase Structure Theory:



- Merge (併合) :

- $\text{Merge}(\alpha, \beta) = \{\alpha, \beta\}$
- Binary
- Symmetric
- Unbounded

- 言語構造の回帰性は「無限マージ」 (unbounded Merge) が適用した結果として表出する特性。
- "... unbounded Merge is not only a genetically determined property of language, but also unique to it." (N. Chomsky)
- Representational Recursiveness:
 - 構造上、ある範疇の内部に同じ範疇が繰り返し生じる。
- **Derivational Recursiveness:**
 - 統語派生上、マージの出力に再度マージがかかる。

Pirahã: 回帰性のない言語？

- D. L. Everett. 2005. Cultural constraints on grammar and cognition in Pirahã.
 - 文法の多様性は文化に支配され、「UG」は存在しない。
 - 直接経験原理 Immediacy of Experience Principle：発話時に直接関係する話者の経験等を主張することしかできない。
 - 埋め込み構造なし（句構造なし）
 - 数詞なし、数量詞なし
 - 色彩用語なし
 - 完了時制なし
 - 極めて単純な代名詞類や親族用語
 - 創世神話・フィクションなし

● ti gái -sai kó'oi hi kaháp -íí

I say-old.info Kó'oi he leave intention

'I say. Kó'oi will leave.' (parataxis)

● (hi) 'oba'axa'i' (hi) kahai'-kai -sai

he sees well he arrow-makes-old.info

'He is really smart. He makes arrows well.'

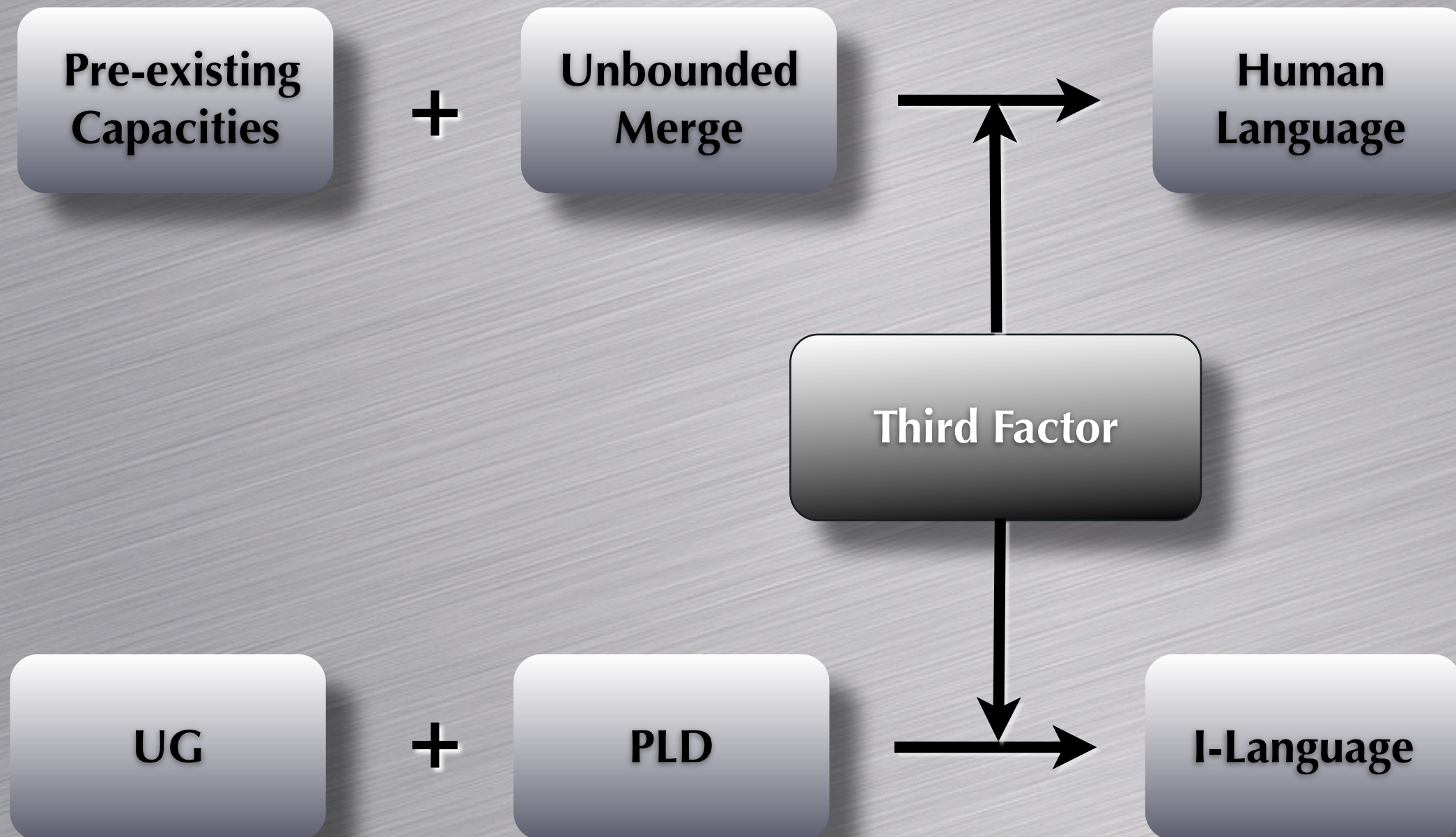
- Pirahãもderivational recursiveness(unbounded Merge)を持つ。
- representational recursivenessは個別文法・文化による多様性を示す。
- "... it would mean that the speakers of this language aren't making use of a capacity that they surely have, a normal situation; plenty of people throughout history would drown if they fall into water. Nothing much follows except for a question as to why they haven't made use of these capacities."

(N. Chomsky, from *Radical Anthropology* Issue 2)

言語進化の主要問題

- Unbounded Mergeの由来（前駆体）
- インターフェイスの成立
- レキシコン
- "... for both evolution and development, there seems to be little reason to suppose that there were precursors to unbounded Merge." (N. Chomsky)

Instantaneous Model of Language Evolution



Instantaneous Model of Language Acquisition

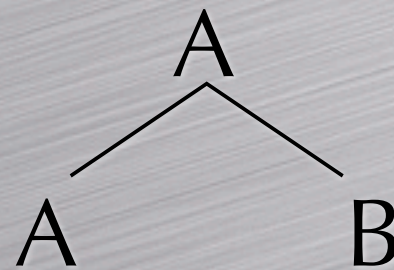
Mergeの対称性（とその破れ）

- Merge自体は対称的な操作

- $\text{Merge}(A, B) = \{A, B\}$

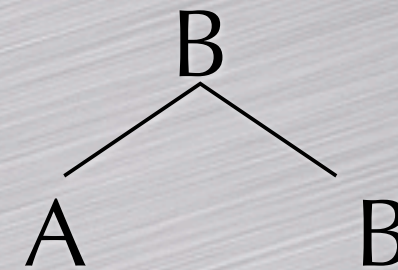


- しかしラベル(label)決定によって非対称性が生じる



$\{A, \{A, B\}\}$

or



$\{B, \{A, B\}\}$

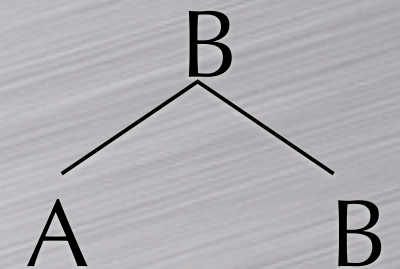
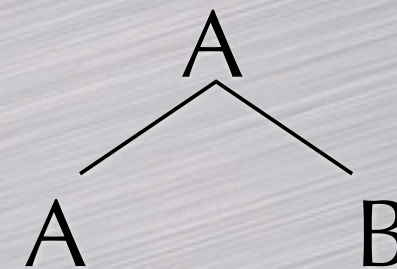
Embed

- N. Fukui. 2006. Merge and/or Embed.

- $\text{Merge}(A, B) = \{A, B\}$

- $\text{Embed}(A, \{A, B\}) = \{A, \{A, B\}\}$

- $\text{Embed}(B, \{A, B\}) = \{B, \{A, B\}\}$



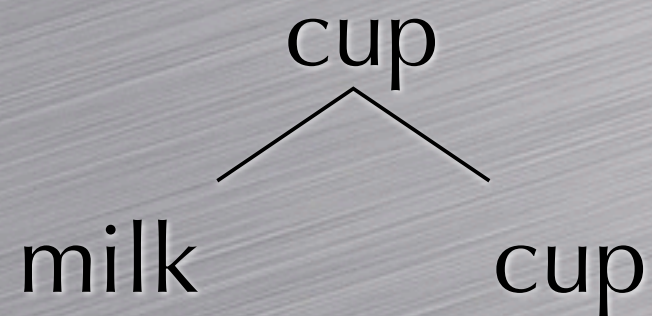
- ラベル決定も Mergeの一種
- 内心構造性 Endocentricity、投射 Projection

二語発話の内心性

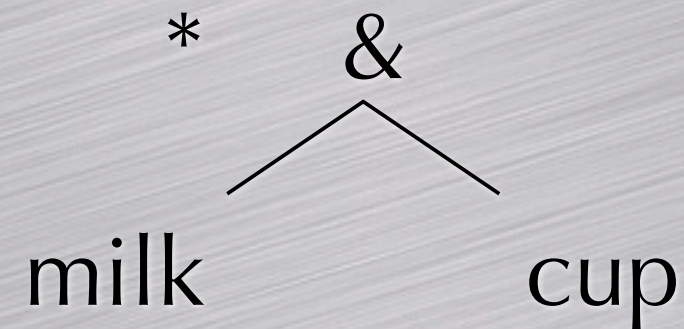
ラベルなし



内心構造



外心構造 (or 多重内心構造)

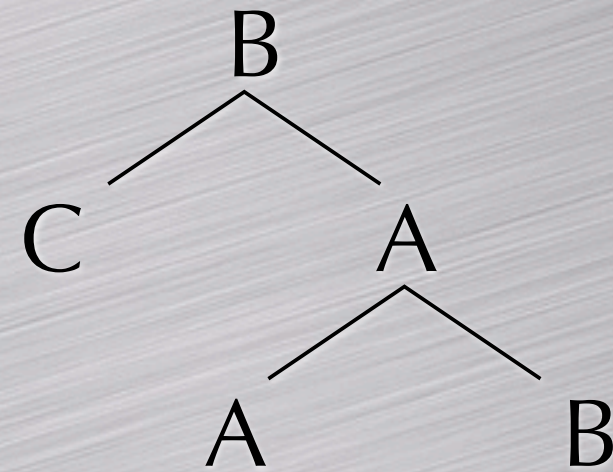


言語発達の最初期から Merge+Embedが稼働している。

Local Embed



Nonlocal Embed

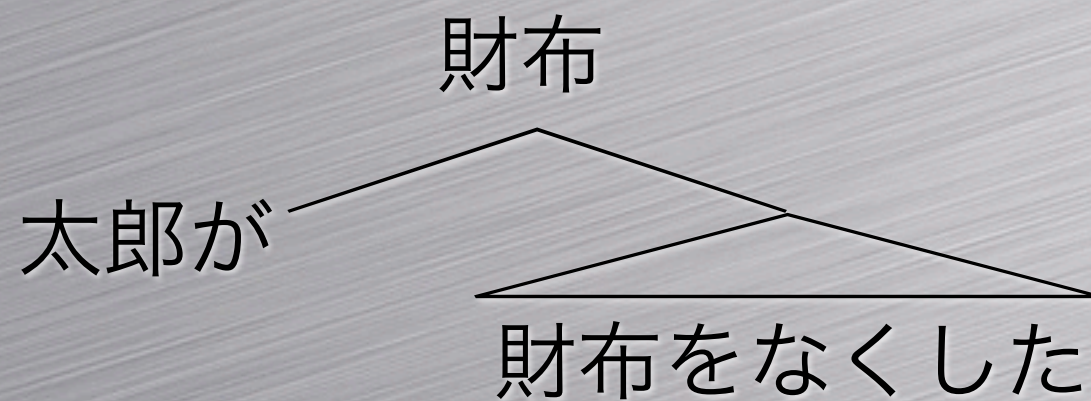


→ 外心構造性 Exocentricity

主要部内在型関係節：

〔太郎が財布をなくしたのを〕花子が見つけた。

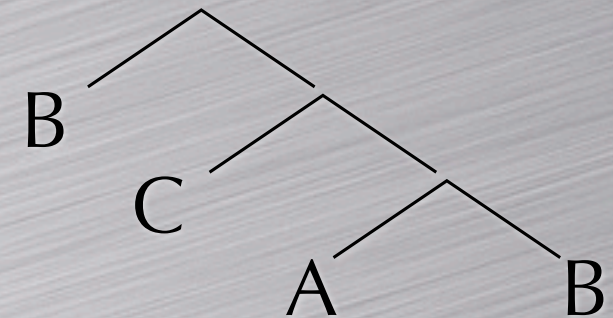
cf. 〔〔太郎が__なくした〕財布を〕花子が見つけた。



Merge = Move = Embed

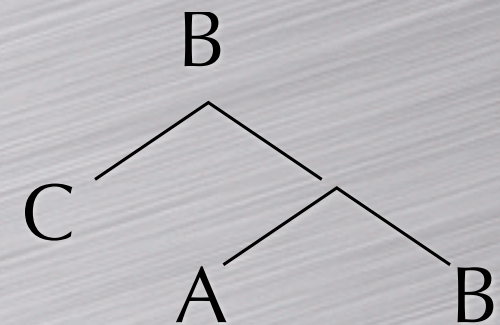
Move = Internal Merge

Merge (B, {C, {A, B}}) = {B, {C, {A, B}}}



これは形式上、nonlocal Embedと同じ

Embed (B, {C, {A, B}}) = {B, {C, {A, B}}}



すべて同じ集合形成操作のヴァリエーション

cf. "projection = chain"

- Merge / Move / Embed に共通する前駆体の存在
- Merge / Moveの起源とLabelingの起源を別個に説明する必要なし
- Descent with modification