Elementary Operations in Language Acquisition  
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I. Goal: Explain language acquisition: transparently  
= Acquisition and Target Grammar both clear  
a. consistent with diverse grammars  
b. poverty of stimulus  
c. adult intuitions (target grammar)

A. Expectation: What are Fundamental Operations?  
How are they stated in acquisition-natural form?

B. Assumption: UG provides primitives of acquisition

C. Responsibility: represent facts special to acquisition  
support UG theories that reflect them

D. Caricature: Child hears sounds /= humming, purring,  
=> assume communication  
Does Child come into world with:  
S=> NP VP (Aspects theory)  
CP-IP-VP-NP (Universal Base Hypothesis)  
Pivot-Open (Braine)  
Merge theory  
(Drozd (1993) Chomsky (pc)), Roeper (1996))  
(Lebeaux (1998), Powers (1996)) (Wijnen (1999))

Hi Mom, *Mom hi,   Hi => selects N  
no go/ *go no  
No => selects V  
on table/*table on  
"bye-bye turkey" = make turkey go away  
bye => [+cause] NP

E. Claim: 1. direct forms of concatenation available to children  
2. excluded from grammar because they did not fit

II. Architecture:  
A. Triggers  
"consistent with triggering experience" Chomsky (1976)
1. Logical Triple: pragmatics (see John hit Bill)
   semantics (syntax
2. implicit agents in passive (see Verripps 1996))
   a. the boy was pushed with one hand
   Context: one boy with one hand, pushed by a boy
   with two hands
   one boy with two hands, pushed by a boy
   with one hand
   Pragmatic: child sees that the pusher has one hand
   Syntax: child recognizes subject = object => passive
   Semantic: child knows that transitive verbs have agent

B. Hypothesis: Pragmatics directly trigger Formal Features

1. Stage I: Imperative gesture => do something
   II. Imperative => Merge C + Event
      (see Hamann, Penner, Lindner(1999))

   III. Imperative: C[+illoc = imperative]
       \                 
       VP [+Event]
       / \            
       spec V
       / \       
       object

2. "Put your finger here" Here => Point of View, Distributivity

3. John didn't play => "Yeah" (he didn't= accept presupposition)
   => "yes" (he did = deny presupposition)

C. Claims from acquisition Evidence:
1. a. Feature Projection: words (yes)
   b. Feature Command: ("John did paint")
      (Hollebrandse and Roeper (1996) van der Lely
      (1999), Hawkins (2000)
   c. Feature Split: (break => make break)
      Hollebrandse (1996) (Marinis (1999))
   d. Feature Merge: non-compositional words
      (lose ground) (=/= lose or ground)
      (decrease + distance)
a. Agreement: Spec Head
   Head-Head: agreement
   (Munn (1997) Ramos (1999))

b. Maximize FF in learning new material
   I saw the boy => the = +def,+acc,+masc,+sing
   Ich sah den Jungen = same
   The girls saw me => the = +def

c. Minimal Default Grammar
   (Roep (1996, Penner and Roeper (1998))
   application of economy produces unique consequences
   in acquisition ("I did left")

E. Acquisition Consequences
   1. Both adjunction and head-complement available
   2. Unique Nodes are generated in acquisition
   3. AGR , Thematic Roles are Features, not Nodes

III. Definition and Evidence for Merge

Merge = Fundamental Operation in Grammar
   (see also: Caetgorial Grammar)
   A + B =

     A
    /  \
   A   B

   ..The operation Merge, then, is assymmetric, projecting one of the objects to which it
   applies, its head becoming the label of the complex formed.....we have only:

   the
  /  \
 the book

Possibility variation across languages:

"Suppose that the label for \{ã,ß\} happens to be determined

\textit{uniquely for ã,ß in language L} (my italics); we would then want to deduce the fact
from properties of ã,ß, from! L; or, if it is true for ã,ß in language generally, from
properties of the language faculty. Similarly, if the label is uniquely determined for
arbitrary ã,ß, L as may be the case." (Chomsky 1995)
Thrainnson (1996) "Clausal architecture is determined by UG in the sense that UG defines the set of functional categories \{F_1,..., F_N\} that languages "select" from"

C. Connections:
1. Extension of concept of abstract operations in acquisition:
   [Tavakolian, Lebeaux, Vainikka, Roeper and deVilliers]
2. A new version of underspecification:
   [Radford, Rizzi, Hyams, Hoekstra and Hyams]

Hypothesis: Child never projects PS categories, only Formal Features:

*CP
/ \  
Word [+CP, + [selectional features], etc]

Is there Difference: PS-theory =>
NP V NP => 1) a.*love did hopefulness
   b.*"kick gives foot"

New theory: a. Unique Maximal Projections
             b. Complement => very specific, very abstract

Six predictions: 1. Lexical item projects and subcategorizes (why go)
                2. Lexical item has no clear traditional PS label (yes)
                3. Complement is very specific (saw wood)
                4. Complement is very abstract (more eat)
                5. Lexical item = morphological affix (-er)
                6. How does child generalize?
                   From word to Formal Feature
                   [=X-bar = Feature Complex] (*sing never)

Functional Categories => lexically specific (that, if, etc)
   a. limited set (e.g. that, whether, if)
   b. [+PRAGMATIC FEATURES]
Lexical Categories => abstract (Direct Object = [+NP])

IV. Specific Lexical Items Project and Subcategorize:
A. Theoretical arguments: why go/*when go

   [+wh.+subjunctive] [+wh]
   / \               / \  
   why      Mood [+subj]     when    IP
B. Hale and Keyser (1993): laugh = I do a laugh => object raises => I laugh

1. could not be do NP => raises => I did time in jail =>*I timed in jail

C. Children's Unique Word Projects: Word + complement (=IP)

4) "are you put this on me"
   "are you get this down"
   "are you know Lucy's name is"
   "are you got some orange juice"
   "are you don't know Sharon's name is"
   "are you help me"
   "are you want one"
   "are this is broke"
   "are you sneezed"

Modality (are+don't), tense (are+got) and agreement (are+this)
information is not being carried by the word are.

5) No + complement

No the sun is shining (Bellugi)
no my play my puppet
no lamb have it
no dog stay in the room
No Leila have a turn
No Mommy doing
No have it Mommy (Deprez and Peirce (1992))
See Drozd (1993) for categorial analysis
=> invariably no, not not

[Question: are there root infinitive nouns? (Drozd pc)
   "no more milk" = [ip there is ["no more milk"]
   = invisible expletive?]

German cases:
6) Nein ich putt mache (no I break)
   Nein Auto kaput (no car broke)
   Nein dieser Messer auuaa (no this knife hurt)
   Nein Btasch hunger (no uncle hungry)
   Nein dick Baby (no fat baby)

VI. More Early Evidence of Merge: Non-initial cases

A. "auch" [ Tracy, Penner, Weissenborn 1994]

stage 1: X auch ("toto auch", "ich auch", "hauschen auch")

Stage 2: subj AUCH DO "stephanie AUCH Nase"
   adv AUCH subj "das auchn Rüssel"
   subj AUCH adjective
   Subj AUCH DO
   Subj AUCH V-infin "nina o cho" = Nina auch come
Stage 3:  X V-fin  AUCH Y "klebe das auch noch klebt "
"macht des auch macht"

Dutch (Powers (1996): 7)"pappa ook zitten dar" (papa also sits there)
"papa ook eten" (papa also eats)
"ik ook sokke uit" (I also socks off)

a. v-2 => category free
b. lexical HEAD of MP ==/= adult-spec => root infinitive
   by misanalysis, not by truncation

AUCH
/ \
spec AUCH
/ \
auch VP

c. auch => head; later auch => Spec of ADV
d. auch in HEAD => BLOCKS V-2 => verb stays infinitive
   [="root infinitive" ]
   Weverink (1990), Schaeffer (1991), Wexler (1991))

VI. Complement Projection => Word
Nygren (1972). Action and Object don't mix:

8)Can you file wood with a saw
  "No because you cannot file wood"
Noun prime: Can you saw cheese with an ax
  " No you must saw cheese with a saw"
6yr olds: strong bias: saw wood with a saw

Generalization: saw wood => saw [+NP, +concrete]

VII. Lexical Items without Phrasal Category:

9 ) No clear PS label: All in grammars of 2yr-olds
   yes ,no, well, but, so, and
10) a. "OK, night-night, lemme, upsiedaisy,
   b. "well but they red like those" (Adam).
   c. well, I can
   d.*I can well
   e. *John has a hat but
   f. but John has a hat

Case Study of "yes" in English and Spanish and German
A. Assume:  CP AFFP  IP
   1. AffirmationPhrase => indeed => yes

11) Adult : I sure can/I indeed can
   sure, indeed => [+stress];
   12) *I yes can/*I uhhuh can
   yes, uh-huh => [-stress]
2. if Categorial => should generalize
3. if lexical => should not generalize

(13a) lexical (b) semantic (c) syntactic

```
  the     specificity     D
/   \     /   \        /   \
the N    the N         the NP
```

A parallel set exists for the Affirmative Phrase (Laka (1991)):

(14a) sure (b) emphatic stress (c) AFFP

```
  sure     IP
/   \     /   \        /   
sure IP  sure IP  sure IP
indeed   indeed   *yes
*yes/*uh-huh
```

B. English: 15) a. yes I can/I know that he can
                b. *I yes can/*I know that he can
                Spanish: c. yo si.... (I yes...)
                d. ....que si (that yes....)

C. Prediction: no generalization if word-based
                Generalization: if child assumes word-class shares Formal Features
                e.g. Transitive Verb => Subject-Verb-Object (rationale clause), etc.

D. Input and first uses: (data from A. Perez)

*PET: it's yes its is [!] going away .
*PET: beaver # yep # it's a beaver # yes that's right there a
eaver #
*PET: maybe yes .
*MOT: I'll go for a while # yes .

*PAT: oh yes he will # in about five minutes !
*PET: yes # hear that noise ?
*PET: in here yes I wan(t) (t)a play with them again.

Conclusion: obscure input/no generalization to internal position
            [Note: *"me yes want" (Frazier (pc)]

*NIN: Oscar si pea = Oscar yes peels
*NIN: Oscar si pea .
*NIN: que si # que no = that yes that no (that=comp)
*NIN: no # eso si mio = no that yes mine
*NIN: ahora si
*Nin: porque si = because yes
*Nin: a ese si = to that - one yes
*Nin: oyye si hay monos alla alla elo no hay monos
         = Listen yes there-are monkeys there....
*NIN: a en miro si = to him look yes ' I do look at him'
*NIN: mira mira si saco todo = Look look yes take out-1Sg all
*NIN: y ya vienen ardillas # a que si.
    and already squirrels come#'a que si" = to that yes,
*Nin: yo si puedo ja he comido lechuga = I yes can, already have
*Nin: de pequeno si a que si = when little yes, you will see

Spanish: swift recognition of non-initial potential for "si"
Assumption: +AFF Feature linked to SI
    Generalization: all positive phrases can be internal

CONCLUSION: Child starts with lexical item, identifies Formal Feature =>
    FF = phrase head => limited generalization

German: ja appears adverbially, but not in second position:
    a. ich kann ja singen = I can yes sing
    b. ich ja kann singen
Why: particular positions for different adverbs (Cinque (1977))

Simone:
*SIM:=09ich puste mal ja -'.
*SIM:=09ja ich zeig xxx .
*SIM:=09ich teile ja .
*SIM:=09ja ein lokotive xxx .
*SIM:=09ich tu das da drauf mama # ja .

Most of the "ja" come after the sentence, but a few before:
*SIM:=09da -' gucke mal _ fliege angucke -' ja -' gucke mal -' ja -'
  gucke mal fliege
  =09angucke -'.
*SIM:=09bonbon habe xxx ja -'.
*SIM:=09saft habe -_ ja -' saft habe -` saft habe -`. in the middle:
*SIM:=09geht ja gar nicht -_ husch husch eisebahn -`. between verb and object:
    *SIM:=09hat ja nun kein # .
    *SIM:=09hat ja nun kein Hnschen mehr # .
    *SIM:=09aber mama weinet sehr hat ja nun kein [ / ] .

*SIM:=09doch der kann ja eine nuss essen -`. *SIM:=09das ist zu wenig -_ das ist ja viel zu wenig -` das xxx noch

VII. FORMAL FEATURE THEORY
A. More abstract Object (Powers (1996)):

```
more
/ \
more  X (=N,V,A)
*NP
*word (milk)
**“milk” (phonetic object)
```

16)
more hot, more cereal, more read, more sing, more high, more walk (Braine 1976)
Powers (1998) "no bed, no home, no fix, no pee" *bed no

Hypothesis: more word => more [+NP] => more [+AP] => more [+XP] (unseen)
more [+NP,+AP => XP]

B. Learning Hypothesis: Pragmatics directly Fix formal Features
"more high" => more [+event, +endpoint]
=child want to be pushed up high again in the swing
Chomsky (pc) "most formal features will be pragmatic"

FF => feature on word, position in tree, possibly "property of construction"

a) which features are checkable => entail scope, chain (like Tense)

Pragmatic observables: progressivity, completion, intention, POV (for here)
 falsity, negativity (head shake) (Van der Val),
 imminence ("don’t (unspecified))
Social pragmatics: Point Of View, pronouns (I, you),

VIII. Morphological Node Head: -er Affixation
Aecdotal evidence for [VP+er]:

17) "I'm not too much a player with him" [= (play with him) -er]
    "there's a bike-rider with no hands" [= (ride bike with no hands)-er]

Randall (1983) 82% => VP construal

18) a. a chef with a fork  [chef uses a fork/chef has a fork]
    b. a writer with a candybar
       [writes with a candybar/ has a candybar]
    c. a ballerina with a tutu
    d. a dancer with a tutu => only one dancing, not wearing tutu

19) +er [+NP]
       /  \
      IP +er [+NP]
       /  \
      VP  
V PP
dance with a tutu

IX. Big Question: Lexical item => seek Formal Feature
What triggers generalization?
Claim: Semantic + syntactic Feature Complex

Tamanji (1997): 20) "I can do it real fast"/"I fast can do it"
"I never seed a funny man"/"I seed a funny man never"
Conclusion: [+Adv, +Mood] =/= [+adv, +VP]

Feature Command

I. Economy Principle: Move Minimal Amount (Pied-Piping)
1) "F carries along just enough material for convergence" p.262

A. Pied-Piping => forced by extraneous factors
(morphology/PF)
22) a. whose did you see book
    b. whose book did you see =
    c. wh ['s book] = wh- and 's are non-separable

B. Acquisition Evidence: Children minimize Pied-Piping
(Hoekstra, Koster, Roeper (1992), Guasavera and Thornton
(1999)) “who did you see ‘s hat”
2) a."How am I big"
    b. "keek eens hou ik groot ben"
       [look how I big am]
    c. hoe huppelt Bert vaak naar Ernie
       [how hops Bert often to Ernie]
    d. Howi did Grover ask BB to paint [ t i many times] ? Until he gets it right/Seven times.
    e. See also Snyder,Das,Wexler (Japanese) (1993)

Chomsky system for Pied-Piping: "we have to have an elementary
way to determine the features of alpha and K that enter into this
checking relation no matter how deeply embedded these are in
alpha and K" p. 268 = Seek Sublabel

3) "F enters into a checking relation with a sublabel of K as a
result of the operation (move)"

p. 264 "Pied-Piping might in principle depend as well on factors that
constrain movement: barriers, ECP, Minimal Link Condition, that
requires "shortest move" or whatever turns out to be right... does it allow the derivation to crash or converge as deviant.../Thus if Pied-Piping is forced by the need to satisfy some principle P, we conclude that violation of P causes the derivation to crash so that it does not bar less economical derivations without Pied-piping--for example, the Principle P that sometimes bars preposition stranding."

"There are strong empirical reasons for assuming that Move F automatically carries along FF(LI), the set of Formal Features linked to a Lexical Item. ....This much Pied-Piping is automatic."

C. Economy = Morphological c-command (Hollebrandse and Roeper96)

van der Lely (1999) "what did fell..."
"which table was fell..."
White (1992) 80% of L2 learners prefer do-insertion to verb-raising

Opposite Question: Why would English maintain its non-raising approach?

Syntactic simplicity: Seek Sublabel => immediate domination
because Seek Sublabel has to move one node
further down.

A. Feature-command as Minimal Default (Hollebrandse and Roeper (1997))

Chomsky (1995) Seek Sublabel has no cost:
[who did you see a picture of
   a picture of whom did you see]
Seek Wh- in phrase

14) c-command should be morphologically direct

15)a. TP
    / \ Spec T

11
Look down T-node into a V node for T element:

17) T
   / 
  / V
 /  \
V  T

As opposed to a direct link (18):

18) T
   / 
  T
19) \[ T \rightarrow T \]
\[ V \rightarrow T \]
\[ V \rightarrow T \]
\[ V \rightarrow T \]
\[ \text{talk} \rightarrow \text{ed} \]
\[ \text{talk} \rightarrow \text{ed} \]

wonder => subcategorizes \([+wh]\) immediately without Seek Sublabel

20) a. I wondered who I saw a picture of
   b.*I wondered a picture of whom I saw (K. Johnson)

21) a. "I do have juice in my cup"
   "I do taste them"
   "I did wear Bea's helmet"
   "I did paint yellow right here. I did put the brush in.
      I did paint it"
   "what did take this off"
   "do it be colored"
   "does it be on every day"
   "did there be some"
   "A doggie did walk with Dorothy and the Doggie did hurt itself"

Syntactic Economy: Feature Movement
Semantic Economy: Overt Raising => Direct Tense Anchoring
   No Abstract Resolution of Modular Economy => Stable MG


Nina: "he do" 1/ "he don't" 65
Sarah: 34/ 299

a) \[ V \rightarrow \neg t \]
\[ \text{do} \rightarrow \text{AGR} \]
\[ \neg \text{es} \]
Nina: he do 1/he don't 65
Sarah: 34/299 he don't

Claim: 'nt => one deeper Seek Sublabel => default don't
b) Seek Sublabel $\Rightarrow$ Depth problem (Chomsky (2000)) $\Rightarrow$ only TP

\[
T \quad [+AGR] \\
/ \ \ \\
T \quad -n't \\
/ \ \\
do \quad AGR \\
| \\
-es \quad [+AGR]
\]

\[
AGRP \quad [+AGR] \\
/ \ \\
do \quad A \\
/ \ \\
[+Agr] \quad TP \\
/ \ \\
-\quad es \quad T \\
/ \ \\
[+Tns,] \quad Neg \\
| \\
\ø \quad n't \quad VP \\
/ \\
V \\
/ \\
\]

Conclusion: Seek Sublabel predicts deletion under TP  
Seek Sublabel $=$ Syntactic economy factor

Much-support arguments (Moore and Roeper (1998))

a. John is quick and Bill is too much so

Corver:  
DegreeP  
/ \   
D  
/ \   
too \ QP
\[
/ \ \ \\
Q   \ \\
/ \  \\
much \ AP \\
| \\
<= quick = too quick \\
<==/= so = too much so
\]

Acquisition prediction like do-support: no raising:
  a. no it is too much little (Kuczaj)
  b. and is too much full (Clark)
  c. so much hard (Hall)

**Feature-Splitting**

1. Splitting Principle: All Spec-Head Agreement features can be split.
2. Language Specific acquisition: Feature Bundles split into independent Functional Projections when evidence arises.

1) a. John broke the window", => [+caus, +agent] 
b. John made the window break" => split Features on break 
=>
  => +Causative node


2) Adult: 
TP
  
  V [+cause]
  
  (make) V 
  
  break [+trans]

3) Initial Child stage: S-Str/LF: 
TP
  
  T'
Pied-Piping and Root Infinitives
A. Idealization:
a. Bare nouns are present in root infinitives
   b. Full DP's are not present in Root Infinitives

8) zahne pussen (Wexler)  pappa niuwe scooter kopen
   (Weverink)
   [teeth brush]  [daddy new scooter buy]

Hoekstra: Adam 2;3-3;7

<table>
<thead>
<tr>
<th>finite verb</th>
<th>non-finite</th>
</tr>
</thead>
<tbody>
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<td>53</td>
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<td></td>
<td>2</td>
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<td>39</td>
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</tbody>
</table>

28) Claim: NP does not move to AGR-O, therefore it will be carried by verb with Pied-Piping
   a. Economy: avoid Pied-piping
   b. Solution: utilize non-movement = root infinitive

Possible analyses: independent DP => moves to AGR-O
29) a. [das Kuchen] essen => [IP isst] [AGR-O das Kuchen]
   b. incorporated N => creates compound noun
      [Kuchen-essen]NP = (finger-painting)
   c. "free rider" NP avoided => root infinitive
      [VP [Kuchen]NP [essen]] = Chomsky-incorporation

8)    TP
     /  \
    T   V_i
     /  \
39) Logic: If $V+NP = \text{unit}$ because NP does not move, then $V+NP$ Pied-Pipes
   If it Pied-Pipes, then child must Seek Sublabel to form
   Tense Chain (Hoekstra and Gueron (1991))
   If Pied-Piping avoidable, then child avoids it
   $\Rightarrow$ prefer Root Infinitives for bare N + Verb

40) Child must learn: Kuchen $\Rightarrow$ can raise to DP = +Specific

Claim: Seeking Sublabel is a costly operation
Consequence: Avoid Operations which require seeking sublabel
Prediction: avoid move $V+N$, if $V$ is the target

D. Could this happen in adult language:
   Dutch (Koopman): No V-2 for complex verbs
   41) a. herkauen $\Rightarrow$ herkaut ....t
   b. heruitgeven $\Rightarrow^*_{/\Rightarrow}$ heruitgeven.....t
   c. dag niet heroutgeven/heruitgeeft

   $\Rightarrow$ No Pied-piping
   $\Rightarrow$ only unmoved (=root infinitive)

E. Compatible with other analyses of early NP
   Schaeffer et al
   Schoenenburger, Penner, Weissenborn
   Hoekstra and Hyams
   deVilliers and Roeper

**Abstract Agreement**
An argument from disorders and theory
(Brain and Language (1999) Roeper, T. L. Abdul-karim, É. Ramos, H. Seymour)
I. Can we define "Possible Disorder" in UG?

1. Deficit = deviance unlike a Delay

2. Missed Formal Feature Hypothesis
   = Premature fixation of lexical item

A. Normal child: me do it/me want
   Disordered child: “me can do it”
   Why does normal child **not** say: "Me can do it"
   => learn Nominative => change to "I can do it"

B. Normal Child: **Maximize Formal Features**
   1) I saw the boy => [the: +sing,+masc,+def,+acc]
      ich sah **den** Mann
   2) The girls arrived => delete: ,masc,sing, acc
      German: no change (den => correct (idealized))

C. Normal acquisition of Modal:
   **can** => modal meaning => Understood before used
   search for **Tense, Agr, Case, Selection properties**
   "John can sing" => no case information
   
1. Constraint on Normal Acquisition:
   Do not insert item into grammar until all domains checked

D. Deficit Grammar: fix item in grammar without AGR (so –CASE)

**"categories lacking interpretability should be disallowed"**(Chomsky (1998))

a. Conclusion: [-interpretable] => Formal Features (AGR, Case)

E. General Hypothesis about disorders:
   Fix lexical item without [-Interpretable features]

1. In productive grammar => No Retreat
   (Clahsen, Vainikka, Eisenbeiss (1994))
2. Nodes are various and consist of Feature-bundles.
   \[X = [+ or - Tense, + or - AGR, + or - Aspect features]\]
3. a) AGR is not a node but a Formal Feature or relation
   b) it applies in Head-Complement and Spec-Head environments
   c) it captures relations beyond person, number, gender
Questions:
A. Is the same Formal Feature **absent** under different nodes?
B. Is the same Formal Feature involved in **different** configurations?
C. Is a Formal Feature **simultaneously** absent in different structures?
D. Is a FF absent for a **given individual** in different structures?

III. Case-Study: Missed Formal Features

A. AGR = FF not a node
Hypothesis: missing in NP "two lobster"
and IP at same time "Daddy like"

Munn (to appear, LI): Genitive = Agreement morpheme "them eyes"

B. JC 4.4-46yrs (Ramos and Roeper (1994))

3) That why them put a lot of sand in (Note: CP-why) Genitive (in NP-of):

4) Me Daddy like mustard
Me sister name Dawn
He family. He lost he family
He shovelled him truck
Them Mom could let them play outside

5) Nominative (in IP):
Me like ketchup
Me don't know
Me said me gotta hurry up
Her can cook something
Them have a party

6) Discourse: "Me sister name Dawne. Her give me Dad a lobster, a two lobster, Me Mom put in here, cook them, forgot to take them eyes out. and then it give it to Mom He say put it down. And then her say ahh, and then her put on the floor, and we scare her. Her say, ahh it's moving, and then them cook them up, and it scared Mom, so we gonna put him to trouble. And then he be trouble....you can't eat eyes. Only you can eat skin. And me did eat it."

Absence of agreement in both verbal and nominal contexts.

7) Me can have this
her can cook something
it don't have a mouth
then me no have to go bath
it can poke somebody
me don't have a cat on a bed
Only you can brush your teeth very good
No her can put up here
I see he shadow....I can make see my shadow
me can't get home to go shopping

Raising over Negation:

8) Me never have them real big
   Me never take a shower

CP-level phenomena:

9) When me go outside to play, me go like that
   that because them Mom don't let them
   that why them put a lot of sand
   Why him don't have eyes
   when him crack tiny pieces up, and then put (unintelligible)
   why her need this
   what's I talking about
   I don't know where her can cook

Reflexivization:

10) her standing and her see herself

Wh-movement and Operator-movement:

11) lobster to eat for lunch
    I don't know what he saying
    What's I talking about

General view: Multiple grammars ( Roeper (1999) Yang (1999 (see historical( Kroch and Taylor (1993 )=> presence of some agreement elsewhere

12) 10 weekly recordings:
    a. 386 instances had "me" as possessive in 56% of cases,
    b. "them" 100%
    c. "he" 60%, "him" 40%.

13) Comprehension experiment: Choose
    [picture of me painting] [picture of my bucket of paint]
    "the girl saw me paint"
    "the girl saw my paint".
5/10 instances, "me paint" interpreted as "my paint"

C. Prediction: If "can" = [-case], Nom => [-case]
   a. Anecdotal Evidence: "I sure" or "I" = default (T. Wyatt)
      Background: Abdul-Karim (1994) "who has a hat"
      => me (2yrs)
      => "I do" (2 3/4 yrs)
      => *"I" never

   b. Symmetry: can=> does not project Case
      I => does not receive Case

D. Conclusion:
   1. not simply mispronunciation of "my" as "me"
   2. Not a Choice of AGR or Tense (Wexler (1998) for normals)
   3. Supports Chomsky's semantic view of categories
   4. AGR = a FF in NP and IP
   5. Deficit: fix FF of lexical items without [-interpretable] FF
      (see deVillliers and Johnson (1999))

IV. Theoretical Representation:

Chomsky (1998) outlines the following system to capture Agree:

14) 1. "Probe and Goal. must both be active for Agree to apply."

   2. "Matching of Probe Goal features apply, eliminating uninterpretable
      features that activate them"

   3. "feature identity" is "identity of choice of feature, not value"
      (1998:41))

Chomsky suggests that one should:

4. "Maximize Matching Effects"

15) spec head
    |     |
    John run
    [+sing] [unspecified number] } => -s
    [+AGR] [<=+AGR]
    Goal Probe
In effect, the [+AGR] feature imposes singular on the verb's number feature, which then selects -s as the expression of that feature, and deletes the uninterpretable [+AGR] feature.

Head-Complement Agreement:
"The selector F for Merge is analogous to the probe for Agree. ...Take say transitivity of a verb V, If the property is implemented in terms of theta-grids, then a feature of V selects the object.....there is substantial evidence that G must be in the complement of the Probe P, not its specifiers." (1998:51)

[Note: no movement implied. Is “Mark” an operation distinct from Select?]

16) \[
\begin{array}{c}
\text{V} \\
/ \ \_ \\
\text{V} \ \text{DP} \\
| \\
\text{sing} \quad \text{songs} \\
[\text{TH}] \quad [\text{Role: unspecified}] \\
\text{Probe} \quad \text{Goal}
\end{array}
\]

Head of the complement (e.g. accusative), => Head-Head agreement

V. Searching for AGR: Relational PP as Deletable AGR-element

Disordered: (Seymour and Roeper (1994)
Subjects: 17 Disordered Children
1. How did the mother decide to sweep?
"with a broom" 121 cases
"broom" 26 cases
Normal children: rare deletion of "with"

A. Lexical level => Compounds

Incorporation => Relational Prep deletion (Roeper and Siegel (1978))
1. made at home => home-made
2. made by hand => hand-made
3. made in a factory => factory made
4. eaten by moths => moth-eaten
5. eaten with a fork => *fork-eaten

6. swept with a broom => broom-swept (instrument "with")
Compare: swept with a friend =>*friend-swept (accompaniment "with")
Lexical Prepositions:

1. go through tunnel => *tunnel-gone
2. found around flowers => *flower-found
3. stand beside the barn => *barn-stood

B. Discourse Level Deletion
1. Default case
   a. Who has a hat? Me
      *me has a hat

2. Prep deletion
   a. where do you live? San Francisco
      *I live San Francisco
   b. where are you going? Detroit
      *I am going Detroit
   c. when are you playing chess? noon
      *I am playing chess noon

3. Non-deletable:
   a. when did it seem odd to you? *night at night
   b. how are you playing? *bat with a bat
   c. How did you get to the other side of the river
      *I went to the other side the tunnel through the tunnel
   d. why was the game cancelled
      *accident because of an accident
   e. where does it hurt? *stomach in my stomach
      *in stomach
   f. where did you put it? *arm on arm
      *on arm on my arm

C. Bresnan (1989): Cross-linguistic arguments about unmarked locative
   Klein (1992) Extensive study of L2 Prep-deletion

D. Conclusion: Discourse, Lexical levels => deletability
   Syntactic level => non-deleteable

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Explanation: syntax requires case-assigner
Lexical: incorporation requires no case
Discourse: not clear

VI. Early Child Relational-Prep Deletion (Brennan (1991))
A. we colored crayon (=with)
   Shirley get meat dinner (=for)
   I cut it a knife (=with)
   Richard bring snack Shirley (=for)
   I went party (=to)
   feed baby fork (=with)
   Shirley cut fork (=with)
   I sleep big bed (=in)
   Save some later (=for)

Some children will use argument PP's:

B. I played with Joan
   Jim was at Cooperstown
   putting Daddy in wagon

46 prepositions for arguments,
   3 for adjuncts for three children.
Brennan:
"3 of 4 children studied, it was true that adjuncts never surfaced with PP's,"

Prediction for Disorders:
Case Study (JSC)
\` 
19) What beach you going (go to)
   Me go beach not far away (go to)
   then, he knocked him window (knock in)
   Then me no have to go bath (go to)
   some wake up middle of the night (wake up in)

Relational preposition (to, of, in) w predictable from the verb (go-to).
Other P's present:

20) then dump into a truck again
   dirt is falling all over him
C. Hypothesis: Verb carries LOC selection, Prep agrees with it
   b. Visible Prep => only in CASE assignment required

Relational Prep = Agreement between
   VERB  PREP
   [+loc]  [+Loc]

D. Representations:

   Head-Complement Selection:

   V
   / \
  V church
  / \
 go PP
 / \
to church = church-going
<====== <===

Kayne (1994) Adjuncts = Specs => Spec-Head Agreement