A little of Dutch/German

I. All root clauses have a <+fin> verb or aux in second position

II. All auxes are <+fin> and in second position (C°)

III. Otherwise the content verb is in sentence final position and <-fin>

(topic XP) Aux <+fin> [ arguments (V<-fin>)] 70%

(topic XP) V <+fin> [arguments t_v <+fin> ] 30%

auf diesem Tisch geht unser Nachbar den Sirtaki tanzen
op deze tafel gaat onze buurman de sirtaki dansen
tanzt tanzt
danst
\[\text{\uparrow} \]
The simplified Dutch/German as intake

I. All root clauses have a <+fin> form in second position
II. All auxes are <+fin> and in second position (Co)
III. The content verb is in final position if <+fin>

Acquisition procedure
III acquisition of OV (Sirtaki tanzen)
↓
II acquisition of Aux <+fin> O V <+fin> (geht Sirtaki tanzen)
↓
I acquisition of V <+fin> O V <+fin> (tanzt Sirtaki)

This three step development can be demonstrated in a longitudinal graph
Acquisition of I-marking

Sarah (Van Kampen corpus)
100%  

above the graph: root infinitives
under the graph; V-2\textsuperscript{nd} structures

I. <+fin>  
governed clause

II. Aux governed clause

- Initially most predications lack a <+fin> verb and a subject
- The V-2\textsuperscript{nd} constraint is acquired due to 2/3 of the input
  Aux <+fin> … V <+fin>
- Generalized by moving the <+fin> lexical V
Acquisition of I-marking

Sarah (Van Kampen corpus)
Acquisition of I-marking

Dutch (and other V-2\textsuperscript{nd} languages)
The I-marking by $<+\text{fin},+\text{aux}>$ precedes I-marking by $<+\text{fin},-\text{aux}>$

Sarah (Van Kampen corpus)

<table>
<thead>
<tr>
<th>$&lt;+\text{fin}&gt;$</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aux(-V) number</td>
<td>86 n</td>
<td>140 n</td>
<td>297 n</td>
<td>690 n</td>
</tr>
<tr>
<td>%</td>
<td>92%</td>
<td>80%</td>
<td>70%</td>
<td>69%</td>
</tr>
<tr>
<td>Lexical V number</td>
<td>7 n</td>
<td>36 n</td>
<td>127 n</td>
<td>303 n</td>
</tr>
<tr>
<td>%</td>
<td>8%</td>
<td>20%</td>
<td>30%</td>
<td>31%</td>
</tr>
</tbody>
</table>

The delay of I$<+\text{fin},-\text{aux}>$ is highly remarkable and a prospective acquisition theory should be able to predict it
Acquisition of I-marking

Relevant factors of I<+fin,+aux> precedes I<+fin,−aux>

1. The auxes have been learned before as utterance operators
2. Modals mark systematically wishes, commands, intentions.
   The copula marks presentationals
3. The Dutch/German aux does not cliticize
4. The Dutch/German aux has a higher text frequency (> 2/3 of the predicates) in the input than the English (intuitive impression)

5. Prediction/conjecture
   - A V2nd language will not be learnable unless > 2/3 of the input is aux-marked.
   - The same must hold for V_fin SO languages
### Some terminology

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operator</td>
<td>- a grammatical/non-lexical/word &lt;br&gt;- with a high frequency &lt;br&gt;- characterizes the pragmatic status of the full utterance &lt;br&gt;- highly learnable, no movement</td>
</tr>
<tr>
<td>Argument</td>
<td>- a theta role carrier &lt;br&gt;- D-marked by <strong>determiner</strong> or <strong>case</strong> &lt;br&gt;- fits into the lexical frame of the predicative head (predicate N, A or V)</td>
</tr>
<tr>
<td>Predicate</td>
<td>- a lexical head + its theta complement in a fixed order (UTAH, TRAC) &lt;br&gt;- I-marked by <code>&lt;+fin,+aux&gt;</code> or by <code>&lt;+fin,−aux&gt;</code></td>
</tr>
<tr>
<td>Subject</td>
<td>- left-most adjunct of an (I-marked) predicate</td>
</tr>
</tbody>
</table>
Poeppel and Wexler (1993)
The early V-2\textsuperscript{nd} structures suggest/prove already that the V-2\textsuperscript{nd} rule is immediately captured by the children

For the following holds as well: if they use a V\(<+\text{fin}>\) that is lexical, it will always be in V-2\textsuperscript{nd} position (children make hardly/no mistakes)

<table>
<thead>
<tr>
<th></th>
<th>(&lt;+\text{finite}&gt;)</th>
<th>(&lt;-\text{finite}&gt;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-2\textsuperscript{nd}</td>
<td>standard</td>
<td>rare</td>
</tr>
<tr>
<td>Verb final</td>
<td>rare</td>
<td>standard</td>
</tr>
</tbody>
</table>

Question:
Is the relation \(<+\text{fin}>\) \(~\) move-to-C (V-2\textsuperscript{nd}) captured immediately?
Counter analysis

Poeppel and Wexler (1993)
- The V-2\textsuperscript{nd} is acquired instantaneously (it is part of an inborn UG grammar)
- What is learned is the systematic use of \texttt{<+fin>} for roots

A Dutch counter analysis (De Haan 1988, Van Kampen 1997)
- The V-2\textsuperscript{nd} is acquired within ± 20 weeks
- The early finite content verbs are acquired as idioms
- The V-2\textsuperscript{nd} is input controlled, not UG controlled
The issue: Input controlled

- Input controlled predicts that an order of learning steps is necessary.
- Non-movement structures are acquired before movement structures otherwise traces cannot be learned.

OV structures precede V-2\textsuperscript{nd} and wh-movement

V-2\textsuperscript{nd} & \[ V^{<+\text{fin}>} \quad [ \quad \ldots \quad t^{<+\text{fin}>} \quad ] \]

\begin{align*}
\text{dan} & \quad \text{lees} & \quad [ \quad \text{jij een boek} \quad t^{<+\text{fin}>} \quad ] \\
\text{wh-movement} & \quad \text{wh} & \quad [ \quad \ldots \quad t_{\text{wh}} \quad V^o \quad ] \\
\text{wat} & \quad \text{ga} & \quad [ \quad \text{jij} \quad t_{\text{wh}} \quad \text{lezen} \quad ] \quad ?
\end{align*}
The issue: Input controlled

The issue of inborn full competence versus instilled patterns is a challenge to further research.

Analysis by movement does not/does give rise to an order in acquisition steps.

Research program
✓ Find clear cases of movement analyses
✓ Look for a corresponding acquisition order

Was the underlying/pre-movement structure acquired earlier? Hint: look at wh-movement in root clauses.
Structure build-up by movements

CP [operator-marked predication]
  /  
Spec.C  CP
     /    
Wh-operator  C^o
            /  
Tense operator  IP/VP [underlying predication structure]
               /  
             argument  predicate head
                 /  
                 V-2nd
               /  
Wh-movement
The issue: Input controlled

The empirical issue

 ✓ Which structures were already acquired before wh-movement?
 ✓ Were these preliminary structures a sufficient condition for setting traces?

Preview

 ✓ *Dutch/German/Swedish* confirm the expectation: statement forms first, wh-constructions later
 ✓ *English*: wh-forms are systematically present in the very early 2-word stage (before predication)
The best example of a structure build-up by movement is the wh-question in root clauses.

Fortunately, we know that, because we studied Chomskyan grammar, but how did the child know?

The standard reaction: the child has an inborn UG, and move <+wh> (overtly) is an UG option.

The alternative: the child found out although it was not (that well) informed about grammar.
The issue: UG controlled?

- The medieval philosophers/grammarians have raised the same question. The Modistae (Thomas von Erfurt) in Erfurt and Paris.

- Did God give men a grammar or did he give a general intelligence to construct one?

If grammar is a cultural construct (like tools, houses, arts, social customs, etc..) it is not god-given (c.q. a product of biological evolution) and imposed as part of human nature.

The question may be wrong if posed in unspecific (non-grammatical) terms. Any invention is adapted to a biological substrate.
The issue: Input controlled/UG controlled

<table>
<thead>
<tr>
<th>The issue</th>
<th>input controlled is almost metaphysical</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>input controlled</strong></td>
<td><strong>UG controlled</strong></td>
</tr>
<tr>
<td>All language is a huge set of idioms</td>
<td>All language is the realization of inborn principles (UG)</td>
</tr>
<tr>
<td>Combinatory principles are not a guide for the speaker</td>
<td>Lexical properties and and idioms invoke the general principles</td>
</tr>
<tr>
<td>Present day behaviorists Tomassello</td>
<td>Full competence generativists Chomsky, Wexler</td>
</tr>
</tbody>
</table>