There are fillers and fillers on the way to grammatical morphemes:
A three-period account in the acquisition of French

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In the early period of language acquisition many children start using *fillers* -- monosyllabic elements at the onset of their renditions of target words -- renditions that children used earlier, and continue to use also without such elements. For example, the sound /ɔ/, in *dog* for English, and in /dʒɛ̃/ ‘chien’ (dog) for French.

Children’s production of fillers has been attested in different languages and is often taken into consideration in accounts of early acquisition.
In some accounts fillers are considered early manifestations of grammatical morphemes produced --from the start -- in syntactically relevant slots; in others, they are seen as phonoprosodic phenomena that will become only later grammatical morphemes.

1. I will provide further support for the second approach
2. I will argue that there are different kinds of fillers or filler periods on the way to grammatical morphemes
1. **pre-morphological**, where fillers are likely to mainly fulfill phonoprosodic functions:

2. **proto-morphological**, where fillers present incipient properties of grammatical morphemes

3. **quasi-morphological fillers**

Depending on the rhythm with which children develop, we may or not observe all the three periods
REMINDER: what are FILLERS

underdetermined, not clearly identifiable elements
  i. mostly vocalic or nasalized
  ii. occurring at the onset of the child’s word-like productions
  iii. that do not belong to the target word

For example
  /ɒ/ in /ɒsu/ for 'sou' 'cent'
  /a/ in /adam/ for 'dame' 'lady'
  /ɒ/ in /ɒʃõ/ for /buʃõ/ 'cap'
1. **Pre-morphological fillers**

What characterizes fillers of this period?

a) their phonoprosodic preferences:

in French - preferential production with monosyllabic targets in a dominant iambic VCV pattern;

plurisyllabic targets may follow the same vowel-onset profile but their vocalic onset may not be additional but may belong to the target word

\[
\text{asîn for } /\text{måsin}/ \text{ (machine)}
\]

\[
\text{aty for } /\text{vwatyr}/ \text{ (voiture - car)}
\]
b) no differential production according to the type of word that follows -- we will look at nouns and verbs -- since CDS shows differential production in the presence and in the kind of the first left-edge vocalic sound adjacent to the target word

based on 2 sessions of CDS for one child
Profile reproduced in CDS of 1 session for each of the three other children
<table>
<thead>
<tr>
<th>Characteristics</th>
<th>prenominal position</th>
<th>preverbal position</th>
<th>stat significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence of grammatical morpheme</td>
<td>1,4%</td>
<td>12,7%</td>
<td>significantly different p&lt;.01</td>
</tr>
<tr>
<td>Kind of most adjacent vocalic element</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 major peak</td>
<td>/e,ə/ 44,4%</td>
<td>5 peaks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>/e,ə/ 24,7%</td>
<td>/a/ 22,5%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>/i,wi/ 16,2%</td>
<td>/y/ 15,7%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>/ɛ/ 10,4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 minor peak</td>
<td>/a/ 19,2%</td>
<td>less variety</td>
<td></td>
</tr>
<tr>
<td></td>
<td>less de variété</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stability of the adjacent vocalic element</td>
<td>greater stability</td>
<td>less stability</td>
<td>significantly different p&lt;.01</td>
</tr>
<tr>
<td>same type :</td>
<td>47,5%</td>
<td>même type :</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 (+) : 13%</td>
<td>27%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 (+) : 34%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lexical forms</td>
<td>practically invariable</td>
<td>2(+) forms :</td>
<td></td>
</tr>
<tr>
<td></td>
<td>38% of types</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. *proto-morphological fillers*

What characterizes fillers of this period?

a) phonoprosodic preferences decrease to disappearance
- decrease in vowel onset of plurisyllabic targets
- plurisyllabic targets have fillers as monosyllabic targets do
  that is, if vocalic onset, this is external to the target word
- differential production according to the type of word that follows (at least for nouns and verbs);
3. *quasi-morphological fillers*,
   - fillers of period 2) alternate with well-formed grammatical morphemes, sometimes for the same lexical item

   - neither fillers nor wfgm reach criterion in obligatory contexts (we’ll hear about possible pragmatic explanations for production vs omission)
Data

Longitudinal data of four children acquiring French, studied between the ages of 1;3/1;10 and 2;0/2;3.

<table>
<thead>
<tr>
<th>CHILD</th>
<th>Age range</th>
<th>Nb hours analyzed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAMILLE</td>
<td>1;3 - 2;2</td>
<td>16</td>
</tr>
<tr>
<td>GAEL</td>
<td>1;4 - 2;3</td>
<td>18</td>
</tr>
<tr>
<td>ANAE</td>
<td>1;6 - 2;0</td>
<td>6</td>
</tr>
<tr>
<td>ARNO</td>
<td>1;10 - 2;5</td>
<td>12</td>
</tr>
</tbody>
</table>

Children were recorded audio-visually every two weeks (to the exception of Anae - once a month), while they interacted
naturally -- mostly with their mother--in their home environment. The data were transcribed in CHAT format, phonologically (in SAMPA) for the children and in French orthography for the adults, and were linked to the videos.

RESULTS

ALL FOUR CHILDREN produce fillers
1. Pre-Filler period
2. Increase and systematic production of fillers
3. Increase in production of Well-formed grammatical morphemes
CAM

% N & V adult words

Age de l'enfant

- % of N & V preceded by fillers
- % of N & V preceded by PwFGMs

GAEL

% N & V adult words

- % of N & V preceded by fillers
- % of N & V preceded by PwFGMs

Arno

ANA

% of N+V preceded by fillers

% of adult N+V

1:06 1:07 1:09 1:10 1:18 2:00

1:9 1:10 1:11 2:0 2:2 2:3 2:4 2:5 2:7

fill

wf
Camille

1. Premorphological 1 ;6 - 1 ;11
2. protomorphological 1 ;11 - 2 ;2 +

Cam: significant ≠(p<.01) at 1;11

At CAM 1;7 χ² ns

At CAM 1;11 χ² p<.05
Gael

1. Premorphological 1 ;10 - 2 ;1
2. protomorphologicsl 2 ;1 - 2 ;3+

Gae: significant ≠(p< .01) at 2;3

GAE

at GAE 1;9 χ² ns

At GAE 2;1 χ² p< .05
1. Premorphological 1 ;6 - 1 :10
2. protomorphologicsl 1 :10 - ->2 ;0

Anae no significant x
up to 2;0

At 1;7 $\chi^2$= ns

At 1;10 $\chi^2$ =p<0.05
Arno : 1 :9 - 2 ;2
1. premorphological period

For the first 3–4 months mainly a,e,œ in both positions

Cam
pre-N
/œʃɔ̃/ /œbouchon/ (œbottlecap)
pre-V
/e'pik/ (epique) (œsting)

Gael
pre-N
/œ'vaʃ/ (œvache) (œcow)
pre-V
/œ'pleu̯/ (œpleure) (œcry)
Anae
pre-N /əˈʃjɛ̃/ (əchien) (ədog)
pre-V
/əˈmɑ̃/ (əmange) (əeat)

Arno
pre-N /əˈʃa/ (əchat) (əcat)
pre-V
/əˈtun/ (ətourne) (əturn)
This lack of differentiation is associated with a preference for fillers with monosyllabic targets

Camille
Examples from Camille and Gael
/a'po/ for /ʃə'po/ chapeau (hat)
/a'vet/ for /♭ə'vet/ bavette (bib)
/aʃin/ for /ɛməʃin/ machine
/o'te/ for /mɔ'te/ mont/e/ to go up/gone up - raise/raised
/a'se/ for /ka'se/ cass/e/ to break/broken
Gael
at 1;11 for Camille and at 2;1 for Gael
syllable-length of the target is no longer a relevant
differentiating variable for the production of fillers.

2. protomorphological period

In pre-N: continue a, e, ē but also o, n'
in pre-V: more i, o, u
without being necessarily appropriate
Cam 1;10->2;2
pre-N
/a'dam/ (alady); /eza'zo/ (ez_oiseaux) (ebirds)
pre-V
/o'don/ (o'give); /i'gat/ (i'regarde) (i'look); /o'tir/ (o'pull)

Gael 2;1->2;3
pre-N
/n'dam/ (nlady); /əme'zò/ (əhome); /e'pom/ (e'apple)
pre-V
/ita'se/ (ikassé) (ibroken); /oku've/ (otrouvé) (ofound)
/i'par/ (ipart) (i'leave)
3. Quasi Morphological fillers

**Increase in well formed grammatical morphemes

/lo'ba/ (le bain) (the bath); /la'paʒ/ (la page) (the page);
/fo'tuʁne/ (faut tourner) (need [to] turn); /ōtir/ (on tire) (we [imp] pull)

Cam: increase from 27% at 1;11 to 86% at 2;2
Anae: increase from 16% at 1;10 to 69% à 2;0
Gael: increase from 11% at 1;11 to 27% à 2;3
Arno: increase from 20% at 2;0 to 65% à 2;5 (72% at 2;7)
Fillers co-exist and alternate
sometimes we can see them for the same lexical item
within the same conversational exchange

looking at a picture

*CHI: dam
%int: dame (lady)
*CHI: ladam
%int: la dame (the lady)
*MOT: où est la dame?
%act: MOT tourne les pages
*CHI: adam
*MOT: voilà! c’est ça la dame?
%act: MOT pointe sur l’image d’une dame qui tombe parterre

*CHI: hen

%act: mouvement affirmatif de la tête

sometimes difficult to draw a clear boundary
particularly true for auxiliaries in French and for the preposition à (abwa-→ à boire?)
** Decrease of "omission" errors

For Cam

in PreN : from 69% at 1;11 to 3% at 2;2
In PREV : from 33% at 1;11 to 18% at 2;2

Similar trends

for Gae - decrease in pre-N at 2;1, in pre-V at 2;3
for Ana - decrease in pre-N at 1;10, in pre-V at 2;00
CONCLUSION
Yes - fillers seem to be -- at least for some children -- a developmental transition towards grammatical morphemes

What I aimed here and aim in painstakingly long research, to show that we should think of fillers not a single bag of underdifferentiated sounds but as elements that undergo themselves development children seem to start sorting out the regularities and variation in the input independently of the exact phonological correspondence and appropriateness they may have with the morphological elements of the language
This development goes on while children progress also in other aspects of the language in particular progress in word combination, in verbal constructions, in some differentiation in words, as nouns-words and verb-words.
Have collaborated
Alice Delacour
Frédérique Girard
Marie Leroy
Caroline Masson
Emmanuelle Mathiot
Aliyah Morgenstern
Chritophe Parisse
Caroline Poitou
Marina Robert
...

Thank you for your attention
preverbal particularly difficult to code borderline between fillers and pronouns - preceding ind present tense or auxiliaries and certain prepositions for past participle and infinitive forms, that in 1st group verby are homophonous (Veneziano & Clark, submitted)

ipus -> il pousse

a mange -> a mange; à manger

often interpreted according to the interpretation that the observer makes of the situation ascribing to the child the right form and thus the form-meaning relationship

All the lexical items whose targets were nouns and verbs in French were coded for the presence and type of elements
occurring at the onset of the lexeme, and specific phonoprosodic and morphosyntactic hypotheses were tested.

The discussion highlights the importance of the developments in fillers' production for understanding the nature of early language acquisition.

Before using grammatical words, children use fillers whose status may evolve from prosodic entities to precursors.