

LEVINSON & TORREIRA 2015

16 APRIL 2020

Taking SST74 model as basis, adding PREFERENCE and COLLABORATIVE TURN COMPLETION. States two challenges raised:

- What counts as a turn — how are "complete" units recognized?
- Given the extendibility of turn units, how does projection work?

Q: Is signaling enough?

DUNCAN (1972, 1974) turn-taking signals as either floor holding or floor yielding, including prosodic (final intonation, <sup>loudness/pitch</sup> syll duration), gestural, lexico-syntactic (tag, clause end), gaze switch away <sup>loc.g. falling, mid, rising final tone</sup>

↳ allocation is under control of the speaker } counter to the collaborative view of turns.

↳ cues are used w/ "context free" interpretations

\* see also Kendon (67), Goodwin (80), & Rossano (13) for advances in thinking about the use of gaze

VOICES

↔

GAP duration may be affected by language, interaction modality, speech acts (responses, use of visual cues, complexity, and interlocutor

VOICES  
↔  
VOICES

OVERLAP Frequency/ duration may be affected by modality of interaction, language, use of backchannel, multi-TU turn, simultaneous self selection, etc

↳ 93% of "between overlaps" & 97% of "within" overlaps

Between dur: median = 205, 75% < 374 ms

Within dur: median = 389, 75% < 532 ms

Findings derived from (AmEng) Switchboard corpus (348 conversations, 6524 between-, & 3343 within-overlaps



WHAT COULD BE A PLAUSIBLE PSYCHOLOGICAL MODEL of THIS SYSTEM?

HELDNER & EDLUND (10)

Argue against precision timing in turn-taking

- precision = 0-10ms ← < 1%  
↳ = 0-200ms ← ~50%

- includes "expectable" overlaps like backchannels ← 40% of transitions w/ some overlap

↓ They conclude

\* Motivation for projection is not valid

\* Turn-taking is not rapid/precise  
↓ BUT

- Since recognizing silence takes 200ms minimal RT is 500ms in a purely reactive case ← 70-82% of trans.

- Turn-final cues still have a role to play in combination w/ longer projections.

how literally should we take signal vs. collab if really we rely on quick negotiation

fundamental qualitative difference?



DEVELOPMENT: EARLY START (e.g. Protoconversations) but slow trajectory of development (b.c. of linguistic complexity) → evidence from observation & eye-tracking (more to come on this).

PREDICTIVE COMPREHENSION: General phenomenon is well established & seems at work in both recognition of speech acts (Erstadottir 2015) and precisely predicting TRPs (de Ruiter 2006, Maguani 2014, Rieist et al 2015) w/ turn-endures (Bögels & Torrance)

PRODUCTION LATENCY: Production, particularly phonological encoding, is SLOW (3-4 times slower than comprehension & 1.5 times other pre-planning components for a single word)  
 single word = 600 ms (picture naming)  
 sentence = 1500 ms (describe scene) → may involve inhalation plan

↳ early planning of response → switching?

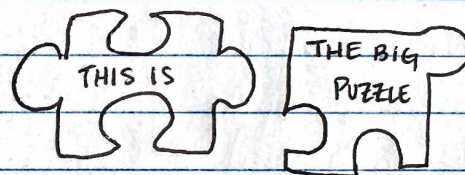
parallel processing?

IN ADDITION TO THE 14

GROSSLY APPARENT FACTS:

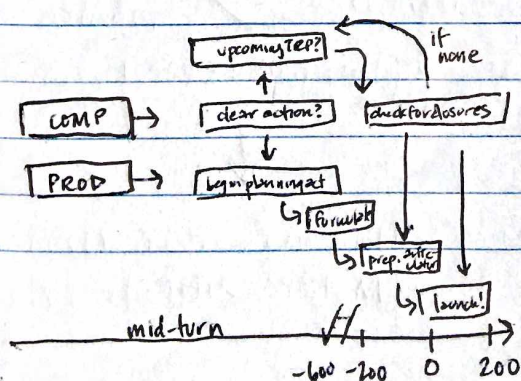
- ⊕ Turns are mostly short & syntactically & prosodically complete
- ⊕ Intraspeaker gaps are longer than inter-speaker gaps
- ⊕ Interspeaker gaps are short, and medium gaps and short overlaps are also common
- ⊕ Long gaps may carry semantic significance
- ⊕ Overlaps appear in orderly positions and are short
- ⊕ Turn-taking is established in infancy but gets complicated w/ language onset
- ⊕ Predictive response planning must take place
- ⊕ Turn-final cues can provide critical triggers at turn-allocation decision points  
 ↳ "point of no return"

Sequental (11)  
 Pickering & Garrod (13)



alternative model  
 ↓ parallel tracks  
 Prod.now —  
 Prod.soon —  
 Comp.now —  
 Comp.soon (aligned) —  
 critical

empirical facts  
 ↓  
 theoretical factor-explained phenomena



WHY GAPS

OVERLAPS?

proposed interleaving of prod & comp in responder's system

- "meaningful" uses
- response complexity
- attention
- ...