

Supplementary Material

Apraxia of Speech in the Spontaneous Speech of Nonfluent/Agrammatic Primary Progressive Aphasia

Supplementary Material 1. Speech errors produced by 30 naPPA patients, categorized as phonetic and phonemic, and listing of uninterpretable words.

Note: The word of interest in each item is given in boldface type.

Curly brackets contain comments. Words that listeners were unable to identify are indicated by two question marks within curly brackets.

Phonemic transcription is given between slashes. It uses the system of *The Atlas of North American English* [71], which indicates the structural status of vowels: monophthongs are represented by a single character and diphthongs and ingliding vowels are represented by two characters, one for the nucleus and one for the glide. For example, /o/ is the vowel of “cot,” and /oh/ is the vowel of “caught.” /a/ is the vowel of “la” and /ay/ is the vowel of “lie.”

Phonetic transcription is given in square brackets. It uses the International Phonetic Alphabet (IPA).

The targeted item on each line is given in boldface type. Some sentences contain both phonetic and phonemic abnormalities and are listed in both categories.

Phonetic errors

Bordgin {??} .. [kΛ<d] (kid) getting cook-eds {cookies} out the colture {cookie} jan {jar}

This is is ssi /fu/ {sister?}

A gə the /buwoy/ {boy} is taking cookies out of the cupboard

Waderver {water}- water running over and out the **dzink** {sink}

Is the wa- ə? water e? e? o? o? **over** {lenited v}

Kid {lenited d} girl

The mo- **mother's** {lenited interdental} /kΛ/ cooking

I see a wom-man **watching** {lenited t} dishes

Uh .. I see bushes .. uh oh, and a /tuwiy/ {tree} .. yeah uh outside.

ə they are **getting** {lenited /g/} ə i? {it}.

Dishes on the eh **cower** {nasalized, 'counter'}

And sink is overlo- ... forl- **overflowing**

Boy is ta- taking cookies out of the cookie /ʒer/ {jar}

mm .. and he .. /fyall/

I see a girl, um I um ... taking .. the c/owΛ/kie .. uh jar, um, c/uw</kie.

and her, water /oβi **flob**/ {lenited f}

Phonemic errors

Bordgin {??} .. [kʌ<d] getting cook-eds {cookies} out the **colture** {cookie} **jan** {jar}
the **sault's** is /foh/- the /sohl/, the s- stepstool he's on .. isn't gonna .. he isn't gonna, own bæ **ave**
/hau/ can they
and girl's, there, helping, to get **cookens** {cookies}
The boy's t- g- g- g- ge- ge getting the cookie **kay**
The kitchen ... and ... the boy is eh **r/ey/ching** {reaching} for the cookie jar
Water is, going on the- on the th- ssoak uh s- soak of the **vall**,
has a cup, two cups and another **place (plate)**.
I see um boy and .. the stool .. coo- um **cooking**, jar.
I see curtains .. at um, **win/tuw/** {window}
I see .. hm! ... um, **fortses** {faucets}, uh over flowing
Uh .. I see, um a dish towel, um ... lady using a dish **straw**, towel.
His **setser** {sister}, is laughing at him.
And the ... the, stool is **tepping** {tipping}
And the mother (ha)s /ka?/ {got} her back turned, and is washing dishes
And (**th**)ey's {she's/is} ... eh, oblivious to that
Uh the young girl is looking- reaching for the cookie **char** {jar}
And he's getting his **siftser** {sister} a cookie
Meanmaud, {meanwhile} the, uh sink is full of water .. um uh in this splashing down, the
sink um towards the floor
and the cookie **char** {jar}
his sister's, **hedging** {egging} him on
She was .. she wipe, she is wiping, the **dishuh** {dishes}
Fallking {falling} cookie.
Fall **cookookit** {cookie} {creaky, with tremor}
Mother .. is .. washing ə doing **dishs**
And his **sool**, his soo- stool is picking him over
Dishes, cup .. cups on the, counter and .. plate on the counter and, curtains at the win- **winden**
and **wind** {window} open
Good jar **coach** {cookie} jar's in .. **cabinets-sin**
There's a puddle of water o(n) **hor** {on the floor}
/ni/ {they, we, and?} can /sey/ {see} the neighbor's, window
I see the **poy** {boy}, falling off, the **c/ow/kie**,
I see, shoes on the **cor** {girl} .. /kuhr/ {girl} hm.
I see, **cambensen** {cabinets} .. **caben ness** {cabinets}.
She's, watching {washing} **ticket** {dishes}.
His **zizzer** {sister} is, **waiter** f(or) her cookie
and, g- girl .. de {the} /gogiy/ **char** {cookie jar}
the **four** {floor?}, the **four**, the thr- there's um
The mother ə uh isn't watching her **cherlum**, {children} her **cherldren** at all
a **gehr** {girl} .. ah .. **campee jug** {cookie jar}

I see um /**opelə** **prow**/ {overflow}, of, the sink.
the **thinkth- think** ss- **think's** overflowing

Uninterpretable words

Bordgin {??} .. [kʌ<d] getting cook-eds {cookies} out the colture {cookie} jan {jar}

This is a **horus**, isn't it?

G/uw/issississ.

Oof wə

And he's **saup** and over.

The stool that ... is .. the boy on **snixing** {??}, cookie jar.

They're gonna /**er**/ it

Yeah, yeah {whispered} her sslipping out, of her **vie** euh ... uh eh uh eh eh uh

He's reaching **tar** {??} too

/nuw/, the mother has on a dress

it was **kenning** over

eh, th- the .. boy .. raiding the zhə- ther- rok- **rackin** the tr- ah, ch- cookie jar

fab, fab {creaky}

and uh .. he handed ... **ig dir** girl .. ah, cookies

Water w- water **sis see fay**

With /**hu ay səz**/ to ge- getting that ə cookie kə- caə ə kə ə the cookies

There's /**huiya**/ /**priy wʌz**/, /**huayzʌ**/ outside the kitchen window

there's a, /**piʒə**/, and xxx xxx color

The **kill, dog** was .. near the **engit**

and they, **fass** .. and the **fee fash**

the **sault's** is f/oh/- the s/oh/l, the s- stepstool he's on .. isn't gonna .. he isn't gonna, own **bə ave hau** can they

Supplementary Material 2. Forced Alignment

To install the aligner on one's own machine, a user can go to:

<https://www.ling.upenn.edu/courses/ling521/Aligner1c.html>

One component of the system is HTK, the "Hidden Markov Toolkit", from Cambridge University. It is also freely available, but it must be downloaded directly from the source, as described at the link.

Users need to go to <https://htk.eng.cam.ac.uk/> ,
"register" <https://htk.eng.cam.ac.uk/register.shtml> ,
get an individual login/password, and then download it.