

# **Does Historical Linguistics have a place the L2 Classroom? Teaching German L2 Vocabulary**

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# Implicit/Explicit

**Implicit:** “without metalinguistic awareness”

**Explicit:** “with metalinguistic awareness”

(Ellis, 2009: 7)

**Implicit versus explicit learning conditions** [amenability of L2 grammar rules]

(Norris & Ortega, 2000; Spada & Tomita, 2010; Goo et al. 2015)

# Research Gaps

- **Unclear** how **generalizable** previous findings are to **other linguistic domains** (e.g., L2 vocabulary)
- **Unclear** how **applicable** they are to the **L2 classroom**

# L2 Vocabulary Research

## Incidental Vocabulary Acquisition: “by-product”

(Schmitt, 2010: 29)

Through:

**Reading:** Free Voluntary Reading (e.g., Krashen, 2004, 2011), Extensive Reading (e.g., Nation, 2015)

**Gaming** (Ranalli, 2008; Sundqvist, 2019)

**Television** (Peters & Webb, 2018; Feng & Webb, 2020; Rodgers & Webb, 2020)

# L2 Vocabulary Research

## **Intentional Vocabulary Acquisition:**

Various advantages of learning vocabulary intentionally

(Laufer, 2005; Schmitt, 2008; Elgort & Nation, 2010; Nakata, 2016)

**Theoretically grounded** in work on **human memory and learning**

(Atkinson & Shiffrin, 1968; Craik & Watkins, 1973; Craik & Tulving, 1975)

# Human Memory and Learning

- For **learning** to take place, **transfer** from **short-term** memory → **long-term** memory (Atkinson & Shiffrin, 1968)
- **Elaborative rehearsal** ( Craik & Watkins, 1973)
  - > a mechanism through which serial transfer can take place
  - > metacognitive strategy which encodes additional features to a memory trace

# Human Memory and Learning

- The **more information** or **cues** you have, the **easier** it is to **retain** and **retrieve** information
- **Association** building
  - create a link between a **novel stimulus** and **information** already **stored** in **long-term memory**
  - create a link L2 item and L1 item

# Human Memory and Learning

- **Association building** is the **foundation** for **widely used memory techniques**
  - **Method of Loci** (Yates, 1966)
  - **Mnemonics** (Worthen & Hunt, 2011)
  - **Keyword Method** (Atkinson, 1975)



# Present Study

- **English and German both Germanic languages**
- **Cognates:** traced back to the same ancestral form/etymon

## Recognizable:

- *Hand* ‘hand’, *Finger* ‘finger’

## Less recognizable:

- *Zimmer* ‘room’ [cognate. ‘timber’]
- *sterben* ‘to die’ [cognate. ‘starve’]
- *Zaun* ‘fence’ [cognate. ‘town’]

# Sound Changes

- **Examples:**

## Ingvaemonic Palatalization

[k > tʃ / \_\_\_[high front rounded vowels]: *Kinn* ‘chin’

## Second Germanic Sound Shift

[p > pʰ / \_\_\_initial position] (e.g., *pound* > *Pfund*)

[p > pʰ / V \_\_\_ V] (e.g., *copper* > *Kupfer*)

Meaning Prediction:

*Pfeife*

*Pfanne*

*kauen*

# Semantic Changes

- **Examples:**

- **Broadening/Narrowing:**

*sterben* [OE\* *steorfan* ‘to die’], narrowed in English [‘starve’]

- **Pejoration/Amelioration:**

*Knecht* ‘farmhand/stableboy’ [cognate. ‘knight’], amelioration in English

- **Change by association**

*Gebet* ‘prayer’ [cognate. ‘bead’], association of rosary beads and praying

\*OE = Old English

# Research Questions

# Research Question 1

Is there a statistically **significant difference** between the number of **cognates** acquired by L2 learners who received explicit diachronic instruction (**explicit condition**) and L2 learners who did not receive explicit diachronic instruction (**implicit condition**)?

# Hypothesis 1

Given the positive effects of **elaboration** and **association building** on human memory and learning (Hulstijn & Laufer, 2001; McNamara & Scott, 2001), the **explicit condition** is hypothesized to **outperform** the **implicit** condition.

# Research Question 2

Is there a **statistically significant** difference **between** the **two learning conditions** (implicit and explicit) in the number of German **cognates** L2 learners were **able to correctly predict the meaning of**?

Unlike RQ1, these are cognates which L2 learners will have not encountered before in their pedagogical intervention.

# Hypothesis 2

The **explicit condition** will **outperform** the **implicit** condition because the explicit condition will have a **toolkit** (i.e., declarative knowledge of the Second Germanic Sound Shift and Ingvaemonic Palatalization) from which the English cognate counterpart can be inferred.



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# Methodology

Learning Conditions	Training Sessions		Assessments
	Explicit	Implicit	
<p>Explicit Condition (<i>n</i> = 18)</p> <p>Implicit Condition (<i>n</i> = 17)</p>	<p><b>Sound Changes:</b></p> <p>2nd Ger. Sound Shift</p> <p>Ingveonic Palatalization</p> <p><b>Semantic Changes:</b></p> <p>Broadening, Narrowing, Pejoration, Amelioration, Change by Association</p>	<p>Task-based and communicative-based activities</p> <p>&gt; Reading</p> <p>&gt; Roleplay</p> <p>&gt; Two-way information gap</p> <p>&gt; Communication games</p>	<p><b><u>Vocabulary</u></b></p> <p><b>Pre/Post/Delayed-Post Test</b></p> <p>126 words (63 cognates, 63 non-cognates)</p> <p>Of the 63 cognates (42 cognates with sound changes, 21 with semantic changes).</p> <p>Of the 42 sound change cognates (21 encountered, 21 not encountered)</p> <p><b><u>Qualitative Survey</u></b></p>

N.B. *The same instructor taught both sections to account for the instructor as a confounding variable*

# Methodology

TABLE 1. Summary of Words on the Test

Word Type	<i>N</i>	
Distractors	63	
Cognates	Encountered	63
	42	Unencountered 21

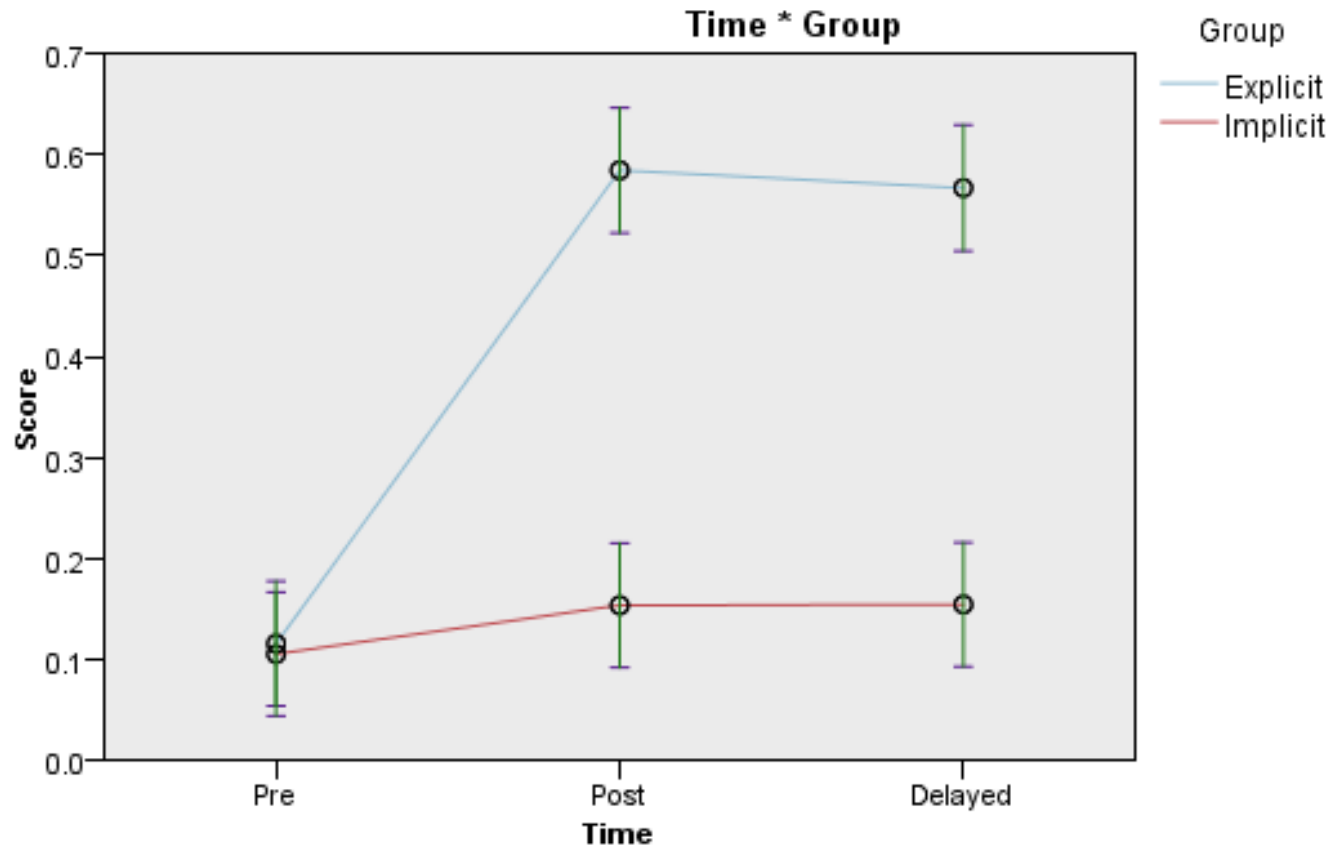
Encountered [ $n = 42$ ]:  
21 (semantic)  
21 (sound)

# Results

# Statistics

- Series of Linear Mixed Models (LMMs):
  - Dependent: Score (continuous)
  - Independent: Group, Time, Learner-L1
    - GROUP had two levels [implicit condition, explicit condition]
    - TIME had three levels [pre-test, post-test, delayed-post-test]
    - LEARNER-L1 had two levels [English, non-English]
- Random Factor: Learner

# Figure 1. Knowledge of Encountered Cognates (Mean)

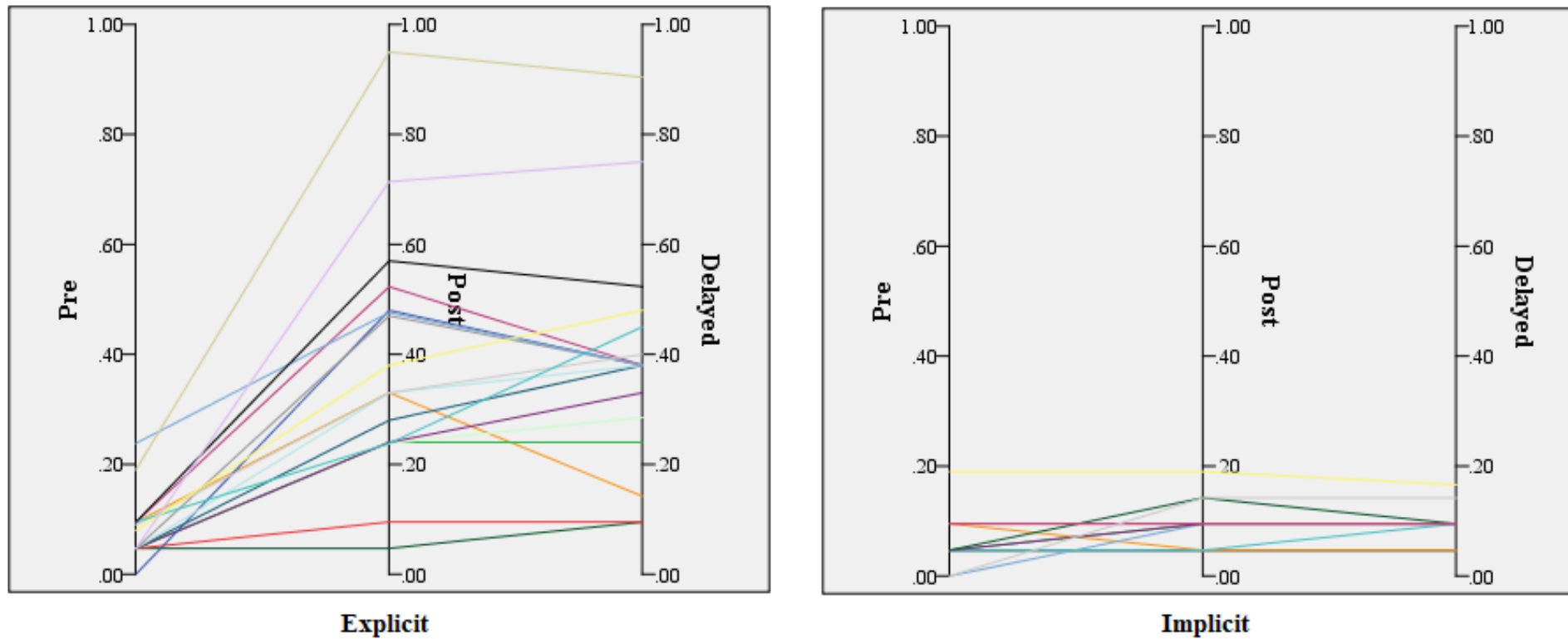


Significant effect of:

- **GROUP**  $F(1, 4,398) = 27,656, p = .001$
- **TIME**  $F(2, 4,398) = 138,307, p = .001$
- **GROUP  $\times$  TIME**  $F(2, 4,398) = 88,756, p = .001$

# Figure 2.

## Parallel Coordinate Plot of Individual Differences for Translation Accuracy of Encountered Cognates from Pre-Test to Delayed-Post-Test



# Follow-Up Models

- **Explicit Model:**

- confirmed that there was a significant effect of TIME  $F(2, 2,262) = 317,904, p = .001$
- Effect sizes:
  - pre-test to post-test:  $d = 1.1$  (CI = .38, 1.8)
  - pre-test to delayed-post-test:  $d = 1.0$  (CI = .35, 1.7)

**These results therefore confirm that the instruction the explicit condition received had a significant effect on the acquisition of German cognates**

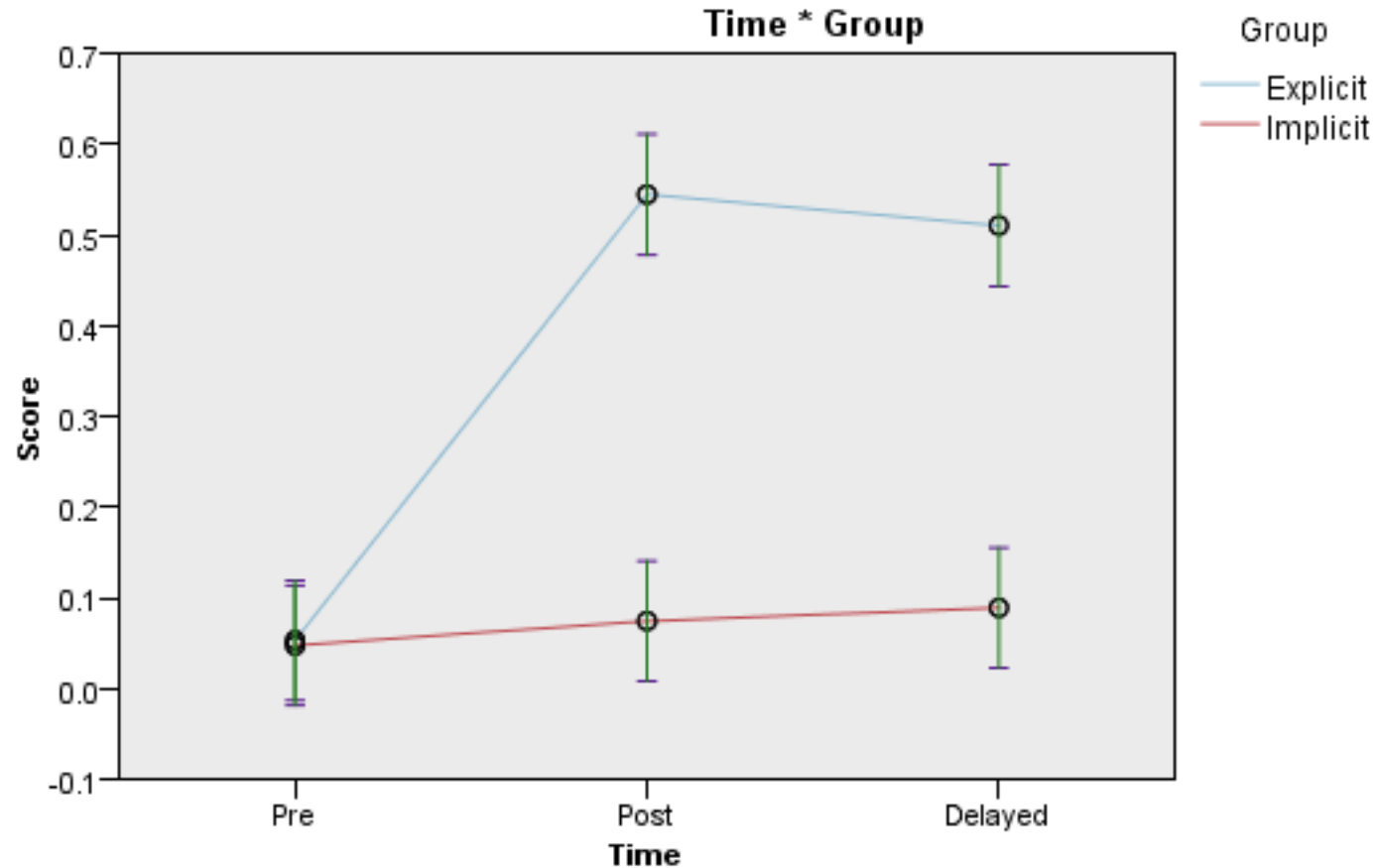
- **Implicit Model:**

- Although there was a significant effect from pre-test to post-test
- Effect sizes:
  - pre-test to post-test:  $d = .24$ , CI = -.43, .92
  - pre-test to delayed-post-test:  $d = .24$ , CI = -.43, .92

\*Plonsky & Oswald (2014): small ( $d = .40$ ), medium ( $d = .70$ ), large ( $d = 1.0$ )\*



# Figure 3. Knowledge of Unencountered Cognates



Significant effect of:

- **GROUP**  $F(1, 2,193) = 25,736, p = .001$
- **TIME**  $F(2, 2,193) = 83,147, p = .001$
- **GROUP  $\times$  TIME**  $F(2, 2,193) = 68,354, p = .001$ 
  - (\*LMM = Linear Mixed Model\*)

# Follow-Up Models

- Ran two separate models:
  - one using the TRANSLATION ACCURACY in the explicit condition
  - one using the TRANSLATION ACCURACY in the implicit condition
- Explicit Model:
  - confirmed that there was a significant effect of TIME  $F(2, 1128) = 71,033, p = .001$
  - pre-test to post-test:  $d = .74$  (CI = .06, 1.4)
  - pre-test to delayed-post-test:  $d = .74$  (CI = .06, 1.4)
- Implicit Model:
  - TIME not significant:  $F(1, 1,065) = 1,571, p = .340$

\*Plonsky & Oswald (2014): small ( $d = .40$ ), medium ( $d = .70$ ), large ( $d = 1.0$ )\*

# Conclusion

- **Explicit** condition significantly **outperformed** the **implicit** condition
- Intentional learning can **accelerate acquisition** process
- **Declarative knowledge** of the **historical changes helped** cognate acquisition (both encountered and unencountered cognates)
- Historical Linguistics may have a place in the L2 classroom

**Thanks for listening!**

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# **Extra: Vocabulary Items**

## 21 (semantic)

Cognate		Semantic Relationship
1. <i>weh</i>	‘pain’	cognate ‘woe’
2. <i>sterben</i>	‘to die’	cognate ‘to starve’ – semantic narrowing in English
3. <i>Weib</i>	‘woman (pej)’	cognate ‘wife’ – (OE* <i>wīf</i> ) used to mean ‘woman’
4. <i>versehren</i>	‘to injure’	cognate ‘sore’ – related to German <i>sehr</i> ‘very’ which used to mean ‘pain’
5. <i>Zimmer</i>	‘room’	cognate ‘timber’ – semantic narrowing in English and German
6. <i>Vogel</i>	‘bird’	cognate ‘fowl’ (OE <i>fugol</i> ) – semantic narrowing in English
7. <i>Gebet</i>	‘prayer’	cognate ‘bead’ – change by association
8. <i>beten</i>	‘to pray’	cognate ‘bead’ (same as <i>Gebet</i> )
9. <i>Zwilling</i>	‘twin’	cognate ‘two’ – German <i>zw-</i> is English <i>tw</i> – e.g., <i>zwischen</i> ‘between’
10. <i>Knecht</i>	‘servant’	cognate ‘knight’ (OE <i>cniht</i> ) – amelioration in English
11. <i>Tier</i>	‘animal’	cognate ‘deer’ (OE <i>deor</i> ) – semantic narrowing in English
12. <i>satt</i>	‘full’	cognate ‘sad’, originally meant <i>full</i> , as in <i>satisfy</i>
13. <i>selig</i>	‘holy’	cognate ‘silly’ – pejoration in English
14. <i>Waren</i>	‘goods’	cognate <i>-ware</i> , as in <i>silverware</i> , <i>hardware</i> and <i>warehouse</i>
15. <i>Burg</i>	‘fortress’	cognate <i>-burg(h)</i> as in Edinburgh (people used to live in a <i>Burg</i> )
16. <i>Bürger</i>	‘citizen’	cognate <i>-burg(h)</i> – people who lived in a <i>Burg</i> were <i>Bürger</i> (lit. ‘of the <i>Burg</i> ’).
17. <i>Zaun</i>	‘fence’	cognate ‘town’ (OE <i>tūn</i> ). Original meaning was enclosed space
18. <i>Bein</i>	‘leg’	cognate ‘bone’
19. <i>reißen</i>	‘to rip’	cognate ‘to write’ (OE <i>wrītan</i> ). People used to rip/carve into wood to ‘write’ something
20. <i>Urlaub</i>	‘holiday’	cognate ‘to allow’. It was necessary to ask permission to take ‘leave’
21. <i>wissen</i>	‘to know’	cognate ‘wit’ – (OE <i>witan</i> ‘to know’) – relict ‘to have your wits about you’

## 42 (sound)

<b>Ingvonic Palatalization</b> k > tʃ / ___ [high front rounded vowels]	
Encountered Cognates	Non-Encountered Cognates
<i>Kinn*</i> > chin <i>Käfer</i> > chafer (type of beetle) <i>Kerl</i> > cherl (archaic word for man)	<i>Krücke</i> > crutch <i>strecken</i> > to stretch <i>kauen</i> > chew
<b>Second Germanic Sound Shift</b> p > pf / # ___	
Encountered Cognates	Non-Encountered Cognates
pipe > <i>Pfeife</i> pan > <i>Pfanne</i> pound > <i>Pfund</i>	penny > <i>Pfennig</i> pole > <i>Pfahl</i> pepper > <i>Pfeffer</i>
p > pf / V ___ V	
to tap > <i>zapfen</i> copper > <i>Kupfer</i> drop (as in eye drops) > <i>Tropfen</i>	to hop > <i>hüpfen</i> to stamp > <i>stampfen</i> apple > <i>Apfel</i>
p > f / ( ___ <sup>nasal</sup> ___ <sub>liquid</sub> )	
open > <i>offen</i> weapon > <i>Waffe</i> ripe > <i>reif</i>	grip > <i>Griff</i> sharp > <i>scharf</i> to slurp > <i>schlürfen</i>
t > ts / # ___	
tongue > <i>Zunge</i> tin > <i>Zinn</i> toe > <i>Zeh</i>	to fart > <i>furzen</i> wart > <i>Warze</i> twig > <i>Zweig</i>
t > s / (# ___ v ___v)	
to let > <i>lassen</i> hate > <i>Hass</i> foot > <i>Fuß</i>	kettle > <i>Kessel</i> to sweat > <i>schweißen</i> nut > <i>Nuss</i>
[θ/ð] > d (# ___ v ___v)	
thing > <i>Ding</i> thirst > <i>Durst</i> these > <i>diese</i>	thorn > <i>Dorn</i> feather > <i>Feder</i> thistle > <i>Dissel</i>