

# Phonetics and Phonology of German

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# Das Funkalphabet

Germany*	Phonetic Guide	ICAO/NATO**
<b>A wie Anton</b>	AHN-tone	<b>Alfa/Alpha</b>
<b>Ä wie Ärger</b>	AIR-gehr	(1)
<b>B wie Berta</b>	BARE-tuh	<b>Bravo</b>
<b>C wie Cäsar</b>	SAY-zar	<b>Charlie</b>
<b>Ch wie Charlotte</b>	shar-LOT-tuh	(1)
<b>D wie Dora</b>	DORE-uh	<b>Delta</b>
<b>E wie Emil</b>	ay-MEAL	<b>Echo</b>
<b>F wie Friedrich</b>	FREED-reech	<b>Foxtrot</b>
<b>G wie Gustav</b>	GOOS-tahf	<b>Golf</b>
<b>H wie Heinrich</b>	HINE-reech	<b>Hotel</b>

<b>R wie Richard</b>	REE-shart	<b>Romeo</b>
<b>S wie Siegfried (3)</b>	SEEG-freed	<b>Sierra</b>
<b>Sch wie Schule</b>	SHOO-luh	(1)
<b>ß (Eszett)</b>	ES-TSET	(1)
<b>T wie Theodor</b>	TAY-oh-dore	<b>Tango</b>
<b>U wie Ulrich</b>	OOL-reech	<b>Uniform</b>
<b>Ü wie Übermut</b>	UEH-ber-moot	(1)
<b>V wie Viktor</b>	VICK-tor	<b>Victor</b>
<b>W wie Wilhelm</b>	VIL-helm	<b>Whiskey</b>
<b>X wie Xanthippe</b>	KSAN-tipp-uh	<b>X-Ray</b>
<b>Y wie Ypsilon</b>	IPP-see-lohn	<b>Yankee</b>
<b>Z wie Zeppelin</b>	TSEP-puh-leen	<b>Zulu</b>

<https://www.thoughtco.com/german-phonetic-spelling-code-1444663>

# What is phonetics?

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All possible sounds that can be used within any language. Includes elements such as a glottal stop [ʔ], diacritics (indicators of pronunciation - e.g. the two dots here [e̞] indicate breathy pronunciation and the use of a colon [ː] after a vowel indicates that it is long) etc

The “production and classification of the world’s speech sounds”

*Production* = physical interaction of vocal organs to make sounds

*Classification* = determining each distinct sound in a language and sorting it into a category.

## Consonants (Pulmonic)

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b			t d		ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ
Nasal	m	ɱ		n		ɳ	ɲ	ŋ	ɴ		
Trill	ʙ			r					ʀ		
Tap or Flap				ɾ		ɽ					
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Lateral fricative				ɬ ɮ							
Approximant		ʋ		ɹ		ɻ	j	ɰ			
Lateral approximant				l		ɭ	ʎ	ʟ			

Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

# International Phonetic Alphabet

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<https://www.internationalphoneticalphabet.org/ipa-charts/ipa-symbols-chart-complete/>

Iih ie		<b>der</b> Kalief [kali:f]
ieh	[i:]	<b>das</b> Sieb [zi:p]
		verliehen [fərli:ən]
I	[i]	frisch [friʃ]
ääh	[ɛ:]	Gäre [gɛ:rə]
		Mähne [mɛ:nə]
eä	[ɛ]	fressen [frɛsən]
		der Fussgänger [fusgɛŋəɐ]
eeh	[e:]	clever [kle:vəɐ]
ee		Meer [me:ɐ]
e	[ə]	pfeifen [pfaefən]
		bemalen [bəma:lən]
aah	[a:]	mahnen [ma:nən]
aa		Saal [za:l]

# German phonetics

<https://speakstarter.com/en/articles/theoretical-phonetics-of-the-german-language/>

ng	[ŋ]	hängen [hɛŋən]
r	[r]	Richtung [riçtuŋ]
r	[ʀ]	Gläser [glɛ:zəʀ]
h	[h]	hauchen [haʊxən]
l	[l]	Leser [le:zəʀ]
gj	[ʒ]	Genie [ʒeni:]
n	[n]	Niere [ni:rə]
m	[m]	Muster [mustəʀ]
vw	[v]	bewegen [bəve:gən]
		Venus [ve:nus]
yj	[j]	VW «Jetta» [jɛtə]

# German phonetics

# What is phonology?

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Combination of phonetics which can make intelligible speech.

“Processes in the mind” – more abstract.

PATTERNS

You can begin a German word with the consonant cluster “Fr” (eg Frisch) but not “Fn” (Fnisch??)

In short:

**Phonetics** = “production of speech sounds”.

**Phonology** = “patterns of sounds that make speech”

# Phonemes

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“The smallest sound units of language that bear meaning”.

e.g. “**S**ein” vs “**W**ein”, “**P**ferd” vs “**H**erd”

So what’s the difference between phonemes and phonetics?

1. Each language has different phonemes (e.g. “ä, ß, ö, ü,” vs “æ, é, ï”). **Phonetics are universal.**
2. **Phonemic** transcription is the representation of “abstract mental constructs”. **Phonetic** transcription involves **actual sounds**, so is more precise. A non-German speaker could, with knowledge of IPA, pronounce words perfectly.

e.g. /strun/ vs [stru:n] = ‘strewn’

e.g. /tɛnθ/ vs [t<sup>h</sup>ɛ̃ŋθ] = ‘tenth’

**Inventory** = list of the phonemes in a language.  
**Distribution** = where they can occur. – Helps us to identify allophones!



# Allophones

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“Different realisations of a phoneme”.

/strʌn/ vs [stru:n] = ‘strewn’

/tɛnθ/ vs [tʰɛ̃ŋθ] = ‘tenth’

“stop” vs “top” – variation in pronunciation, despite each ‘t’ being the same phoneme.

“try,” “butter” – a native speaker would regard these allophones as the same sound, despite the difference in pronunciation.

In short: phonemes are abstract sounds in the mind. Allophones are the natural variations of phonemes in speech, of which a native speaker is not consciously aware.

# German phonemes - Consonants

Consonant	Initially	Medially	Finally
[p]	passe ['pasə]	Raupen ['raʊpən]	riep ['ri:p]
[b]	Bass ['bas]	rauben ['raʊbən]	
[t]	Tasse ['tasə]	baten ['bɑ:tən]	riet ['ri:t]
[d]	das ['das]	baden ['bɑ:dən]	
[k]	Kasse ['kasə]	Haken ['hɑ:kən]	Sieg ['zi:k]
[g]	Gasse ['gasə]	Hagen ['hɑ:gən]	
[f]	fasse ['fasə]	Höfe ['hø:fə]	reif ['raif]
[v]	was ['vas]	Löwe ['lø:və]	
[s]		reißen ['raisən]	Reis ['rais]
[z]	Satz ['zats]	reisen ['raizən]	
[ʃ]	Schatz ['ʃats]	rauschen ['raʊʃən]	Rausch ['raʊʃ]
[ʒ]	Genie [ʒe'ni:]	Rage ['rɑ:ʒə]	
[ç]	China ['çi:na]	reichen ['raičən]	reich ['raič]
[x]		rauchen ['raʊxən]	Rauch ['raʊx]
[m]	Masse ['masə]	hemmen ['hɛmən]	Ramm ['ram]
[n]	nasse ['nasə]	Hennen ['hɛnən]	rann ['ran]
[ŋ]		hängen ['hɛŋən]	rang ['raŋ]
[l]	lasse ['lasə]	Kohle ['ko:lə]	will ['vil]
[ʀ]	Rasse ['rasə]	bohre ['bø:rə]	wirr ['vɪr]
[ɐ]			wir ['vi:ɐ]
[j]	Jacke ['jakə]	Koje ['ko:jə]	
[h]	hasse ['hasə]		

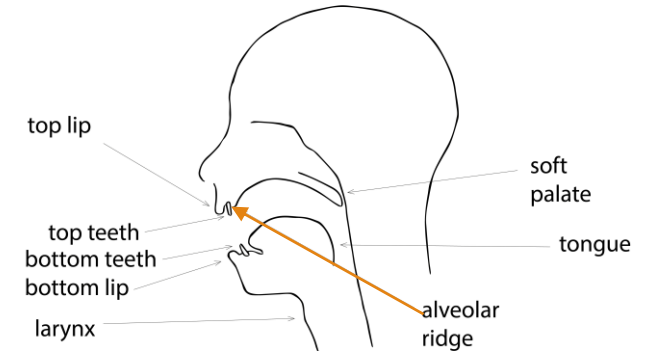
<sup>1</sup>This list, with certain minor changes, is taken from Moulton (1962:21).

# Phonemes vs Consonants (Standard German consonant system)

- 17/19 **obstruent phonemes**. (Obstruent = produced by *obstructing* the air flow. Can be ‘voiced’ or ‘voiceless’).
- 6 **plosives** = /p/, /b/; /t/, /d/; /k/, /g/
  - Voiceless stops = aspirated at start of word; unaspirated after /ʃ/ and /s/

“Panik” vs “Speise”

- Voiced stops = NOT aspirated at start of word
- 3/4 **affricates** = pf, ts (Zahl), tʃ (Deutsch), dʒ (Dschungel)



- Consonants = speech sounds “articulated with complete or partial closure of the vocal tract”

## Phonemes vs Consonants (continued...!)


- 8/9 **fricatives** = /f/, /v/ (**W**asser), /s/ (Wasser), /z/ (Hase), /ʃ/ (duschen), /ʒ/ (**G**enie), /ç/ (sicher), /x/ (Buch), /h/

-/ç/ and /x/ are often considered allophones

“[ç] occurs 1) initially, 2) medially and finally after /i,ɪ,y,ʏ,e,ɛ,E:,ï,û,aɪ,ɔɪ/, 3) after the consonants /n,l,r/.  
[x] occurs medially and finally only after /A,a,o,O,u,U/ and /aU/.”

- **Nasals** = /m/, /n/, /ŋ/
- **Semi-vowel/** vowel glide = /j/
- **Liquids** = vowel-like consonants: /l/ and /r/

# Phonemes vs Vowels

LONG		SHORT	
			
Stiele	[ˈʃti:lə]	Stille	[ˈʃtɪlə]
stehle	[ˈʃte:lə]	Stelle	[ˈʃtɛlə]
Buhle	[ˈbu:lə]	Bulle	[ˈbʊlə]
Sohle	[ˈzo:lə]	solle	[ˈzɔlə]
fühle	[ˈfy:lə]	fülle	[ˈfʏlə]
Höhle	[ˈhø:lə]	Hölle	[ˈhœlə]
fahle	[ˈfa:lə]	falle	[ˈfalə]

<sup>4</sup>This list is taken from Moulton (1962:61).

- Within German phonemes, there are 3 types of vowels: “checked” (= short), “free” (= long) and one unstressed vowel.
- 7 short vowels, 7 long vowels (in pairs)
- **The short vowels:** /ɪ, ɛ, a, ɔ, ʊ, ʏ (= ü), ʊ (=ö)/
- DIFFERENT WAYS OF TRANSCRIBING THE PHONEMES
- z.B. /i, y (ü), e, ø (ö)/ (produced with the tongue high and far forward)  
/ɪ, ʏ, ε, œ (ö) u, o/ (produced with the tongue high and far back)  
/a/ is produced with a lower tongue position.

*Long vowels sound about 2x as long as short vowels.*

# Phonemes vs Vowels (continued...)

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Stiele	[ˈʃti:lə]	Stille	[ˈʃtɪlə]
stehle	[ˈʃte:lə]	Stelle	[ˈʃtɛlə]
Buhle	[ˈbu:lə]	Bulle	[ˈbʊlə]
Sohle	[ˈzo:lə]	solle	[ˈzɔlə]
fühle	[ˈfy:lə]	fülle	[ˈfʏlə]
Höhle	[ˈhø:lə]	Hölle	[ˈhœlə]
fahle	[ˈfa:lə]	falle	[ˈfalə]

- 3 diphthongs = /aɪ, aʊ, oʊ/

/aɪ/ = **Reis**

/aʊ/ = **Maus**

/oʊ/ = **Kreuz**

- Unstressed vowel (schwa) = /ə/

z.B. ,biT@‘,

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<sup>4</sup>This list is taken from Moulton (1962:61).

# Resources

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<https://www.thoughtco.com/german-phonetic-spelling-code-1444663>

<https://www.phon.ucl.ac.uk/home/sampa/german.htm>

<http://users.monash.edu.au/~ewilkins/textbook/CHAP12.PDF>

<http://australianlinguistics.com/speech-sounds/phonemic-vs-phonetic/>

<https://www.internationalphoneticalphabet.org/ipa-charts/ipa-symbols-chart-complete/>

[https://www.jstor.org/stable/j.ctv9zcks7.7?Search=yes&resultItemClick=true&searchText=german&searchText=phonology&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3Dgerman%2Bphonology%26amp%3Bacc%3Don%26amp%3Bwc%3Don%26amp%3Bfc%3Doff%26amp%3Bgroup%3Dnone&ab\\_segments=0%2Fbasic\\_search%2Fcontrol&refreqid=search%3A4f2aec0e027f258ceceea69c9c00dd9b&seq=1#metadata\\_info\\_tab\\_contents](https://www.jstor.org/stable/j.ctv9zcks7.7?Search=yes&resultItemClick=true&searchText=german&searchText=phonology&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3Dgerman%2Bphonology%26amp%3Bacc%3Don%26amp%3Bwc%3Don%26amp%3Bfc%3Doff%26amp%3Bgroup%3Dnone&ab_segments=0%2Fbasic_search%2Fcontrol&refreqid=search%3A4f2aec0e027f258ceceea69c9c00dd9b&seq=1#metadata_info_tab_contents)

<https://all-about-linguistics.group.shef.ac.uk/branches-of-linguistics/phonology/how-is-phonology-studied/>

<https://all-about-linguistics.group.shef.ac.uk/branches-of-linguistics/phonetics/>

<http://www.phon.ox.ac.uk/jcoleman/PHONOLOGY1.htm>

<https://www.youtube.com/watch?v=J608Dbhs6J8>

<https://www.lawlessenglish.com/learn-english/pronunciation/consonants-voiced-unvoiced/>

<https://calleteach.wordpress.com/2010/01/10/sounds-of-english-nasals-liquids-glides/>

<https://dictionary.cambridge.org/dictionary/english/vowel>

<https://dictionary.cambridge.org/dictionary/english/consonant>

<https://eflcourses.blogspot.com/2016/03/obstruent-types-consonants.html>

<https://blog.abaenglish.com/affricate-and-fricative-consonants-in-english/>

<https://linguistics.stackexchange.com/questions/11884/phonemes-german-vs-english>