

## **On the Phonetic Similarity of the Word 'Tooth' in Various World Languages: Linguistic Notes of a Dentist**



**Mohammed Khalid Mahmood**

Department of Health & Biomedical Sciences, Aix-Marseille University, France

**ABSTRACT:** Some languages come from historical common ancestors and they share similarity on the basis phonology, morphology, syntax, semantics and pragmatics. Some words resemble each other between remote and even unrelated languages. Apart from historical borrowing, this is mainly due to common ancestor language. Degree of lexical similarity is one of the methods to measure word and cognate resemblance between languages. For this purpose, some lists have been proposed by professionals that contain words with the slightest possibility of borrowing from another language and the highest durability throughout time. The word for 'tooth' is present in all these lists. This shows the stability of this word and accounts for its similitude among world languages.

Language is a system of communication which consists of a set of sounds and written symbols which are used by the people of a particular country or region for talking or writing. Some languages come from historical common ancestors and they share similarity on the basis phonology, morphology, syntax, semantics and pragmatics. (Dictionary, 2014)

But how is it possible that words from two languages as disparate as Portuguese and Hindi may sound and imply the same? For instance, the word "nose" has a nasal sound in many languages, emphasizing the term's connotation. The words for red color have similar pronunciation in numerous languages; they are "red", "rouge" and "rot" in English, French, and German respectively. The letters "u" and "m" can frequently be found in the word "breast" throughout the world. This is presumably connected to the murmuring noises a nursing infant makes, which has a "um um"-like tone. For instance, the word "mumi" is frequently used in East Africa to describe the breast. Also it is known as "mune" in Japan, "mamun" in Pakistan, "meme" in Turkish, and "mama" in Kurdish. (Erdelyi, 2004)

Although not all languages are related, a significant portion of them are. Nearly 3 billion people are thought to speak an Indo-European language. This comprises the majority of the languages spoken in Europe and a sizable number in Asia. All of these languages are thought to have descended from a single language that started to split more than 5,000 years ago. The most common comparable words among these languages are numerals, which are virtually always cognates in the majority of Indo-European languages, though some of them may be difficult to distinguish due to phonetic variations. Following the numbers will come words indicating family members (mother, father, brother, sister), the most prevalent verbs (see, know, sit, know, eat, stand), adjectives (big, new, naked), natural objects and phenomenon (day, night, sun, earth, water, fire), prepositions and others (Nelson-Sathi et al., 2011).

Hence, similar words (cognates) may appear among different languages mainly due to:

1. Etymological roots from a shared parent language,
2. Simple linguistic borrowing.
3. Biological propensities and preferences: One example is the resemblance between the words for "mother" and "father" in many different languages. Since some sounds are simpler for babies to speak than others, names for the two adorable creatures who are always by the child's side are sometimes given using these sounds.
4. it's possible that word meanings and sounds are related. Even while classical linguistics held that there is no obvious relationship between sound and meaning, a new study reveals a favorable association between the two. In this research, two-thirds of the world's languages, which corresponds to 6000 different languages, were investigated by researchers. It appears that certain words in many unrelated languages employ the same sets of sounds more frequently than others (Blasi et al., 2016).

Calculating the lexical similarity coefficient between any two languages is one method for determining how similar two languages are. The table 1 below compares the lexical similarities of several European languages. Lexical similarity mostly relies on orthography and sound. In the past, different lists have been suggested by professionals like (Swadesh, 1955), (Bender, 1975) and (Haspelmath, 2008).

Table 1. Lexical similarity between selected Indo-European languages (Source: *Ethnologue.com*)

Lexical similarity coefficients											
	Catalan	English	French	German	Italian	Portuguese	Romanian	Romansh	Russian	Sardinian	Spanish
Catalan	1	-	0.85	-	0.87	0.85	0.73	0.76	-	0.75	0.85
English	-	1	0.27	0.60	-	-	-	-	0.24	-	-
French	0.85	0.27	1	0.29	0.89	0.75	0.75	0.78	-	0.80	0.75
German	-	0.60	0.29	1	-	-	-	-	-	-	-
Italian	0.87	-	0.89	-	1	-	0.77	0.78	-	0.85	0.82
Portuguese	0.85	-	0.75	-	-	1	0.72	0.74	-	-	0.89
Romanian	0.73	-	0.75	-	0.77	0.72	1	0.72	-	0.74	0.71
Romansh	0.76	-	0.78	-	0.78	0.74	0.72	1	-	0.74	0.74
Russian	-	0.24	-	-	-	-	-	-	1	-	-
Sardinian	0.75	-	0.80	-	0.85	-	0.74	0.74	-	1	0.76
Spanish	0.85	-	0.75	-	0.82	0.89	0.71	0.74	-	0.76	1

The words on the lists that have been suggested for lexical similarity are those that are least likely to have been influenced by other languages and are least likely to have changed over time. This is why the majority of these lists consist of names of bodily parts, animals, natural elements of the environment, and verbs used in everyday life. Since the first speakers of any language needed these names from the beginning and had plenty of time to firmly establish their roots in the society, they are less susceptible to change (Holman et al., 2011).

As a dentist and linguaphile, the similarity of the word for 'tooth' among different world languages has always fascinated me. Table 2 shows the word 'tooth' in various languages. Interestingly enough, the word for 'tooth' is present in the 100 words list of Swadesh (1950, 1972), Leipzig-Jakarta 100 words list and even in the short Dolgopolsky list (1964) which only contained 15 items.

Table 2. The word for 'tooth' in various world languages

English	Tooth
French	Dent (dɛ̃nt)
Arabic	Sin
Latin	Dens
German	Zahn (tsa:n)
Spanish	Diente
Portuguese	Dente
Italian	Dente
Greek	Donti
Hindi	Daant
Sanskrit	Danta
Persian	Dindan
Kurdish	Dan
Turkish	Dish
Afrikaans	Tand
Danish	Tand
Norwegian	Tann
Icelandic	Tönn

As it is clearly seen, the most frequent sounds present in this word are d, a, e, n and t. In Indian and Latin branches of the Indo-European family, the word begins with the sound 'd', while this shifts to 't' in languages that have Germanic roots. The first vowel of the word is mostly a, e or o; following by the n and t consonants. Lastly, in some languages there is a second vowel mainly composed of 'a' and 'e'.

## On the Phonetic Similarity of the Word 'Tooth' in Various World Languages: Linguistic Notes of a Dentist

This indicates the stability of this word. That means tooth has played a significant role in the hunter-gatherer man's existence, since it is essential to the entire nutritional process. Therefore, giving this crushing and grinding tool a name was both necessary and beneficial. Moreover, the first stage of any language formation involves naming the fundamental components of human life, particularly those of body parts. Thus, even the most distant and unrelated languages share certain similarities with one another in terms of these words and 'tooth' is a clear example.

### REFERENCES

- 1) Bender, M. L. (1975). Toward a Lexicostatistic Classification of Ethiopian Languages. *Bynon and Bynon, eds*, 377-388.
- 2) Blasi, D. E., Wichmann, S., Hammarström, H., Stadler, P. F., & Christiansen, M. H. (2016). Sound–meaning association biases evidenced across thousands of languages. *Proceedings of the National Academy of Sciences*, 113(39), 10818-10823.
- 3) Dictionary, C. E. (2014). Collins english dictionary. *Complete and Unabridged*.
- 4) Erdelyi, M. H. (2004). Subliminal perception and its cognates: Theory, indeterminacy, and time. *Consciousness and Cognition*, 13(1), 73-91.
- 5) Haspelmath, M. (2008). Loanword typology: Steps toward a systematic cross-linguistic study of lexical borrowability. *Empirical Approaches to Language Typology*, 35, 43.
- 6) Holman, E. W., Brown, C. H., Wichmann, S., Müller, A., Velupillai, V., Hammarström, H., Sauppe, S., Jung, H., Bakker, D., & Brown, P. (2011). Automated dating of the world's language families based on lexical similarity. *Current Anthropology*, 52(6), 841-875.
- 7) Nelson-Sathi, S., List, J.-M., Geisler, H., Fangerau, H., Gray, R. D., Martin, W., & Dagan, T. (2011). Networks uncover hidden lexical borrowing in Indo-European language evolution. *Proceedings of the Royal Society B: Biological Sciences*, 278(1713), 1794-1803.
- 8) Swadesh, M. (1955). Towards greater accuracy in lexicostatistic dating. *International journal of American linguistics*, 21(2), 121-137.



There is an Open Access article, distributed under the term of the Creative Commons Attribution–Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.