

# FACTS AND MISINTERPRETATIONS IN PHONETIC ACCOUNTS OF THE WORLD'S LANGUAGES

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## ABSTRACT

In this paper we examine accounts of “exotic” components of the sound systems of Iroquoian, Polynesian and Khoisan languages, and their implications for the history of phonetic studies and linguistics in general. On the basis of examples from European and American scholarship between the 17th and early 20th century we demonstrate recurring misconceptions in the description of consonant inventories, phonotactic structures as well as intra- and inter-speaker variation and change. Further, we examine their influence on the interpretation of other components of language and their role in the construction of a biased image of the languages and their speakers.

**Keywords:** Iroquoian, Polynesian, Khoisan, history of phonetics/phonology, “exotic” sounds

## 1. INTRODUCTION

In this paper we examine common motifs in the accounts of the sound systems of Iroquoian as well as Polynesian and Khoisan languages as examples of specific complexity in phonetic inventories. In particular, we investigate facts and misinterpretations in the description of seemingly “exotic” components of their sound systems when viewed from the perspective of more well-known languages, and discuss the implications of these accounts for the history of phonetic studies and linguistics in general. While the misinterpretations of “primitive” languages have been frequently acknowledged, no attempt has been made to deal systematically with the origin and implications of judgments about their sound systems. Finally, we demonstrate a complex continuity in the history of phonetics by showing that the controversies we discuss remain relevant in contemporary research while notions which were conceived as “misconceptions” have now materialized as actual research questions.

## 2. SOUND SYSTEMS IN IROQUOIAN, POLYNESIAN AND KHOISAN

### 2.1. Iroquoian

Iroquoian languages are characterized by small consonant inventories, restricted distribution of labials and nondistinctive voicing. Characteristic consonants include the laryngeal obstruents /ʔ, h/. If present, labials are largely restricted to idiolects and specific vocabulary, e.g. borrowings and expressive terms [22]. For example, in Cherokee /m/ appears in a few nouns, mostly borrowings, and is the only labial for many speakers; while /p, b/ were substituted in earlier loanwords, they now occur in loanwords in the speech of some speakers. Labial-like sounds appear as realizations of other sounds, e.g. [m] as an allophone of /w/ in Wyandot, [f] as an allophone of /w/ in Mohawk and Oneida [19].

### 2.2. Polynesian

Of the six Polynesian languages, Hawaiian appears most often in impressionistic accounts. With its 8 consonants Hawaiian belongs to languages with a small consonant inventory [20], and includes nasal /m, n/, plosive /p, k, ʔ/ laryngeal /h/, lateral /l/ and approximant /w/. Hawaiian has no voicing contrast in plosives and lacks spirants. The consonant-vowel ratio is low. Phonotactically, it is a CV language, with the glottal stop being the second most frequent consonant.

### 2.3. Khoisan

The wide use of clicks constitutes the main feature used to group languages referred to as Khoisan; otherwise, the languages differ in morphology, syntax and lexicon. All Khoisan languages use four basic clicks, i.e. dental /ǀ/, (post)alveolar /ǁ/, palatoalveolar /ǃ/ and alveolar lateral /ǁ̥/. Southern Khoisan is unique in its use of the fifth, bilabial click /ǀ̥/. Sandawe and Hadza use only /ǀ/, /ǁ/, and /ǀ̥/. Clicks are the rarest type of consonants in [21] and occur in 1.8% of the languages. Khoisan consonant inventories vary widely: the !Xóõ

system of 126 consonants is the largest in the world, while Nama has 32 consonants. However, all the languages are biased towards clicks; the proportion in Nama is 8:1. Phonotactically, these are CV languages, with clicks additionally restricted to word-initial position.

### 3. COMMON MOTIFS IN PHONETIC ACCOUNTS

Several common motifs can be distinguished in the description of “exotic” languages in European and American scholarship between the 17th and early 20th century. The accounts reveal often contradictory arguments concerning the “primitive” nature of the languages, and, more specifically, demonstrate recurring misconceptions in the description of phonology, lexicon, morphology and syntax. Here we focus on common motifs in phonology, in particular accounts of consonant inventories, phonotactic structures as well as intra- and inter-speaker variation and change.

#### 3.1. Deficiencies in inventories

Iroquoian and Polynesian languages were attributed with deficiencies in phonetic inventories based on real or alleged gaps among sounds found in European languages, as in the lack of labials in Iroquoian and the small consonant inventory in Hawaiian.

The first reference to the lack of labials in Iroquoian was made by Brébeuf [34], who gave an accurate, albeit negative, account of the Huron phonetic inventory and an impressionistic description of the way Huron sounds. References to the missing Iroquoian labials are common in 18th and 19th publications. For example, Lahontan [17] pointed to the lack of labials in Huron and the inability of Huron speakers to pronounce French labials. In addition to studies specifically dealing with American Indian languages, they were mentioned in 19th century accounts of history and customs of American Indians [24], and the assumed properties of primitive languages in general works on language, psychology and ethnology [2].

The features of Hawaiian which struck the first observers were open syllables, absence of consonant clusters and sibilants as well as the small number of consonants and vowels. For example, sibilants and clusters were regarded as “exceedingly difficult, if not impracticable, to the unlettered Hawaiian” [4] p.155. The small inventory, together with the

regular CV structure, gave the impression of monotony [1].

#### 3.2. Description of rare and peculiar sounds

Descriptions of sound systems also focused on rare and peculiar sounds. In addition to the “guttural” character of Huron, the glottal stop in Polynesian languages and clicks in the languages of Southern Africa are among the most frequent features mentioned in impressionistic accounts of rare sounds in “exotic” languages.

The glottal stop in Hawaiian, referred to as a “peculiar break” and “the guttural sound” [30], did not make an impression of a proper consonant on the first observers. Therefore, Hawaiian was perceived as a “vocalic” language, contributing to the impression of simplicity.

Clicks in Khoisan languages were typically described as highly unusual and difficult to learn for Europeans, thus giving the impression of being “strange and barbarous articulations” [35] p.11. However, due to their frequency they were also acknowledged to be essential for the structure of the languages. Speculations about their origin included the notions of onomatopoeic vocalizations and a evolutionary development from the noises used by Khoisan hunters to camouflage their presence among the noises of the environment.

#### 3.3. Vague character of phonetic elements

Finally, largely due to scientific limitations, sounds in “exotic” languages were described as “confused”, “vague”, or “fluctuating” with respect to the contrasts they were expected to produce. This fluctuation was further related to variation and articulatory limitations of the speakers.

Iroquoian languages were first attributed with a vague character by Sagard [27], who found an “instability of speech” among the Huron in terms of inter-speaker variation and diachronic change between ancient and modern Huron. Following Sagard, Monboddo [23] treated these properties of Huron as evidence of its primitive character.

Apparent confusions in Hawaiian involved the pairs /t – k/, /l – r/, /p – b/, /v – w/. For example, the confusion between /t/ and /k/ was attributed to “einem unwillkührlichen Vertauschen des vordern und hintern Theiles beim Anstemmen der Zunge an den Gaumen” [3] p.345.

#### 4. IMPLICATIONS

Accounts of phonological, lexical and grammatical properties of “exotic” languages contributed to a construction of a biased image of the languages and their speakers. Assumed cognitive deficiencies included an incapacity for abstract and rational thought, deductive reasoning, categorization and counting [25, 32]. In addition, polysynthetic morphology and the supposed lack of abstract terms were considered to be a barrier to cultural and social development, resulting in moral decadence, absence of social values, indolence and alcoholism [18]. Likewise, phonetic properties were mentioned in a variety of related contexts in descriptions of languages and their speakers.

##### 4.1. Description of languages

The sounds of “exotic” languages evoked a range of often contradictory impressions – from derogation (barking, spitting, guttural) to praise (poetic, melodious, bird song). In addition, both the lack and overabundance of vowels and/or consonants as well as the overall complexity of inventories informed the discourses involving the concepts of the “primitive” and “natural”. Based on such conflicting criteria, the phonetic structure was interpreted as that of a yet undeveloped or basic form of spoken communication.

In addition to the lack of labials, several 18th century accounts of Huron emphasized either its noble and euphonic character [8, 16, 17], or its “guttural” sound [11, 13, 23]. The lack of labials and the “guttural” sound of Iroquoian, as well as the lack of consonants and phonotactic complexity in Polynesian languages were said to characterize the primitive state of language [23]. The negative characterization of Iroquoian languages as “guttural” can also be found in 19th century studies. For example, Cass [7] pointed to the unusual and seemingly painful features of Huron. In contrast, Hawaiian was typically characterized as soft and melodious, and compared to “the warbling of birds [rather] than the speech of suffering mortals” [14] p.347. However, it was also considered to be insufficient as a means of linguistic expression [31].

Since phonetic description constitutes the starting point of a description of a language, accounts of sound systems also influence the interpretation of other components of language. An example is provided by Farrar [12], who criticized the enthusiasm for the supposed elaborateness,

exuberance and regularity of Iroquoian and South African languages, claiming that polysynthesis in Cherokee and clicks in Hottentot both constitute deficiencies.

##### 4.2. Speaker-oriented accounts of language

The sound systems of “exotic” languages were also interpreted as characteristic of features attributed to the speakers themselves. For example, the sounds of Huron were considered in the 18th century as evidence of not only the noble and regular character of the language but also of the primitive eloquence of the speakers [8, 16]. Along the same lines, Hawaiian was frequently described as childlike [33], and feminine [15], this in contrast with a “masculine” language like English.

Another type involves evolutionary interpretations in which the presence of clicks was regarded as “the bridge that marks the passage of inarticulate cries into articulate speech” [28] p.281, while the confusion between sounds in Hawaiian was compared to “the absence of articulation in the lower stages of the animal world” [26] p.172. A comparison with animals was also made in interpretations of peculiar sounds in “primitive” languages as resulting from articulatory restrictions [29].

##### 4.3. Description of speakers

Simplistic interpretations of phonetic elements were instrumental in creating images of the speakers in terms of their cognitive ability, cultural and social characteristics and natural environment.

Phonetic elements were seen as an indication of the “original mental tendencies” of individual races [5]. For example, the confusion between plosives in Hawaiian was attributed to “the inability of some races to distinguish, either in hearing or speaking, between some of the most normal letters of our alphabet” [26] p.167 as well as the “intellectual indolence” of “primitive” people [33].

Phonetic form was also seen as both indicative of and resulting from cultural properties of the speech communities. More extensive gaps in consonantal inventory in Iroquoian and Polynesian languages thus pointed to the limited means of expression, which in turn indicated a lower level of cultural development [29]. The unusual phonetic traits of Iroquoian and Polynesian languages were frequently related to social and environmental factors, e.g. their use in isolated communities and the resulting close social ties [10]. Most famously,

the characteristic phonetic features of Hawaiian were related to the environment by Jespersen [15].

Such interpretations were characteristic of 19th-century racist anthropology in which phonological, lexical and grammatical properties were linked with supposed cognitive, cultural and environmental factors.

## 5. CONCLUSIONS

Phonetic properties of Iroquoian, Polynesian and Khoisan languages discussed here underlie stereotypical images of languages and their speakers both in lay and professional accounts. The main limitations in the representation of the sound systems resulted from inadequate tools of phonetic/phonological analysis, confusion between sounds and letters as well as lack of overall linguistic training. These limitations and the resulting erroneous analyses were in fact frequently acknowledged in the period under investigation [6, 9]. In addition, phonetic description was shaped by the prevailing attitudes and prejudices to “exotic” languages and cultures, e.g., the idea of the Noble Savage. At the same time, the difficulties encountered by the first observers reflect fundamental issues in phonetic and phonological analysis such as the inevitable presence of extralinguistic information in speech and its impact on linguistic description. All the controversies discussed in the descriptions of “exotic” languages remain relevant and at least partially unresolved in modern phonetic research, e.g. the notions of naturalness and complexity of phonological systems as well as their interdependence and parametrization. In addition, notions which are often regarded as “ghosts of the past” have reemerged as unresolved research questions, e.g. the status of clicks as the rarest type of consonants and of small and large consonant inventories as examples of extremes in phonological complexity.

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