Debuccalization of *p in the Naha dialect of the Ryukyuan language

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The purpose of this paper is to examine debuccalization in the Naha dialect (hereafter shortened to 'Naha') of the Ryukyuan Okinawan language, and to show how this change affected the language's phonological system.

Concerning the historical development of Ryukyuan phonology, Iha (2000 [1910]), Hattori (1999 [1959]), Nakamoto (1976), and Thorpe (1983) claimed that *p* turned into *h*. Past studies also show that the *p* was *ϕ* at some point before becoming *h*. This change can be attested by historical documents written in Korean and Chinese (Tawata 2010 and Li 2015).
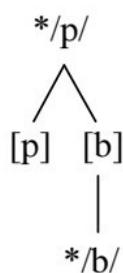
It is important to note, however, that this change did not necessarily occur in all dialects of the language – some still retained *p*. The word for 'nose' in Yoron dialect is *pana* (Kiku and Takahashi 2005), for example, while the same word is *hana* in Naha (Uchima and Nohara 2006). The same phenomenon of *h* and *p* can be traced to *p in Proto Ryukyuan (PR).

As this paper demonstrates, *p* did not in fact completely shift to *h*, but rather a split, i.e., *p* splitting to *p* and *h*. Indeed, there are examples where *p* still exists, even in those dialects in which the change is said to have occurred. We know that *p* exists because native speakers recognize *p* in [kampatʃi] 'scar', i.e., /kaɴpaci/, not /kaɴhaci/, and minimal pairs such as one in below exists in Naha.

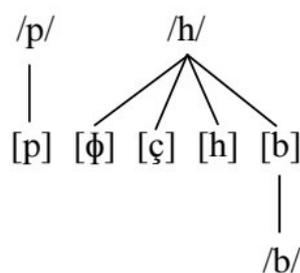(1) sampiɴ 'jasmine tea': sammiɴ 'calculation'

In Naha *p* and *h* are phonemic. The former can be realized as only [p]. Conversely, *h* can be [ϕ], [ç], [h], or [b]. The diagram below shows the relation between the phonemes and their allophones in both PR and Naha. (The diagram includes b to show that the sound [b] is an allophone of not only b, but also h in Naha.)

(2) Proto-Ryukyuan   Modern Naha dialect

Based on the distribution of the sounds [p], [ϕ], [ç], and [h] in the modern Naha phonological system, we hypothesize that there were three stages of changes in the complex structure of Naha's development. A spirantization of p to [ϕ] occurred first. When followed by the vowel *i* a palatalization of *p* occurred, turning *p* into the sound [ç]. The occurrence of [ϕ] was eventually limited to the environment followed by u, and [h] to the environment with non-high vowels. As a result, in addition to *p*, the phoneme *h* was also established.

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