The alternation of aspirated voiceless bilabial stop [p'] and its unaspirated counterpart [p] occurs in the morpheme [t'saʔ]. This raises an important general question: how exactly do phonological, morphological and lexical formation interact in the grammar? We argue that these phonetic alternations illustrate imperfect learning with the interference of analogical effect.

The speakers analogized these characters, which are similar in shape, with their pronunciations, and eventually pronounced them uniformly with the aspirated stops. In terms of perception and production, the speakers perceived that once these graphemes carry the same meaning, the stop does not matter. Consequently, the speakers pronounced them all with aspiration.

Aspiration is analogically implemented to the phonetic representations. Analogical effects came before phonetic alternation and triggered sound change.

In this case, phonetic alternations are motivated by phonological nicety. i.e. sound symbols. This is realization of the human mind at work creating links between sound and meaning.

For instance, the alternation of [b] and [b'] in the morpheme [pian], "slope" is a mimic of the sound "break into pieces". Aspiration plays a crucial role in the speaker's creation of the sign. By producing the aspirated retroflex affricate [p'ei], the atheist is released in a stronger burst of sound and the sound produced is more significant in comparison with its unaspirated counterpart. The onset [b] with the rest of the morpheme [p] creates a sort of sound effect that is somewhat like the collision in the auditory system.

The morpheme converges meaning via aspiration. Note that this differs from English where aspiration does not cause a contrasting meaning.

Proposition & Contribution
The dependency of the morpheme on the aspiration converges meaning via aspiration into the articular program as an aspirated and unaspirated onset.

Aspirational effects can be discerned before a phonetic innovation, however, there are cases where lexical and morphological factors be dominant.

Phonological variations or innovations in Singapore Mandarin do not always concern language contact and interference. We have demonstrated how acute cases, such as the relative periphrastic distinctions of aspirated vs. unaspirated, has shaped the sound patterns in the speech of Singaporean Chinese.