Giorgio ORLANDI
independent researcher; thegaygenius@gmail.com

On the classification of the Ng Yap dialects: some thoughts on the subgrouping of Sinitic languages*

The Ng Yap (formerly Sze Yap) dialects are routinely considered a branch of the Yue subfamily. This paper seeks to demonstrate that, contrary to this widespread opinion, these dialects show a wide range of distinctive features which, for formal purposes of language/dialect classification, may warrant their separation from the Yue subfamily. This paper also discusses the criteria which are often at the basis of language subgrouping in the field of Chinese linguistics. Nevertheless, this work should be regarded only as an attempt of stimulating a further discussion into a topic which has been overlooked for far too long.

Keywords: Ng Yap dialects, Yue dialects, language subgrouping, Sinitic languages, Chinese dialects.

«The chief danger to our philosophy, apart from laziness and woolliness,
is scholasticism, which is treating what is vague as if it were precise
and trying to fit it into an exact logical category»
Frank Pulmpton Ramsey, *Philosophical Papers*, 1929, p. 269.

1. Introduction

The Ng Yap dialects, formerly known as Sze Yap (or Seiyap), are spoken primarily in the Guǎngdōng and Guǎngxī provinces, as well as in Macao, Hong Kong and in many overseas communities. They are generally considered a branch of the larger Yue subfamily, and may be further divided geographically into two sub-branches, Xīn'ēn 新恩 and Kāihè 開鶴. The most prestigious and perhaps representative Ng Yap dialect[1] is Hoishanese ([hɔiꜜsanꜜwaꜜꜜ] or Toishanese).

* This paper incorporates elements of an unpublished draft presented during the 23rd International Symposium on Yue Dialects, which was held on 15th and 16th December 2018 at Jìnán University (Guǎngzhōu, PRC). In some cases, the present writer has followed the advices received; in other cases, this author has, instead, decided to follow his way, perhaps at his own peril. In general, the presentation has met with enthusiasm, though some specialists have stipulated that some revisions, which shall be illustrated and answered in the present paper, must be done.

[1] In the present paper terms such as 'language' and 'dialect' are basically interchangeable. The distinction is somewhat arbitrary, and, at times, based on criteria (e.g. prestige, correctness, *etc*.) which only show a certain degree of linguistic unsophistication (Trask, 2007: 49–50). In China, Mandarin Chinese is the standard language, which is to say that it is the codified variety superimposed over regional dialects, and typically used in formal settings and for education. Nevertheless, it is important to stress that no such thing as modern standard Chinese (*pǔtōnghuà* 普通話) existed, say, 200 or 300 years ago. Only recently a bunch of social and especially political measures have combined to give rise to a variety of Mandarin, also referred to as *guóyǔ* 國語 'national language,' accepted as the standard language in the whole country (Norman 1988: 135–137). In other words, we may agree with Max Weinreich in believing that "a shprakh iz a dialekt mit an armey un flot."

Descriptions and sources of information about the Ng Yap dialects are not abundant, even though they have a long history. One of the first mentions of a Ng Yap dialect (a variety called Llin-nen or Hsin-ning) can be found in Wells Williams's *A Tonic Dictionary of the Chinese Language in the Canton Dialect*, where it is stated that:

> The people from the district of Sinhwui 新會 lying south-westerly from Canton, exhibit the most remarkable peculiarities in pronunciation, and it is a puzzle to the scholars in the city how they should have originated. (Williams, *op. cit.* 1856: ix).

Of much greater interest is the section *Tǔyán* 土言 (local speeches) of the *Guǎngdōng xīnyǔ* 廣東新語, a work written by the scholar Qū Dàjūn 屈大均 (1630–1696), where we find scraps of information about the Xīnhuì dialect. For example, in this work it is mentioned that the eldest son is called *dzianŋ*[55] *dɔi*[55] 長仔 or *ᵐbʷɔn* (?) 冚 in Xīnhuì. It is curious to note that this last form is commonly used in Southern Mǐn (*ban*[1]) to indicate the youngest son. For instance, it was recorded in both the *Lūi-im Biāu-gō͘* 彙音妙悟 (1800) and the *Cheng-pó͘ Lūi-im* 增補彙集妙悟 (1820)[2]. In the former, it is assigned to the *dān* rime 丹韻 (*-an), with *wén* initial 文母 (*b-) and marked by an upper even tone; in the latter, it is instead described as belonging to the *gàn* rime 干韻 (*-an) with the *mén* initial 門母 (*b-). It is absent in Douglas' *Chinese-English Dictionary of the Vernacular or Spoken Language of Amoy* (1873), but it can be found in the *Supplement* added by Rev. Thomas Barclay (1923). It is also found in Ogawa's dictionary (1908: 551–553).

Returning to Ng Yap dialects, the first real description of the language is attributable to the New Zealand Presbyterian missionary Alexander Don (1857–1934).[3] In his two papers dedicated to the "Llin-nen variation of Cantonese," Don describes quite accurately the phonological system and the tonal behaviour[4] of the Xīnníng dialect, with an eye towards comparisons with standard Cantonese, as described by Williams (1812–1884) and Parker (1849–1926). Like Williams, Don is silent on the position of Xīnníng and on the internal structure of the Yue subfamily in general.

Other studies have been dedicated to the study and the description of Ng Yap. Among these, we may cite Yiu (1946), Chao (1951), Cheng (1973), Him (1980), Light (1986), Lee (1987), Tong (1997), Yue-Hashimoto (2006), Kwok (2006), Takekoshi (2017), *etc*. Few studies, however, are concerned with the classification of the Ng Yap dialects. Nevertheless, before analysing and discussing subgrouping within the Yue subfamily, the discussion would benefit from a paragraph dedicated to subgrouping within the Sinitic family in general.

2. Dialect classification and subgrouping: what should subgrouping be based on?

First a few questions: out of a group of languages, if two or more languages are more similar to each other, can we safely hypothesise that they are languages of the same group or family? *Pace* anyone who would answer 'yes,' the correct answer is actually 'no.' As any good textbook in historical linguistics has demonstrated, with ample and documented examples, overall similarities by no means imply genetic relationship or affiliation, because there are many reasons why languages exhibit similar characteristics, and relationship is not necessarily

[2] The best treatment of this work is Ang Uijin (Hóng Wéirén) 洪惟仁. *Huìyīn miàowù yǔ gǔdài Quánzhōu yīn* 彙音妙悟與古代泉州音 [The Lūi-im Biāu-gō͘ 彙音妙悟 and the sound system of the ancient Quánzhōu language]. Guólì zhōngyāng túshūguǎn Táiwān fēnguǎn 國立中央圖書館臺灣分館, 1996.

[3] See, for instance, Don 1883 and Don 1884.

[4] In the *Guǎngdōng xīnyǔ* it is mentioned that the Xīnhuì dialect often merges *píng* tones with *zè* tones (*Xīnhuì yīn duō yǐ píngzè xiāng yì* 新會音多以平仄相易).

one of them. What if two (or more) languages, very close each other, exhibit a common feature? Is it safe to suppose that those languages are related or members of the same family? Surprisingly, still not necessarily. For languages sometimes may exhibit similar or even identical characteristics not because they were inherited by from a common ancestor language, but because of parallel developments, just like Hakka resembles common Mǐn in that the upper and lower entering tones have switched their places (i.e. the so-called lower entering tone in fact is higher in pitch than the upper entering tone), but this is, in all probability, a parallel development. In evolutionary biology, the former (i.e. an homologous feature) is called homology; the latter (parallel developments) homoplasy. Not differently from biology, linguistics—and it is hoped that the reader will forgive the paternalistic tone of this statement—establishes language classification only on the basis of "synapomorphies," namely on "recent" shared homologies (i.e. shared innovations), because only shared innovations may prove that a closely relation is likely to exist between two or more languages, or may successfully give us information about phylogenies[5]. Thus, it is up to the competent linguist to ferret out common apomorphic (derived) characters, distinguishing them from plesiomorphic (primitive) features and from parallel developments.

2.1. The subgrouping of the Sinitic family

It seems that dialect classifications within the Sinitic family have generally relied on the phonemic features of medieval Chinese (Wang 1936, *cf.* Wang 1996: 249, Li 1937: 1–13, Ting 1982: 258).[6] According to Li Fang-kuei (1937, 1938), the treatment of medieval Chinese voiced and aspirated stops is a crucial feature for the subgrouping of Chinese dialects. Ting Pang-hsin (1982) suggested to separate "early historical features" (*zǎoqi lìshǐxìng de tiáojiàn* 早期歷史性的條件) from "late historical features" (*wǎnqi lìshǐxìng de tiáojiàn* 晚期歷史性的條件), although it is not very easy to understand what is meant by these two terms, and how to distinguish them. Norman (1988: 182) has proposed a classification according to phonological, grammatical and lexical items. Lau (2002: 82) has proposed a new classification which takes into consideration a feature which was apparently overlooked by most scholars, i.e. the sound change according to which the "voiced rising tone" (*zhuó shǎng* 濁上) becomes "voiced departing" (*zhuó qù* 濁去)[7]. One of the most valuable approaches, perhaps, is Simmons (1999), but he is apparently concerned only with Hángzhōu and Northern Wú in general[8].

It seems to the present writer that it is necessary to remark that the phonological approaches mentioned above represent, more often than not, more an attempt to demonstrate how a given Sinitic language or group of languages have evolved, in a somewhat mechanistic

[5] In biology, the scientific methodology which groups organisms on the basis of derived shared characteristics is called 'phylogenetic systematics' (also known as cladistics). The trend of grouping organisms which share derived features was apparently started by the German entomologist Willi Hennig, see Hennig 1950.

[6] In the opinion of the present writer, terms such 'early Chinese' or 'medieval Chinese' are more advantageous, so long as they are supposed to indicate a *Spracheinheit*, intended as an abstraction of linguistic (in this case mainly phonemic) features that may have been common to a given group of speakers, at some time or other, and not a living *koine*.

[7] For further knowledge about the sound change involving the voiced rising tone, see also Ho 1988.

[8] However, it seems that a series of related problems have pushed many scholars to adopt different approaches. Among these, we may mention the computational and statistical approaches that have been used by Zhōu Zhènhè 周振鶴 and Yóu Rǔjié 游汝杰 (1985), or by Cheng Chin-chuen 鄭錦全 (1987, 1994, 1996). Nevertheless, they suffer from serious linguistic flaws (see, e.g., Yue-Hashimoto 1991: 165), and will not be discussed in detail here. A similar, though much better, approach is suggested in Baxter 2006.

fashion, from the sound classes of medieval Chinese (if any), or an attempt to quantify how many medieval Chinese features have been preserved by modern dialects, than an analysis which focuses exclusively on those dialects and on their sound systems. This must be certainly misleading, for if the sound classes of medieval Chinese are used as a phlogiston which act as a constraint on linguistic reconstruction or classification, rather than acting as a device to broaden the horizon of possibilities, then they render the identification or reconstruction of deviant features or of different sound changes impossible a priori, as they introduce a bias toward what is frequent and regular in the sound system of rime tables. This should not be taken to imply that all the analyses which are based on medieval Chinese sound classes must be necessarily wrong, but the great confidence these scholars, or at least part of them, have towards medieval Chinese, as if it were a real language and not a diasystem which is the product of our theoretical abstractions, strikes the present writer as incredible.

In addition, it seems that the field of Chinese linguistics is also plagued with the widespread and undemonstrated belief, according to which unwritten features or deviant features must not be ancient, or must be derived from a sole common source (e.g. a given sound class of medieval Chinese). Many scholars also claim that the comparative method cannot be applied within the Sinitic family (Hirata 1988, Wáng 1999, 2004, 2005), because the monosyllabic structure of the Chinese morpheme, and the extensive borrowing throughout the Chinese speaking area render infeasible its application, ignoring the fact that the comparative method, which is independent of "lexical typology," is exactly a tool for eliminating chance resemblance, universals, and borrowings as plausible causes for cross-linguistic similarity.

All these prejudices may be understandable in view of the inevitable training to which the general Chinese historical linguist, including the present writer, is routinely submitted, but we must realise, once and for all, that we are in a more advantageous position, and thus we do not need to justify or accept our imprecise—and at times even grotesque—terminology/approach by tracing them back to the Míng (1368–1644) and Qīng (1644–1912) philological traditions[9].

Unfortunately, many scholars who have recognised the limits of the philological-phonological approach, instead of working within the framework of widely accepted, recommended practices of historical linguistics, have preferred to resort to "mutual intelligibility" as the main criterion for subgrouping, since structural methodologies based on phonological characteristics have been considered "too complex" (Tang 2017: 553). However, this writer is inclined to question mutual intelligibility as a criterion for language subgrouping, otherwise Spanish might well be considered a dialect of Italian, while Bergamasque should be regarded, instead, as a separate, distinct Romance language. In other words, shared innovations, instead of shared retentions (i.e. the retention of features from a common source, in this case the sound system of medieval Chinese) and mutual intelligibility, should be the principal criterion for subgrouping.

2.2. The subgrouping of Yue

The first attempt of subgrouping within the Yue subfamily has been made by Zhān Bóhuì (1981). Nevertheless, it seems that this attempt was prevalently aimed at validating an earlier

[9] It seems, however, that younger scholars are actively applying the 'comparative method' to gain further information about the morphophonological system of the various Chinese dialects. See, for instance, Chén Ruìqīng (2018), Wu Rui-wen (2014), Zhāng Jìngfēn (2013), *etc*. However, they are not concerned with subgrouping, and, in fact, are not entirely liberated from the post-Karlgrenian tradition which they apparently wish to reject. This, of course, holds true in part also for the present paper, but if the aim of this paper is to convince its critics, then it should use arguments that most of them would accept.

proposal by Yuán Jiāhuá (1960). More worth discussing is the classification of the various Yue languages spoken mainly in the Guǎngxī province by Yáng Huàndiǎn (1985). Yáng has recognised four branches within Guǎngxī Yuèyǔ, *viz.* Guǎngfǔ (Wúzhōu, Cāngwú, Hèxiàn, Dānzhú, Dà'ān), Yōngxún (Nánníng, Yángzhōu, Yōngníng, Chóngzuǒ, Níngmíng, Héngxiàn, Guìpíng, Píngnán, *etc.*), Gōulòu (Yùlín, Běiliú, Róngxiàn, Língxī, Téngxiàn, Méngshān), and Qīnlián (Qīnzhōu, Hépǔ, Liánzhōu, Língshān).

Xióng Zhènghuī (1987) represents the first attempt of subgrouping based on linguistic features. In his view, the most important feature was the treatment of medieval Chinese 'entirely muddy' initials (*quán zhuó yīn* 全濁音). He realised that medieval Chinese voiced initials had, in part, become voiceless aspirated; in part, they had become tenuis. To the former belongs the Wúhuà branch, which comprises the dialects of Wúzhōu, Huàzhōu and Zhànjiāng; to the latter belongs the Gōulòu branch, which includes the dialects of Sìhuì, Guǎngníng, Déqìng, Luódìng, Yùnán, Fēngkāi, Huáijí, Yángshān and Liánshān. Other three branches were recognised by Xióng on the basis of certain phonological features. For example, they all agree in having aspiration only with level and rising tones, not with entering and departing. Sìyì (Sze Yap) dialects (Táishān, Ēnpíng, Hèshān, Xīnhuì, Jiāngmén, Dòumén, Kāipíng) agree in having [h] for traditional *tòu* initials 透母 /*tʰ/. The Gāoyáng branch, which includes the dialects of Yángjiāng, Yángchūn and Gāozhōu, differs from Guǎngfǔ in showing a voiceless alveolar lateral fricative [ɬ] for traditional *xīn* initials 心母 /*s/.

A more recent, and more valuable subgrouping is provided in Yue-Hashimoto (2006). However, she relied mainly on mutual intelligibility, a criterion that the present writer is inclined to question.

If we exclude Yue-Hashimoto (2006), all other classifications have been based on both shared innovations and shared retentions, as dialects have been drawn close to each other both when they retained a feature of medieval Chinese (e.g. aspiration, voicing, *etc*.) or when they showed a shared innovation (e.g. when showing different phonemes instead of the expected ones, according to the sound classes of medieval Chinese). This must be only partially correct, since classification based on shared retentions is not a recommended practice in historical linguistics. Nevertheless, it is in the opinion of the present writer that these attempts are certainly valid, although better and more reliable results might be obtained by looking at those innovative features in morphology, phonemics and lexicon. As the subgrouping of the entire Yue subfamily is abundantly beyond the scope of the present paper, the analysis shall focus only on the Ng Yap branch.

2.3. In defence of the *Stammbaum* model

Since subgrouping often involves the internal classification of languages within a family, subfamily or group, normally represented in a family tree, it seems necessary to spend a few words defending the *Stammbaum* model, whose dismiss, it seems, has become fashionable in these years, especially in the field of Chinese linguistics. This writer is aware of the fact that network models are also recommended, especially when dialects are very close in space and in time, when there has been extensive borrowing between two or more languages, when the speciation of languages is never proceeded by an abrupt separation, or when each internal node of the alleged tree is constrained to represent virtually undifferentiated dialects (Ringe et al. 2002: 106). However, contrary to what many authors believe, the two methods are not mutually exclusive. Recently, network models for the subgrouping of Sinitic have been used by Zhang et al. (2018). Their approach, i.e. an admixture inference to decompose the underlining structure of the diversity of Sinitic languages based on phonemic inventories, is laudable but

does contain some peculiarities. They reject the *Stammbaum* theory, but feel safe to rely on migrations and on historical socio-genetic speculations. Alas, they do not provide illustrative examples and counter-examples, or make suggestions of what should be done with such language families as Sinitic where Tree models — they say — don't work. The relationship between languages/dialects and socio-genetic history is misleading: language is independent of genes, because social groups change their languages for different reasons and at different epochs. Nevertheless, Zhang et al. (2018: 4) state that Tree models are useless in Sinitic and only network models can work. This author insists that it is not fair, nor historically accurate, to call the entire Tree model theory into question on the grounds that it is based on an unrealistic concept or on an unsuitable scenario, especially when this claim is not discussed in detail, but is plagued with a partial misunderstanding of the Tree model itself, of its application, and of its finalities. Furthermore, since most of the old Sinitic linguistic territory is unknown, the *Wellentheorie* model cannot be applied in any meaningful way to determine dialectal relationship, at least not as Zhang et al. believe. There have been various attempts to determine how many "dialects" were spoken in Ancient China and to which modern, received languages they correspond. Some scholars even claimed to have discovered the relationship between some of the dialects of the Warring States period (475–221) and their received daughter languages (*cf.* Xǔ Wénxiàn 2001; Zhào Tóng, 2006; Hú Hǎiqióng, 2012). This writer may be mistaken, but what he sees here is an amazing lack of understanding of the linguistic history of what is present-day China (but back in those times was not) and the survivorship bias. We know that, prior to Cristoforo Colombo's first voyage in 1492, there were presumably twice as many languages as there are today. It is not difficult to imagine that, projecting backwards through time, there have reasonably existed thousands and thousands of languages, many of them also on present-day Chinese territory.[10] Therefore, in the absence of a clear and detailed description of the languages of the Warring States period (which is lacking), we cannot affirm which was the language of the reign/chiefdom X, Y or Z, and of which received language they were the alleged ancestors. This makes unknown most of the old linguistic territory of present-day China, *cum bona pace* of anyone who thinks otherwise. Hence, we are left with the *Stammbaum* model and the hypothesis according to which the various Sinitic groups have gradually dispersed, in a more or less unknown order (Mǐn dialects are typically considered to have split before other dialects, rightly in this writer's opinion, but the split order of other groups is not easy to detect), from a common ancestor (medieval Chinese? Early Chinese?) which can and has been reconstructed by means of a methodology, which, with all its limits and difficulties, has been continuously refined over the years.

Both Tree and Network models are discussed in Mahé and Wang (2006). Mahé and Wang also claim that the tree model is not suitable for Sinitic, because cases of diglossia are attested since ancient times, which is true in principle but only partly so. Diglossia was attested in other parts of the world just as well as in China: Greek, for instance, was spoken in Asia Minor and Southern Italy along with many other languages. Furthermore, it is not clear why they are so sceptical towards the *Stammbaum*, a method which they seem to misunderstand, and yet feel safe to rely so heavily on lexical items, in spite of the extensive borrowing which has occurred throughout the Sinitic-speaking area. In addition, in Mahé and Wang 2006, trees are rooted using Old Chinese, a language never well defined but always imagined in linguistic terms drawn from later periods, and reconstructed on the basis of sources of evidence which are far from being contemporary with each other. This writer does not seek to take issue with

[10] Authors such as Bickel (2014: 120, n.5) have calculated that there may have been half a million languages around 100k years ago, based on current rates of stability of languages and of language death.

the irenic spirit of their work, but it is necessary to voice one's disagreements over misconceptions in a linguistic debate, no matter how laudable one's work might be (and their work certainly is).

The *Stammbaum*, as a linguistic concept, is not an absolute, and it has been revised and improved many times in its long history. Yet, many critics treat it as if it were a universally-applicable method, static and immutable in time. In fact, as rightly pointed out by Rasmussen (1991: 467), the Tree model theory does not have the scope of telling us how linguistic unity came about or fell apart, but simply to inform us about the existence of unity and disunity of a group of languages. It does *not* postulate a past without variations, nor does it presuppose a lack of variation[11]. Thus, contrary to the opinion of many dialectologists, the *Stammbaum* theory may and does work within the framework of Sinitic (the testimony of other models, nevertheless, may yield even better results), and the huge autonomy of its individual branches plainly reflects the clear-cut splits of the Tree model, further validating both the *Stammbaum* model per se and its applicability within the Sinitic family. It follows that a subgrouping of the Yue subfamily or of the Ng Yap dialects based on the Tree model is perfectly reliable.

3. Peculiarities and innovations of the Ng Yap dialects

As discussed in section 2.2, it seems that there has always been, in the field of Cantonese linguistics, the general and implicit assumption that Ng Yap must not be a separate branch, despite all the striking divergences it shows.

To the best of this writer's knowledge, the general methodological procedure of stating that a language X is not part of the family Y would be: (a) list certain forms or features that are commonly diagnostic of all or most dialects of a given family; (b) show that a language does not belong to that family because it lacks most of these diagnostic forms and features, preventing it from being classified as such. Nevertheless, it seems that Yue dialects cover a wide range of diverging features, so it is difficult to know what Yue really is, and, in fact, the present writer suspects that Yue is instead a false taxon. For instance, a particularity of Yue dialects (excluding Ng Yap, Yángjiāng and Yángchūn) is their treatment of medieval Chinese 'entirely muddy' affricates as voiceless unaspirated consonants, and yet many exceptions can be found in Nánhǎi Jiǔjiāng, Fóshān, Gāomíng, Sānshuǐ, and other Yue dialects. The lower even tone merges with the lower departing tone in the dialects of Cāngwú and Guìpíng, but merges with the upper departing tone in the dialects of Shùndé and Nánhǎi. Given that no systematic reconstruction of proto-Yue has been done, and that we do not know whether those unusual phonemic features are retentions or innovations, this methodological procedure is probably excluded a priori, and we can only assume that Ng Yap dialects should be regarded as a distinct branch, because they do not behave like all other varieties of Yue are supposed to behave, especially in the treatment of initials and tones. Hence, we can use a sort of "*apophatic taxonomy*" to reach the conclusion according to which Ng Yap dialects are not Yue, by accumulating a list of features which are absent in any other variety of Yue besides Ng Yap.

The first scholar who systematically used Sze Yap data to gain further knowledge about the Yue subfamily and to reconstruct certain aspects of the sound system of proto-Yue is

[11] The very concept of 'variation' is somewhat misleading. Of course, for a discipline such as dialectology, which is all about variation, this concept is inevitably maximised, but general experience tells us that "variation is generally short-lived and territorially restricted" (Rasmussen 1991: 464).

McCoy (1966). Nevertheless, it is quite regrettable that McCoy's work showed no hint of interest in such a recommended practice of historical linguistics as internal reconstruction (rather, his reconstruction is fundamentally an assessment of the sound classes of these dialects on the basis of the ones found in rime tables), which may be extremely useful for exploiting many important data available since the end of the nineteenth century, when the systematic study of Ng Yap took place under the hands of Alexander Don (1883). It is likewise regrettable, in the opinion of the present writer, that McCoy (and others) did not show any knowledge of (or interest for) lexicostatistics, a method which is certainly not a recommended practice (with notable exceptions) in historical linguistics, but that, with all its uncertainties and shortcomings, could still be as good a way for dealing with data which are not easily verifiable.[12]

Generally speaking, the Ng Yap dialects show a wide range of features and innovations which are not shared by standard Cantonese and other Yue dialects. Apart from the set of correspondences argued in the previous sections, Hoishanese, Ēnpíng, *etc.* have prenasalised stops /ᵐb/ /ᵐd/ /ᵐg/. This peculiar feature appears to be a recent innovation, since there is no trace of it in Don's article. Prenasalised stops are also found elsewhere within the Yue subfamily, though they show some differences[13]. But Ng Yap, especially Hoishanese, also shows another type of nasalisation, which was recorded by Don, and that still occurs today, especially in those words which, according to traditional terminology, are classified as *yǐ* initials (*yǐmǔ* 以母):

In the version described by Don (1883), 'word' and 'play' are homophonous, while today we can observe that assimilation of the precedent velar nasal has occurred. This may lead us to talk about some of the many lenitions and fortitions that occurred in Hoishanese. Many words that originally had a velar nasal in initial position have changed their initial into a plain voiced velar plosive /g/, followed by the formation of a vocalic diphthong. Other varieties of Ng Yap, such as the Hèshān dialect, show a lenition of the bilabial plosive /p/ to voiced labiodental

[12] This is not to be taken to imply that the present writer recommends lexicostatistics and glottochronology, two methodologies of dating which are in fact partly independent of each other, as a way to establish genetic relationship. It is true that most linguists reject lexicostatistics and glottochronology (Campbell & Poser, 2008: 303 footnote), but to interpret them as two tools for establishing genetic relationship is neither fair to those scholars, such as Rafinesque and Broca, who contributed to invent them, nor historically accurate. Both lexicostatistics and glottochronology do not involve questions of proof, but can be pursued entirely within the frameworks of accepted linguistic families. In this specific case, they might be a useful tool to help establish a certain course for the study of the Yue family as a whole, and not to establish whether Ng Yap dialects do or do not belong to the Yue subfamily. Lexicostatistics has been clearly remodelled on the basis of radiometric dating, a scientific method which has proved successful in other fields of science. However, just like radiometric dating works only on rocks which cool from a liquid melt, such as basalts or granites, both of which solidify from lava, and not on fossils which were formed from dumped sediments, in the same way both lexicostatistics and glottochronology are not universally applicable practices. But to deny that they may have their advantages is a violence to the history of these methods and to all the serious practitioners who have helped to create, develop and adjust these techniques. For a lexicostatistical attempt to estimate the time depths of five major Sinitic languages, see Wáng Yùdé 1960; however, see Matisoff 2000 for a rejection of glottochronology in Sino-Tibetan linguistics in general.

[13] For this reason, scholars such as Ting Pang-hsin & Zhāng Shuāngqìng (2002: 207), or Liú Xīnzhōng (2010, personal communication) distinguish *bí guān sèyīn* 鼻冠塞音 (nasalised stops) from *hòu sè bíyīn* 後塞鼻音 (prenasalised stops). Although the present writer does not agree wholeheartedly with this terminology, he thinks that they are right in pointing out that a difference likely exists: in the case of Ng Yap we observe the articulation of a plosive segment which is realised with a brief period of air flow through the nasal cavity; in other cases, we observe a phonemic process where a segment, which does not involve oral closure (with consequent lowering of the velum), acquires nasalisation.

Table 1. Comparative table of Hoishanese words in traditional *yǐ* initials. Hoishanese pronunciations have been taken, with minor revisions, from Dèng Jūn 2006.

character	English gloss	Don's notation	pronunciation [IPA]
月[14]	moon	ngut	[ⁿgut³²]
日[15]	day	ngit	[ⁿgit²¹]
言	word	ngun	[ⁿgun²¹]
玩	play	ngun	[gᵘɔn³²]
雅	refined	nga	[ⁿga²¹]
牛	cow	ngeu	[ⁿgeu¹¹]
我[16]	I	ngoe	[gᵘɔ²¹]
眼	eye	ngan	[ⁿgan⁵⁵]
魚[17]	fish	*absent*	[ⁿgui¹¹]
外[18]	outer	*absent*	[ⁿgai³²]

fricative /v/, e.g., *pɛk[19] > *pak* > *viak* 'one hundred.'[20] Traditional *pāng* initials 滂母 /*pʰ-/ have become /h/ in both Hèshān and Kāipíng.

In most of Ng Yap dialects, the palatal approximant /j/ is an allophone of /ʒ/, but can also be an allophone of the close front vowel /i/ when used as a glide. Similarly, /w/ can be an allophone of the vowel /u/. The palatal sibilants are allophones of their equivalent alveolar sibilants in cases such as when the first vowel of the final consonant is a vowel which, according to the Jakobson-Halle distinctive feature system (1956), either is acute and non-flat /i/ or is characterised by a low second formant /u/. Like standard Cantonese, Hoishanese and other Ng Yap dialects aspirate in the lower rising tone and in the even tone, and routinely confine occlusive initials in the lower rising tones, but unlike Cantonese they do not develop aspirate stops into fricatives (Cantonese shows instead a marked predilection for fricatives over aspirates, even though the voiceless aspirated occlusive generally remains so in lower level and rising tones). The treatment of coronal sibilant /*s/ and postalveolar sibilant /*ʂ/ is very peculiar. These sibilant phonemes have presumably become a voiceless alveolar lateral fricative /ɬ/, as in Welsh.[21] However, this phoneme appears to be an areal feature: some linguists, such as

[14] In Hoishanese the word for 'moon' can be pronounced in the *shàng yáng rù* (high lower entering) tone [ⁿgut³²] as well as in the *xià yáng rù* (low lower entering) tone [ⁿgut²¹].

[15] The word *ngit* 'day' in modern Cantonese can be found only in the *xià rù* tone, while in the Hoishanese version described by Don it could be found in *shàng rù*, *zhōng rù* and *xià xià rù* tones as well (Don 1884: 479).

[16] The 1st person pronoun can be pronounced in the *yīn píng* tone as [gᵘɔ³³] (literal reading) and [gᵘɔi³³] (colloquial reading) and in the *yáng shǎng* tone as [gᵘɔi²¹].

[17] The literal reading of 'fish' is [ⁿgui¹¹], while its colloquial reading is [ⁿgui²¹]. 'Fish' can also be pronounced [ⁿgui¹¹⁻⁵⁵] or [ⁿgui²¹⁻⁵⁵] as a result of changed tone.

[18] 'Outer' deserves a special mention. It is a *yáng qù* word which is pronounced as [ⁿgai³²] (and which sometimes exhibits a changed tone phenomenon, [ⁿgai³²⁻⁵⁵]) or as [gᵘɔi³²], with assimilation of the velar nasal.

[19] This "proto-Ng Yap" form has been reconstructed by the present author.

[20] In Hoishanese the phoneme /v/ may have evolved from an ancient *w, see Lau 2007: 169–74. For further information about lenitions in Ng Yap dialects, see Zēng 2014: 96–104.

[21] In his monumental *Études* (Chap. VI), the great Swedish sinologist Bernhard Karlgren doubted about the existence of this phoneme: "[l]atérale dentale, orale, sourde, le 'll' du dial. celtique du pays de Galles, par ex. dans Llewellyn, existerait selon M. A. Don (China Review, Vol. XI) dans le parler de Sin-ning du groupe Yue, comme représentant d'un ancien s, renseignement qu'il faudra vérifier." For further reading, see Karlgren 1915–1926: 270.

Lǐ Jǐnfāng (2002) and Mài Yún (2010), attribute the distribution of /ɬ/ to a Kradai substratum, even though others (*cf.* de Sousa 2015) find this scenario problematic. This phoneme, however, is found also in Southern Gàn and in other dialects of North Fújiàn. The change from *s to ɬ is typologically unusual, but does have some parallels. Most Central Tai and Northern Tai languages show this sound change (probably via an intermediate stage of n̥, *viz.* *s > n̥ > ɬ). In addition, Arapaho exhibits the extremely unexpected sound change *s > n, via an intermediate stage of ɬ in the following way: Proto-Algonquian *s > ɬ > l > n (Jacques 2013)[22]. Furthermore, a sound change such as */s/ > /ɬ/ implies the simultaneous change of only few phonetic properties, *viz.* [lateral] [continuant]. Phonemes such as /*ts-/ and /*tʂ-/ have merged into a plain voiceless dentalveolar stop /t/, while /*t-/ and /*d-/ have completely disappeared. The aspirated dentalveolar stop /*tʰ-/ has debuccalised into the abutting voiced segment /h/, but this sound change is also observed in Xīnhuì Hécūn, Jiāngmén, Dòumén (Ng Yap) and Nánhǎi (non-Ng Yap, see Péng 1990). According to Zhāng Wèigāng (1943), in the Tàihé dialect of Jiāngxī both *duān* (*t-) and *tòu* initials have apparently become /h/.

Since Yue dialects exhibit only a limited number of morphological processes, in this paper much attention has been given to phonemics, because "phonemic mergers are clearly innovations" (Ringe et al. 2002: 70). If in biology two species are shown to be greatly diverse based on all those features which are controlled by anatomy, such as growth, metabolism, behaviour, etc., then *mutatis mutandis* two languages may be proven to be highly diverse (i.e. separated) on the grounds of those features which are controlled by phonemics, such as aspiration, tonal behaviour, etc.

3.1. Ng Yap innovations (tones)

A description of the tone classes of the Xīnníng dialect was already provided by Don (1883). It seems that very little, if anything, has changed since his times. The tonal behaviour of the various Ng Yap dialects resembles much more that of the Northern varieties of Chinese, than that of other Yue dialects. Like Guǎngfǔ and Gāoyáng, Ng Yap dialects aspirate in the lower rising and in the even tones, and generally confine occlusive initials to the lower rising tones, but unlike other varieties of Yue, the upper even tone has not assumed a falling cadence, and the upper rising tone has not become a very high level tone. Guǎngfǔ has developed a middle tone for words in the entering tone, while in Ng Yap they are in the upper series, where they presumably belonged at an older stage.

Traditional *yáng* tones are higher in pitch than *yīn* tones,[23] a feature rarely observable in Yue, but quite common in Hakka, Gàn, Wú and Xiāng dialects (Yue-Hashimoto 1988, 1991). A major innovation, observable exclusively in Ng Yap, is that the upper even tones have merged with the lower departing tones[24]. This feature is not observed elsewhere (see Table 2 below).

This phoneme should not be confused with the coronal lateral phoneme /ɬ/, which instead is realised with the back of the tongue raised towards the velum.

[22] For different solutions, see Picard 1994.

[23] The two terms are generally considered to be two labels for 'high' and 'low' (Bauer & Benedict 1997: 121). In fact, the two terms are misnomers, because there are dialects, such as Hakka and Mǐn, in which 'low tones' are actually higher in pitch. Thus, the two terms are in fact two impressionistic labels formerly applied to a given quality of the toneme, probably 'height,' but they should not be absolutised.

[24] Zhān & Cheung (1987) observed that the mid-rising tone of the Yǎyáo dialect (Hèshān) is also high-pitched. However, it seems to the present writer that this is, in all probability, a case of changed tone (*biàn yīn* 變音), as it only concerns few words (see also Yue 1991).

Hence, generally speaking, Ng Yap dialects show certain similarities in tones with other Yue dialects (especially with the Yángjiāng and Yángchūn dialects[25]), but also show distinct innovations.

3.2. Ng Yap innovations (rimes)

Concerning rimes, Ng Yap innovations are not numerous. The two most important innovations are as follows (Yue-Hashimoto 1991):

(a) traditional Grade II, III, IV rimes of the *xiè shè* 蟹攝 have merged. They show no vowel length contrast; thus, characters such as 街 'street' and 雞 'chicken,' which in standard Cantonese are respectively /ka:iɭ/ and /kɐiɭ/, in Ng Yap dialects such as Hoishanese are *gai*$^{21–55}$ and *gai*^{33}.

(b) *xiào shè* 效攝 Grade II rimes have merged with Grade I rimes of *liú shè* 流攝. Hence, Ng Yap dialects show no long vowel vs. short vowel contrast in words which are traditionally assigned to these categories.

Nevertheless, there are two things that we need to make clear at the outset: first, these sound changes occur also in the Yue dialects spoken at Téngxiàn, Ēnhè and Shínán; second, although it is stated that sound class X has changed into Y, we cannot be on a firm footing regarding the actual time when this change occurred. Actually, we cannot even be sure that this sound change did really occur. As stated in sections 2.1 and 3, medieval Chinese classes should not be used as a phlogiston which could provide a mechanistic explanation for ways in which sound changes have occurred in all Chinese dialects. In fact, medieval Chinese sound classes represent a North-South *mixtum compositum* of literary pronunciations from different epochs. Many scholars still continue to work within the framework of medieval Chinese sound classes, but it is a mere scholar convention, and medieval Chinese does not reflect a living language. In fact, it is hard to imagine that all those scholars who are mainly concerned with the assessment of medieval Chinese sound classes have never heard that "chaque mot a son histoire."

Since prevocalic glides have been considered traditionally a part of the rime,[26] vocoid approximants should be discussed in this section. If it is true that the four Grades of rime tables indicated the presence of certain glides, then it seems that in standard Cantonese they have disappeared; in most Ng Yap dialects, the two vocoid approximants /j/ and /w/ are clearly vowel-depending, which is to say that they occur respectively only before /ɛ/ and /ɔ/. This means that they are predictable phonetic onglides. In other Yue dialects which exhibit medial glides, these two vocoid approximants are not so predictable (*cf.* Lín Qīnjuān 2008).

3.3. Ng Yap innovations (initials)

As discussed in section 3, the Ng Yap dialects show a wide range of fortitions and lenitions. Nevertheless, most of these peculiarities, such as prenasalised occlusives or the presence of a voiceless alveolar lateral fricative which contrast with standard Cantonese /s/, are widely diffused among other Yue dialects. Another peculiarity which characterises most of Ng Yap dialects is the merger between traditional *kāikǒu* (with no **-w-*) and *hékǒu* (with **-w-*) *jiàn* 見 /*k-/ and *qī* 溪 /*kʰ-/ initials. But, again, this feature is observed also in Cāngwú, Guìpíng, Língxī, Róngxiàn, Xìnyí, Yángjiāng, Yángchūn, Zhōngshān, Zhūhǎi, *etc*.

[25] Yángchūn and Yángjiāng dialects are very similar to each other but they do show differences: for example, the Yángchūn dialect has only the *yáng rù* tone 53, while the dialect of Yángjiāng has both high upper entering (*shàng yáng rù* 54) and low upper entering (*xià yáng rù* 43) tones. See Liú Wěimín 2012: 17.

[26] In historical Chinese phonology, the rime (*yùn* 韻) may include a medial glide (*yùntóu* 韻頭), a nucleus (*yùnfù* 韻腹) and a coda (*yùnwěi* 韻尾).

Table 2. Distribution of this feature within the Yue subfamily. Data are taken, with minor revisions, from Yue-Hashimoto (1991) and Zhān & Cneung (1987, 1988, 1990, 1994, 1998). The grey slots indicate the Ng Yap branch. Regarding the presence of this feature in the Yángjiāng dialect, Yue-Hashimoto (1991: 169) includes it in her table 1, but does not include it in her further discussion of this feature. To the best of this author's knowledge, this feature is absent in Yángjiāng and Yángchūn, as well as in other non-Ng Yap varieties, with the sole exception being Xīnjiè, clearly a case of parallel development.

feature	dialect	presence/absence
merger of the upper even tone (陰平) with the lower departing (陽去)	廣州 Guǎngzhōu	–
	澳門 Macau	–
	增城 Zēngchéng	–
	花縣 Huā xiàn	–
	從化 Cónghuà	–
	信宜 Xìnyí	–
	南海九江 Nánhǎi jiǔjiāng	–
	順德大良 Shùndé dàliáng	–
	高要 Gāoyào	–
	高明城 Gāomíng chéng	–
	化縣 Huà xiàn	–
	蒼梧（滄州）Cāngwú (Cāngzhōu)	–
	玉林 Yùlín	–
	石南 Shínán	–
	橫縣 Héng xiàn	–
	賓陽 Bīnyáng	–
	南寧平話 Nánníng pínghuà	–
	東莞 Dōngguǎn	–
	寶安 Bǎo'ān	–
	新界 Xīnjiè	+
	廉江 Liánjiāng	–
	惠州 Huìzhōu	–
	北海 Běihǎi	–
	欽州 Qīnzhōu	–
	中山 Zhōngshān	–
	珠海 Zhūhǎi	–
	江門 Jiāngmén	–
	新會城 Xīnhuì chéng	+
	新會河村 Xīnhuì hécūn	–
	台山 Táishān	+
	開平 Kāipíng	+
	恩平 Ēnpíng	–
	鶴山 Hèshān	–
	斗門鎮 Dòumén zhèn	+
	陽江 Yángjiāng	+ (?)
	陽春 Yángchūn	–
	羅定（思賀）Luódìng (Sīhè)	–
	桂平江口 Guìpíng jiāngkǒu	–
	博白 Bóbái	–

There is, however, a feature which is exhibited only by Ng Yap dialects such as Hoishan, Kāipíng and Hèshān. Whereas all other dialects have *t-* or other consonantal initials (traditional *duān* initials /*t-/), Ng Yap has zero. Furthermore, if we exclude the dialect of Nánhǎi, and if we are forced to justify and rescue medieval Chinese consonantism, then we are advised to regard the vowel-like abutting segment *h-* of most Ng Yap dialects (including Dòumén, Ēnpíng, Jiāngmén, Xīnhuì) as a result of the following sound change: *t^h- > *h-*. This trend of dropping tenuis while preserving only their suprasegmental feature /*-^{h}/ is found only in Ng Yap varieties.

3.4. Ng Yap innovations (morphology)

One of the most interesting features exhibited by Ng Yap is the absence of plural markers for expressing plurality in personal pronouns.

Table 3. Hoishanese and Cantonese personal pronouns

person	singular			plural		
	Hoishanese		Cantonese	Hoishanese		Cantonese
	romanisation	IPA	jyut pin	romanisation	IPA	jyut pin
1st	ngoi (我)	[ŋɔɪɬ]	ngo5	ngoi (吾/呆/我)	[ŋɔɪɬ˩]	ngo5 dei6 (我哋)
2nd	ni (你)	[nɪɬ]	nei5	niek (汝/聶/偌)	[nɪɛk˩]	nei5 dei6 (你哋)
3rd	kui (佢)	[k^huɪɬ]	keoi5	kiek (劇/佉)	[k^hɪɛk˩]	keoi5 dei6 (佢哋)

As can be seen from Table 3, plurality is expressed in Hoishanese (as well as in other Ng Yap dialects) by a change in tone. This phenomenon is observable also in the dialect of Yángjiāng, but contrary to Ng Yap, which shows an "anomaly" in the first person plural, the Yángjiāng dialect expresses 'we' with /ŋɔkɬ/. Long ago, Antoine Meillet (1925: 27) had already stressed the importance of "les formes anomales," therefore it is in the opinion of the present writer that this 'exception' deserves much more attention than it has received.

3.5. Ng Yap innovations (lexicon)

Lexical analysis is often overlooked in historical linguistics. Although this author agrees on the fact that lexical analysis alone is not sufficient as a criterion for subgrouping, and that the testimony of morphology and phonemics is also required, the dismissal of lexical analysis a priori is certainly exaggerated.

Ng Yap dialects show a different set of interrogative pronouns for 'who' and 'which':

Table 4. Comparison of Ng Yap interrogative pronouns. Data are taken, with some revisions, from Yue-Hashimoto (1991: 175).

pronoun	Ng Yap	Yángjiāng	Zhōngshān	Gāozhōu	Huàxiàn	Téngxiàn
who	sui^{55} 誰	/mɐtˀ sɵyɬ˩/ 乜誰	/pinˀ sɵyɬ˩ / pin 誰	/mɐtˀ sɵyɬ˩/ 乜誰	/mɐtˀ sɵyɬ˩/ 乜誰	/mɐtˀ sɵyɬ˩/ 乜誰
which	nai^{21} gɔi^{33}哪一個	/pinɬ˩ kɔːɬ/ pin個	/pinˀ kɔːɬ/ pin個	/sɤœː nitˀ/	/senˀ tsɛːkɬ/ sen一隻	/binˀ kɔːɬ/ bin個

Hoishanese (and Ng Yap dialects in general) makes use of the morpheme *hɔu*[22] 毛 for 'head hair,' like Southern Gàn, instead of the neutral lexeme /fa:tɬ/ 髮. The use of the demonstrative pronoun *kɔi*[21] 該 for 'this,' instead of standard Cantonese /ni:˥/ 呢 (probably a Taic loanword, *viz.* níi < Proto-Tai *najᶜ), may suggest that Hoishanese has either replaced the old borrowing or that it has not borrowed the demonstrative pronoun for some unclear reason.

4. Final considerations

It is interesting to note that whichever are the criteria (including mutual intelligibility) utilised to determine which languages are more closely related to one another within the Yue subfamily, Ng Yap dialects appear to be a distinct, *sui generis* branch. Incidentally, no scholar, to the best of this author's knowledge, has ever demonstrated that the Ng Yap dialects are effectively a branch of the Yue family: it is, therefore, left to the sceptical audience to prove otherwise, a fallacious type of argumentation (*onus probandi incumbit ei qui dicet non ei qui negat*). Given that the Yue family has never been classified by means of the standard methodologies and procedures recommended by historical linguistics, one cannot but wonder why the Ng Yap dialects have always been implicitly considered a branch of Yue, in spite of the wide range of distinctions they show[27]. Since proto-Yue has never been reconstructed, and since no scholar, not even McCoy, has ever demonstrated how Ng Yap forms are effectively later, changed versions of earlier proto-Yue forms, we cannot just claim that Ng Yap is a branch which has simply undergone more radical changes than the other varieties of Yue[28].

But languages do not develop in a vacuum: they are socially, culturally and politically connected with their speakers. Thus, the question which now arises is: where do speakers of Hoishanese come from? The answer is unclear and certainly premature. In biology, when naturally selected features become so differentiated that two subsets are unable to reproduce with each other, we are forced to consider the two types to have developed into two separate species. Similarly, in linguistics, when a given language, which is spoken over any significant area, gradually differentiates and ends breaking up into rather distinct varieties, we may encounter regional dialects of that language which, given sufficient time, may become so different from one another that we are forced to regard them as separate languages. Hence, either

[27] During the 23rd International Conference on Yue dialects, many specialists agreed with the present writer in thinking that Ng Yap may not be a variety of Yue, with some of them even claiming that /kʰɵyɻɬ m̩ɬɻ hɐiɬ jy:tɬ jy:ɻɬ/ 'it is not Yue.' Others (few) completely rejected the idea, claiming that it cannot be proved that Ng Yap are not a branch of Yue, a claim which only shows an amazing lack of understanding, for scholars of such calibre, of the scope of the present paper. Those who were broadly sympathetic towards the argumentations of the present manuscript appeared to be, nonetheless, reluctant to the idea that Ng Yap may not be a variety of Yue, although they had to admit that the distinctions and the idiosyncratic features exhibited by Ng Yap dialects are not easily explainable. This writer may be mistaken, but it seems that the refutation of such a conclusion is motivated only by the desire of preserving at all costs the traditional subgrouping, which recognises the existence of Xiāng, Gàn, Mǐn, Wú, Hakka and Yue as the only varieties of Southern Sinitic.

[28] Perhaps, regionalism and provincialism have played a role in this game, reinforced by some lingering adumbrations of the normally involved and generally rather special political unity that has allegedly existed in many parts of the present-day Chinese territory. Moreover, empty concepts, invented in the recent years in the — nonetheless courageous and remarkable — attempt of replacing the English mistranslation of the Chinese word *fāngyán* 方言, such as 'regionalect' (*cf.* DeFrancis 1984: 57) and 'topolect' (*cf.* Mair 1991: 7, 2008) have probably added further fuel to the fire, with the result that, paradoxically, this undemonstrated classification has hardened into an orthodoxy that none have dared to challenge.

Ng Yap once was really a branch of proto-Yue whose evolution, nonetheless, involved linguistic changes so fundamental that now they should be considered to be different groups, or is a branch of another subfamily which was radically transformed under a Yue substratum when its speakers moved to the south-western coast of the Yue speaking area. Of course, another possible answer is that all the doubts expressed in this paper are circumstantial and not worth considering, and that Ng Yap is effectively and without any hint of doubt a branch of Yue. Solution of this problem goes vastly beyond the scope of the present paper, but if this work is allowed to dwell a little longer on this topic, then one might also hypothesise that the parent language of the various Ng Yap dialects was the language historically spoken by Song soldiers who were stationed in today's Guǎngxī, Fújiàn and Guǎngdōng provinces during the Southern Song epoch (1127–1279), possibly as a result of the loss of the capital of Hángzhōu at the hands of Mongol invaders. The presence of words such as *ɔn*[33] *ŋin*[22] 安人 for 'husband's mother,' which is the courtesy form used for officials' family during the Song dynasty,[29] is very suggestive, though still hardly sufficient to prove this scenario.

Be it as it may, Ng Yap vocalism resembles Hakka, its tonal behaviour is closer to the Northern varieties of Mandarin than to that of other Yue dialects, and it shows predictable phonetic onglides, unlike any other variety of Yue. Its consonantism also shows two unique features, namely the loss of tenuis and voiced dentalveolar plosives and the debuccalisation of an aspirated dentalveolar stop. The use of personal and interrogative pronouns also is much closer to Northern varieties of Mandarin than to any other Yue dialect.

The humble aim of this paper is to claim that Ng Yap shows a wide range of distinct features which *may* warrant its separation. Subgrouping or the placing of a given language within a family is inevitably a matter of weighing criteria on an arbitrary basis: one has to choose which features of a given language are the most important, and of course the perspective that one adopts inescapably changes the weighing that one gives. The present paper has chosen to give more emphasis to specific features of tonal behaviour, as well as to the morphological process involving the pluralisation of personal pronouns. Other phonemic features, such as the treatment of certain initial consonants and the presence of prevocalic glides, and a few lexical features, such as the use of interrogative pronouns, have also received special attention.

In concluding, although further effort is needed to strengthen the conclusions drawn in this paper,[30] it is in the opinion of the present writer that any other conclusion will require a whole lot of special pleading.

References

Ang, Uijin (洪惟仁). 1996. *Huìyīn miàowù yǔ gǔdài Quánzhōu yīn* (彙音妙悟與古代泉州音 [The Lūi-im Biāu-gō͘ and the sound system of the ancient Quánzhōu language]). Guólì zhōngyāng túshūguǎn Táiwān fēnguǎn (國立中央圖書館臺灣分館).

Atkinson, Quentin, Russell Gray. 2006. In: Peter Forster, Colin Renfrew (eds.). *How old is the Indo-European language family? Illumination or more moths to the flame? Phylogenetic methods and the prehistory of languages*: 91–110. Cambridge: MacDonald Institute Press.

Ball, James Dyer. 1890. The Tung-Kwun (東莞) Dialect. *The China Review* 18(4): 284–299.

[29] See the *Dà Sòng xuānhé yíshì* 大宋宣和遺事: http://open-lit.com/html/lit/562/19250.html.

[30] A good way might be to write down on a spreadsheet all the peculiar features exhibited by the various Yue languages, *e.g.* aspiration in the upper range of tones 1, merger of upper even with upper departing tones 2, etc., and to put it into a computer software, such as PAUP, which uses an algorithm to create a phylogenetic tree. This method is widely diffused in many areas of science, such as palaeontology (see, for instance, Brusatte et al. 2010).

Ball, James Dyer. 1907. *Cantonese Made Easy: A book of simple sentences in the Cantonese dialect, with free and literal translations, and directions for the rendering of English grammatical forms in Chinese*. Singapore: Kelly & Walsh.

Bauer, Robert S., Paul K. Benedict. 1997. *Modern Cantonese phonology*. Vol. 102. Berlin / New York: Walter de Gruyter.

Baxter, William H. 2006. Mandarin dialect phylogeny. *Cahiers de Linguistique — Asie Orientale* 35 (1): 71–114.

Bickel, Balthasar. 2014. Linguistic diversity and universals. In: N. J. Enfield, Paul Kockelman, Jack Sidnell (eds.). *The Cambridge Handbook of Linguistic Anthropology*: 101–124. Cambridge University Press.

Brusatte, Stephen L., Michael J. Benton, Julia B. Desojo, Max C. Langer. 2010. The higher-level phylogeny of Archosauria (Tetrapoda: Diapsida). *Journal of Systematic Palaeontology* 8(1): 3–47.

Campbell, Lyle, William J. Poser. 2008. *Language classification: history and method*. Cambridge University Press.

Chao, Yuen-Ren. 1928. *Studies in the Modern Wu Dialects*. Tsinghua College Research Institute Monograph, 4. Beijing.

Chao, Yuen-Ren. 1943. Languages and dialects in China. *The Geographical Journal* 102(2): 63–66.

Chao, Yuen-Ren. 1951. Taishan Yuliao (台山語料 [Corpus of Toishanese]). *Bulletin of the Institute of Historical Philology* (*Academia Sinica*) 23: 25–76.

Chén, Ruìqīng 沈瑞清. 2018. *Huángkēnghuà yǔ zǎoqí Mǐn běi yǔ* (黃坑話與早期閩北語 [The Huángkēng dialect and early Northern Mǐn]). Talk given at the The 2nd Li Fanggui Young Scholars Seminar (Institute of Languages, Academia Sinica).

Cheng, Chin-Chuan. 1982. A quantification of Chinese dialect affinity. *Studies in the Linguistic Sciences* 12(1): 29–47.

Cheng, Chin-Chuan. 1986. *Quantifying Affinity Among Chinese Dialects*. Language Learning Laboratory Technical Report LLL-T -10–86. Urbana, Illinois: University of Illinois.

Cheng, Chin-Chuan. 1987. A quantification of Chinese dialect affinity. In: Chinese Language Society of Hong Kong (ed.), *Wang Li Memorial Volumes English Volume*: 73–100. Hong Kong: Joint Publishing.

Cheng, Chin-Chuan. 1988. Hànyǔ fāngyán qīnshǔ guānxì de jìliàng yánjiū (漢語方言親屬關係的計量研究 [Quantitative studies of Chinese dialect affinity]). *Zhōngguó yǔwén* (中國語文 [Studies of the Chinese Language]) 203: 87–102.

Cheng, Chin-Chuan. 1991. Quantifying affinity among Chinese dialects. *Journal of Chinese Linguistics Monograph Series* 3: 76–110.

Cheng, Chin-Chuan. 1992. Syllable-based dialect classification and mutual intelligibility. In: *Chinese Languages and Linguistics (I): Chinese Dialects. Symposium Series of the Institute of History and Philology, Academia Sinica* 2: 145–177.

Cheng, Chin-Chuan. 1994. Hànyǔ fāngyán gōutōng dù de jìsuàn (漢語方言溝通度的計算 [Calculation of Chinese dialectal mutual intelligibility]). *Zhōngguó yǔwén* (中國語文 [Studies of the Chinese Language]) 238: 35–43.

Cheng, Chin-Chuan. 1996. Quantifying dialect mutual intelligibility. In: C.-T. James, Huang Yen-hui, Audrey Li (eds.). *New horizons in Chinese linguistics*: 269–292. Dordrecht: Springer.

Cheng, Teresa M. 1973. The Phonology of Taishan. *Journal of Chinese Linguistics* 1(2): 256–322.

D'Andrea, John A., Timothy Light. 1981. Toishan Glossary Project, an Interim Report. *Journal of Chinese Linguistics* 9(1): 130–137.

Defense Language Institute. 1964. *Chinese-Cantonese (Toishan) Basic Course*. Washington, DC: Defense Language Institute.

DeFrancis, John. 1984. *The Chinese language: Fact and fantasy*. Honolulu: University of Hawaii Press.

Dèng, Jūn (鄧鈞). 2006. *Táishān fāngyīn zìdiǎn* (台山方音字典 [Phonetic dictionary of Hoishanese]). Chángshā: Húnán jiàoyù chūbǎnshè (長沙:湖南教育出版社).

Dèng, Jūn 鄧鈞 (ed.). 2000. *Kāipíng fāngyán (fù yīndài)* (開平方言(附音帶) [The Kaiping dialect (with an appendix)]). Chángshā: Húnán diànzǐ yīnxiàng chūbǎn shè (長沙:湖南電子音像出版社).

Don, Alexander. 1883. The Llin-nen variation of Cantonese. *China Review* 11: 236–247.

Don, Alexander. 1884. The Llin-nen variation of Cantonese. *China Review* 12: 474–481.

Douglas, Carstairs. 1873. *Chinese-English dictionary of the vernacular or spoken language of Amoy, With the principal variations of the Chang-chew and Chin-chew dialects*. Trübner [Suppl.:] Commercial Press in Shanghai.

Dunn, Michael, Robert Foley, Stephen Levinson, Ger Reesink, Angela Terrill. 2007. Statistical reasoning in the evaluation of typological diversity in Island Melanesia. *Oceanic Linguistics* 46(2): 388–403.

Eiichi, Chishima (千島英一). 2007. *Honkon Kanton-go no kenkyū: Goi to gengo bunka o chūshin ni* (香港広東語の研究: 語彙と言語文化を中心に [A study of Hong Kong Cantonese from a viewpoint of vocabulary, language and culture]). Ph.D. thesis: Kanazawa Daigaku daigakuin shakai kankyō kagaku kenkyū-ka (金沢大学大学院社会環境科学研究科 [Graduate School of Social and Environmental Sciences, Kanazawa University]).

Eska, Joseph F., Donald A. Ringe. 2004. Recent work in computational linguistic phylogeny. *Language* 80(3): 569–582.

Evans, Steven N., Don Ringe, Tandy Warnow. 2006. Inference of divergence times as a statistical inverse problem. In: Peter Forster, Colin Renfrew (eds.). *Phylogenetic methods and the prehistory of languages*: 119–130. Cambridge: McDonald Institute for Archaeological Research.

Faith, Daniel P., Catherine A. Lozupone, David Nipperess, Rob Knight. 2009. The cladistic basis for the phylogenetic diversity (PD) measure links evolutionary features to environmental gradients and supports broad applications of microbial ecology's "phylogenetic beta diversity" framework. *International Journal of Molecular Sciences* 10(11): 4723–4741.

Farris, James S., Arnold G. Kluge, Michael J. Eckardt. 1970. A numerical approach to phylogenetic systematics. *Systematic Zoology* 19(2): 172–189.

Féng, Guóqiáng (馮國強) (ed.). 2012. *Sháoguān shìqū Yuèyǔ yǔyīn biànyì yánjiū* (韶關市區粵語語音變異研究 [Research on Cantonese Phonetic Variation in Shaoguan City]). Wànjuǎnlóu chūbǎnshè (萬卷樓出版社).

Forrest, Robert Andrew Dermod. 1948 [1965]. *The Chinese Language*. London: Faber & Faber.

Gān, Yú'ēn (甘於恩), Zēng Jiànshēng (曾建生). 2010. Guǎngdōng dìlǐ yǔyánxué yánjiū zhī ruògān sīkǎo (廣東地理語言學研究之若干思考 [Some Thoughts on the Study of Geographical Linguistics in Guangdong]). *Jìnán xuébào (zhéxué shèhuì kēxué bǎn)* (暨南學報哲學社會科學　版) 3: 20–27.

Gān, Yú'ēn (甘於恩). 2003. Sìyì fāngyán de xíngtài biàndiào (四邑方言的形態變調 [The morphological changes of the Sze Yap dialects]). In: Zhan Bohui (ed.). *Dì bā jiè guójì Yuè fāngyán yántǎohuì lùnwénjí* (第八屆國際粵方言研討會論文集 [Proceedings of the 8th International Cantonese Dialect Symposium]): 227–250. Beijing: Zhōngguó shèhuì kēxué chūbǎnshè (中國社會科學出版社).

Gān, Yú'ēn (甘於恩). 2008. Guǎngdōng liǎng Yáng Yuèyǔ yǔyīn tèdiǎn gàishuō (廣東兩陽粵語語音特點概說 [General description of the main charachteristics of the Yangchun and Yangjiang dialects]). *Guìlín shīfàn gāoděng zhuānkēxuéxiào xuébào* (桂林師範高等專科學校學報) 22(2): 1–6.

Gān, Yú'ēn (甘於恩). 2010. *Guǎngdōng Sìyì fāngyán yǔfǎ yánjiū* (廣東四邑方言語法研究 [Research on the Grammar of Guangdong Siyi Dialect]). Jìnán dàxué chūbǎnshè (暨南大學出版社).

Gray, Russell D., Quentin D. Atkinson. 2003. Language-tree divergence times support the Anatolian theory of Indo-European origin. *Nature* 426(6965): 435–439.

Hashimoto, Mantaro (橋本萬太郎). 1978. *Gengo ruikei-chiri ron* (言語類型地理論 [Language type geography theory]). Tokyo: Kōbudo (弘文堂).

Hashimoto, Mantaro (橋本萬太郎). 2010. *The Hakka dialect: A linguistic study of its phonology, syntax and lexicon*. Vol. 5. Cambridge University Press.

Hé Wénhuì (何文匯). 2009. *Yuèyīn píngzè rùmén-Yuèyǔ zhèngyīn shìlì (hé dìng běn)* (粵音平仄入門-粵語正音示例 [Introduction to Cantonese Tones — Cantonese Correct Sounds]). Míng chuāng (明窗).

Hennig, Willi. 1950. *Grundzuge einer Theorie der phylogenetischen Systematik*. Berlin: Deutscher Zentralverlag. Translated into English in 1966 as *Phylogenetic Systematics*, Annual Review of Entomology 10: 97–116.

Him, Kam Tak. 1980. Semantic-Tonal Processes in Cantonese, Taishanese, Bobai and Siamese. *Journal of Chinese Linguistics* 8(2): 205–240.

Ho, Dah-An (何大安). 1988. Zhuó shǎng guī qù yǔ xiàndài fāngyán (濁上歸去與現代方言 [Ascription of Voiced Rising to Departing Tone and Modem Dialects]). *Zhōngyāng yánjiūyuàn lìshǐ yǔyán yánjiūsuǒ jìkān* (中央研究院歷史語言研究所季刊) 59: 115–140.

Hóu, Xìngquán (侯興泉). 2016. Yuèyǔ gǔ quánzhuó shēngmǔ jīndú zhuóyīn de lèixíng jí chéngyīn — jiānlùn gǔ quánzhuó shēngmǔ jīndú zài fāngyán fēnqū zhōng de zuòyòng (粵語古全濁聲母今讀濁音的類型及成因 — 兼論古全濁聲母今讀在方言分區中的作用 [The Types and Causes of the Voiced Sounds of the Ancient Cantonese Voiced Initials — On the Role of the Ancient Voiced Initials in the Dialect Division]). *Yǔyán jì yǔyánxué* (語言暨語言學) 17(5): 661–678.

Hsie, Hsin-I (謝信一). A new method of dialect subgrouping. *Journal of Chinese Linguistics* 1(1): 64–89.

Hú, Hǎiqióng (胡海瓊). 2012. Cóng chūtǔ wénxiàn kàn shànggǔ Chǔyǔ de xìngzhì (從出土文獻看上古楚語的性質 [On the nature of ancient Chu language from the unearthed literature]). *Xuéxí Yuèkān* (學習月刊) 16: 10–16.

Huáng, Jiànyún (黃劍雲) (ed.), Yè Guóquán (葉國泉) (rev.). 1990. *Táishān fāngyán* (台山方言 [The Taishan Dialect]). Guǎngzhōu: Zhōngshān dàxué chūbǎnshè (中山大學出版社).

Jacques, Guillaume. 2013. The sound change *s- > n- in Arapaho. *Folia Linguistica Historica* 34(1): 43–58.

Jacques, Guillaume, Johann-Mattis List. 2018. Save the trees: Why we need tree models in linguistic reconstruction (and when we should apply them). *Journal of Historical Linguistics* 8(2): 128–166.

Karlgren, Bernhard. 1915–1926. *Études sur la phonologie chinoise*. Archives d'Etudes Orientales.

Krishnamurti, Bhadriraju, Lincoln Moses, Douglas G. Danforth. 1983. Unchanged cognates as a criterion in linguistic subgrouping. *Language* 59(3): 541–568.

Kwok, Bit Chee (郭必之). 2006. Yīduàn wéiguān de Yuèyǔ shǐ: Zhūjiāng sānjiǎo jiāng bā zhǒng yuèyǔ fāngyán de fēnqún (一段微觀的粵語史：珠江三角江八種粵語方言的分群 [A microscopic Cantonese history: the grouping of eight Cantonese dialects in the Pearl River Delta]). In: Ho Dah-an (ed.) *Shān gāo shuǐ cháng: Dīng Bāngxīn xiānshēng qī zhì shòuqìng lùnwénjí* (山高水長: 丁邦新先生七秩壽慶論文集 [High as mountains and long as rivers: Festschrift in honor of Ting Pang-hsin for his seventeenth birthday]): 701–739. Táiběi: Zhōngyāng yánjiuyuàn yǔyánxué yánjiū suǒ (中央研究院語言學研究所).

Kwok, Bit Chee, Andy C. Chin, Benjamin K. Tsou. 2016. Grammatical diversity across the Yue dialects. *Journal of Chinese Linguistics* 44(1): 109–152.

Lau, Chun-fat (劉鎮發), Liáng Huìmǐn (梁慧敏). 2011. Zhūjiāng sānjiǎozhōu fāngyán yīn rùshēng shòu Guǎngzhōuhuà yǐngxiǎng de yǎnbiàn qíngkuàng (珠江三角洲方言陰入聲受廣州話影響的演變情況 [The Cantonese influence over the evolution of the lower entering tone in the Pearl River Delta dialects]). *Yǔyán yánjiū* (語言研究 [Studies in Language and Linguistics]) 4: 92–97.

Lau, Chun-fat (劉鎮發). 2002. Hànyǔ fāngyán de fēnlèi biāozhǔn yǔ "kèjiā huà" zài hànyǔ fāngyán fēnlèi shàng de wèntí (漢語方言的分類標準與"客家話"在漢語方言分類上的問題 [Criteria for Chinese dialect classification and the problem of the position of the Hakka dialect in Chinese dialect grouping]). *Journal of Chinese Linguistics* 30(1): 82–96.

Lau, Chun-fat (劉鎮發). 2007. Xiàndài fāngyán de [j] zhuócāhuà — fùlùn Zhōnggǔ xiémǔ de xíngchéng (現代方言的[j]濁擦化—附論中古邪母的形成 [The voicing and fricativisation of [j] in the modern dialects— and the formation of the *xié* initial in Middle Chinese]). *Zhōngguó yǔwén* (中國語文) 317(2): 169–174.

Lee, Gina. 1987. A Study of Toishan F0. *Ohio State University Working Papers in Linguistics* 36: 16–30.

Lǐ, Dōngxiāng (李冬香). 2010. Yuèběi tǔhuà xiǎochēng biànyīn de biànyì yánjiū (粵北土話小稱變音的變異研究 [Research on Northern Cantonese changed tones]). *Jìnán xuébào (zhéxué shèhuì kēxué bǎn)* (暨南學報哲學社會科學版) 32(1): 111–116.

Li, Fang-Kuei. 1937. *Languages and Dialects of China*. The Chinese Yearbook. Shanghai: Commercial Press (Reprinted in Journal of Chinese Linguistics, 1:1–13).

Lǐ, Jǐnfāng (李錦芳). 2002. *Dòng Tái Yǔyán yǔ Wénhuà* (侗台語言與文化 [Tai-Kadai Language and Culture]). Beijing: Mínzú chūbǎnshè (民族出版社).

Lǐ, Jìngzhōng (李敬忠). 1990. Yuèyǔ shì Hànyǔzú qún zhōng de dúlì yǔyán (粵語是漢語族群中的獨立語言 [Cantonese as an independent language in the family of Chinese languages].) In: Zhan Bohui (ed.). *Dì èr jiè guójì Yuè fāngyán yántǎo huì lùnwén jí* (第二屆國際粵方言研討會論文集 [Proceedings of the 2nd International Cantonese Dialect Symposium]): 22–29. Guǎngzhōu: Jìnán dàxué chūbǎnshè (暨南大學出版社).

Lǐ, Lìlín (李立林). 2010. *Dōngguǎn Yuèyǔ yǔyīn yánjiū* (東莞粵語語音研究 [Dongguan Cantonese Speech Research]). Ph.D. Thesis. Guǎngzhōu: Jìnán University.

Light, Timothy. 1986. Toishan affixal aspects. In: John McCoy, Timothy Light (eds.). *Contributions to Sino-Tibetan studies*: 415–425. Leiden: Brill.

Lín, Bǎisōng (林柏松). 1990. Shùndéhuà zhōng de "biàn yīn" (順德話中的"變音" [Changed tones in Shunde dialect].). In: Zhan Bohui (ed.). *Dì èr jiè guójì Yuè fāngyán yántǎo huì lùnwén jí* (第二屆國際粵方言研討會論文集 [Proceedings of the 2nd International Cantonese Dialect Symposium]): 86–88. Guǎngzhōu: Jìnán dàxué chūbǎnshè (暨南大學出版社).

Lín, Qīnjuān (林欽娟). 2008. Qīnzhōuhuà tóngyīnzìhuì (欽州話同音字彙 [The homophony of the Qinzhou dialect]). *Guìlín shīfàn gāoděng zhuānkē xuéxiào xuébào* (桂林師範高等專科學校學報) 22(1): 1–7.

Liu, Fu (Liu Bannong). 1925. *Étude expérimentale sur les tons du chinois*. Paris: Société d'Éditions "Les Belles Lettres."

Liú, Wěimín (劉偉民). 2012. Yángchūnhuà yǔ Yángjiānghuà de yǔyīn chāyì (陽春話與陽江話的語音差異). *Xiàndài yǔwén, yǔyán yánjiū* (現代語文, 語言研究) 6: 16–18.

Liú, Xīnzhōng (劉新中), Yáng Wèi (楊蔚), Cuī Shūhuì (崔淑慧). 2003. Guānyú hànyǔ fāngyán fēnqū de yǔyán tiáojiàn (關於漢語方言分區的語言條件 [Linguistic criteria for the classification of Chinese dialects]). *Yǔyán yánjiū* (語言研究) 3: 113–118.

Luó, Yánfā (羅言發). 2013. *Àomén Yuèyǔ yīnxì de lìshǐ biànqiān jí qí chéngyīn* (澳門粵語音系的歷史變遷及其成因 [The Historical Changes of the Macao Cantonese Phonetic System and Its Causes]). Ph.D. Thesis: Běijīng University.

Maddieson, Ian, Sandra Ferrari Disner. 1984. *Patterns of sounds*. Cambridge University Press.

Mài, Yún (麥耘). 2010. Yuèyǔ de Xíngchéng, fàzhǎn yǔ Yuèyǔ hé Pínghuà de Guānxì (粵語的形成、發展與粵語和平話的關係 [The formation and development of Yue, and the relationship between Yue and Pinghua]). In: Pān Wùyún (潘悟云), Shěn Zhōngwěi (沈鍾偉) (eds.). *Yánjiū zhī lè — qìngzhú Wáng Shìyuán xiānshēng qīshíwǔ shòuchén xuéshù lùnwénjí* (研究之樂慶祝王士元先生七十五壽辰學術論文集 [The Joy of Research II—A Festschrift in Honor of Professor William S-Y. Wang on His Seventy-fifth Birthday]): 227–243. Shànghǎi: Shànghǎi jiàoyù chūbǎnshè (上海教育出版社).

Mair, Victor H. 1991. *What is a Chinese "dialect/topolect"?: Reflections on Some Key Sino-English Linguistic Terms*. Philadelphia: Department of Oriental Studies, University of Pennsylvania.

Máo, Yúháng (茅于杭), Zhāng Guózhēn (張國貞). 2001. Guǎngdōnghuà wénběn yǔyīn zhuǎnhuàn xìtǒng de shèjì yǔ shíxiàn (廣東話文本語音轉換系統的設計與實現 [Design and Implementation of Cantonese Text-to-speech System]). In: Huáng Chāngnìng (ed.). *Zìrán yǔyán lǐjiě yǔ jīqì fānyì——quánguó dì liù jiè jìsuàn yǔyánxué liánhé xuéshù huìyì lùnwénjí* (自然語言理解與機器翻譯 — 全國第六屆計算語言學聯合學術會議論文集 [Natural Language Understanding and Machine Translation — Proceedings of the 6th National Conference on Computational Linguistics]): 443–447. Qīnghuá dàxué chūbǎnshè (清华大学出版社).

Matisoff, James A. 2000. On the uselessness of glottochronology for the subgrouping of Tibeto-Burman. In: Colin Renfrew, April McMahon, Larry Trask (eds.). *Time depth in historical linguistics*: 333–372. Cambridge: The McDonald Institute for Archaeological Research.

McCoy, John. 1966. *Szeyap Data for a First Approximation of Proto-Cantonese*. Ph.D. Thesis: Cornell University.

Marcet-Houben, Marina, Toni Gabaldón. 2011. TreeKO: a duplication-aware algorithm for the comparison of phylogenetic trees. *Nucleic acids research* 39(10): e66.

Minett, James W., William S.-Y. Wang. 2003. On detecting borrowing: distance-based and character-based approaches. *Diachronica* 20(2): 289–330.

Mueller, Laurence D., Francisco J. Ayala. 1982. Estimation and interpretation of genetic distance in empirical studies. *Genetics Research* 40(2): 127–137.

Nakhleh, Luay, Don Ringe, Tandy Warnow. 2005. Perfect phylogenetic networks: A new methodology for reconstructing the evolutionary history of natural languages. *Language* 81(2): 382–420.

Nicholls, Geoff K., Russell D. Gray. 2008. Dated ancestral trees from binary trait data and their application to the diversification of languages. *Journal of the Royal Statistical Society: Series B* (Statistical Methodology) 70(3): 545–566.

Nichols, Johanna, Tandy Warnow. 2008. Tutorial on computational linguistic phylogeny. *Language and Linguistics Compass* 2(5): 760–820.

Norman, Jerry. 1988. *Chinese*. Cambridge University Press.

Ogawa, Naoyoshi (小川尚義). 1931–1932. *Jittai dai kotobaten* (日臺大辭典 [Great Japanese-Taiwanese Dictionary]). Mǐnnányǔ jīngdiǎn císhū huìbiān (閩南語經典辭書彙編 [Compilation of Southern Min Classical dictionaries]), Vol. 5. Táiběi: Táiwān zǒngdūfǔ mínzhèngbù zǒngwùjú xuéwùkè fāxíng (台灣總督府民政部總務局學務課發行).

Peng, Hsin-yi. 2014. The Yue Sub-Dialect Yayao: The Process of and Phonetic Motivation for the Loss of Its Bilabial Obstruent Initials. *Hanxue yanjiu* 32(3): 227–255.

Péng, Xiǎochuān (彭小川). 1990. Guǎngdōng Nánhǎi (shā tóu) fāngyán yīn xì (廣東南海 (沙頭) 方言音系 [The sound system of the Nánhǎi dialect (Shātóu)]). *Fāngyán* (方言) 1(1990): 23–33.

Picard, Marc. 1994. *Principles and methods in historical phonology: From Proto-Algonkian to Arapaho*. Montreal & Kingston: McGill-Queen's University Press.

Pike, Kenneth Lee. 1943. *Phonetics: a critical analysis of phonetic theory and a technique for the practical description of sounds*. Ann Arbor: University of Michigan Press.

Qū, Dàjūn (屈大均). 2006. *Guǎngdōng xīnyǔ* (廣東新語). Běijīng: Zhōnghuá shūjú (中華書局).

Rasmussen, Jens Elmegård. 1991. Trubetzkoy's Thoughts about Indo-European: A myth come into fashion. In: H. A. Sigurdsson (ed.). *Papers From the Twelfth Scandinavian Conference of Linguistics*: *Reykjavík, June 14–16, 1990*: 345–356. Linguistic Institute, University of Iceland.

Ringe, Don, Tandy Warnow, Ann Taylor. 2002. Indo‐European and computational cladistics. *Transactions of the philological society* 100(1): 59–129.

Robinson, David F., Leslie R. Foulds. 1981. Comparison of phylogenetic trees. *Mathematical biosciences* 53(1–2): 131–147.

Róng, Huìhuá (容慧華). 2009. Hétánghuà yǔ Sìyìhuà de bǐjiào yánjiū (荷塘話與四邑話的比較研究 [A comparative study of the Hetang dialect and the Sze Yap dialects]). *Xiàndài yǔwén* (現代語文) 33: 103–105.

Róng, Huìhuá (容慧華). 2010. Hétánghuà xì shǔ wèntí chūtàn (荷塘話係屬問題初探 [A preliminary study on the problem regarding the affiliation of the Hetang dialect].) *Jiāmùsī jiàoyù xuéyuàn xuébào* (佳木斯教育學院學報 [Journal of Jiamusi Education College]) 4: 265–266.

Sagart, Laurent. 1993. Les dialectes gan. *Revue bibliographique de sinologie* 11: 261–262.

Sagart, Laurent. 1998. On Distinguishing Hakka and non-Hakka Dialects (關於客家方言的區別性特徵). *Journal of Chinese linguistics* 26(2): 281–302.

Sagart, Laurent. 2002. Gan, Hakka and the formation of Chinese dialects. In: Dah-an Ho (ed.). *Dialect Variations in Chinese*: 129–154. Academia Sinica.

Shào, Huìjūn (邵慧君), Gān, Yú'ēn (甘於恩). 1999. Guǎngdōng sìyì fāngyán de yǔyīn tèdiǎn (廣東四邑方言的語音特點 [The phonetic features of the Sze Yap dialects]). *Fāngyán* (方言) 3(1999): 128–135.

Shào, Huìjūn (邵慧君). 2010. Lùn Yuè fāngyán i, u jiè yīnyùnmǔ (論粵方言 i, u 介音韻母 [On the medial i, u in modern Cantonese]). *Jìnán xuébào (zhéxué shèhuì kē xué bǎn)* (暨南學報哲學社　會科學版) 6: 116–122.

Simmons, Richard VanNess. 1999. *Chinese dialect classification: a comparative approach to Harngjou, Old Jintarn, and Common Northern Wu*. Amsterdam/Philadelphia: John Benjamins.

de Sousa, Hilário. 2015. Language contact in Nanning: Nanning Pinghua and Nanning Cantonese. In: Hilary Chappell (ed.). *Diversity in Sinitic languages*: 157–189. Oxford University Press.

Stöver, Ben C., Kai F. Müller. 2010. TreeGraph 2: combining and visualizing evidence from different phylogenetic analyses. *BMC Bioinformatics* 11(1): 7.

Takekoshi, Minako (竹越美奈子). 2017. Kindai etsugo gū Tsutomu Osamu ittō ji no hensen (近代粵語遇效攝一等字の変遷 [Changes of Grade I xiao rimes words in Modern Cantonese]). *Tōhō-gaku-shi* (東邦学誌) 46(2): 1–25.

Tan, Yutian. 2011. The origin and nature of high rising diminutive changed tone in Siyi dialect. In: Zhuo Jing-Schmidt (ed.). *Proceedings of the 23rd North American Conference on Chinese Linguistics* (NACCL-23): 190–207. Eugene: University of Oregon.

Tang, Chaoju, V. J. J. P. van Heuven. 2007. Mutual intelligibility and similarity of Chinese dialects: Predicting judgments from objective measures. *Linguistics in the Netherlands* 24(1): 223–234.

Tang, Chaoju, V. J. J. P. van Heuven. 2008. Mutual intelligibility of Chinese dialects tested functionally. *Linguistics in the Netherlands* 25: 145–156.

Tang, Chaoju, V. J. J. P. van Heuven. 2009. Mutual intelligibility of Chinese dialects experimentally tested. *Lingua* 119: 709–732.

Tang, Chaoju, V. J. J. P. van Heuven. 2015. Predicting mutual intelligibility of Chinese dialects from multiple objective linguistic distance measures. *Linguistics in the Netherlands* 53(2): 285–312.

Tang, Chaoju. 2017. Dialects of Chinese. In: Charles Boberg, John Nerbonne, Dominic Watt (eds.). *The Handbook of Dialectology*: 547–558. Wiley-Blackwell Publishers.

Tāng, Yíngyíng (湯瑩瑩). 2011. *Shùndé dàliáng fāngyán de yǔyīn yánjiū* (順德大良方言的語音研究 [Speech Research of Shunde Daliang Dialect]). Master's Thesis, South China Normal University.

Ting, Pang-hsin (丁邦新). 1982. Hànyǔ fāngyán qūfēn de tiáojiàn (漢語方言區分的條件 [Phonological features for classification of the Chinese dialects]). *Tsing Hua Journal of Chinese Studies* 14((1–2): 257–273.

Ting, Pang-hsin (丁邦新), Chang Song-hing (張雙慶) (eds.). 2002. *Mǐnyǔ yánjiū jí qí yǔ zhōubiān fāngyán de guānxì* (閩語研究及其與周邊方言的關係 [The study of Mǐn and their relationship with surrounding dialects]). Hong Kong: Chinese University of Hong Kong Press.

Tong, Choi Lan (湯翠蘭). 1997. *Sìyì fāngyán shēngyùn chūtàn* (四邑方言聲韻初探 [A preliminary study of the phonology of Sze Yap dialects]). PhD diss., National Taiwan University Department of Chinese Literature.

Tong, Choi Lan (湯翠蘭). 2004. *Guǎngdōng Xīnhuì Sīqiánhuà de yīnyùn yánjiū* (廣東新會司前話的音韻研究 [The phonology of the Sīqián dialect of Xīnhuì (Guǎngdōng)]). PhD diss., Jìnán University.

Trask, Robert Lawrence. 2007 [1999]. *Language and linguistics: The key concepts*. 2nd edition. London/New York: Routledge.

Wáng, Lì (王力), Qián Sōngshēng (錢淞生). 1930. Táishān fāngyīn (台山方音 [Sounds of Taishanese]). *Lǐngnán xuébào* (嶺南學報) 10(2): 67–104.

Wáng, Lì (王力), Qián Sōngshēng (錢淞生). 1950. Zhūjiāng sānjiǎozhōu fāng yīn zǒng lùn (珠江三角洲方音總論 [General description of the Pearl River Delta dialects]). *Lǐngnán xuébào* (嶺南學報) 10(2): 57–66.

Wáng, Lì (王力). 1936. *Zhōngguó yīnyùnxué* (中國音韻學 [Phonology of Chinese]). Běijīng: Shāngwù yìnshūguǎn (商務印書館).

Wáng, Màolín (王茂林), Liú Xīnzhōng (劉新中). 2010. Liǎng Yáng Yuèyǔ Yángjiānghuà jǐ gè fǔyīn de yǔyīnxué yánjiū (兩陽粵語陽江話幾個輔音的語音學研究 [The Phonetic Study of Several Consonants in Yangjiang Dialect of Liangyang Cantonese]). In: *Dì jiǔ jiè Zhōngguó yǔyīnxué xuéshù huìyì lùnwénjí* (第九屆中國語音學學術會議論文集 [Proceedings of the 9th Chinese Conference on Phonetics]). Tiānjīn.

Wang, William S.-Y., Shěn Zhōngwěi (沈鐘偉). 1992. Fāngyán guānxi de jìliàng biǎoshù (方言關係的計量表述 [Numerical representations of dialectal relationships]). *Zhōngguó yǔwén* (中國語文) 2: 81–92.

Wang, William S.‐Y., James W. Minett. 2005. Vertical and horizontal transmission in language evolution 1. *Transactions of the Philological Society* 103(2): 121–146.

Wang, William S.-Y. 1987. Representing languages relationships. In: Henry M. Hoenigswald, Linda F. Wiener (eds.). *Biological Metaphor and Cladistic Classification. An Interdisciplinary Perspective*: 243–256. Philadelphia: University of Pennsylvania Press.

Wang, William S.-Y. (ed.). 1991. *Languages and dialects of China (Journal of Chinese Linguistics Monograph Series No. 3)*. Berkeley: Project on Linguistic Analysis.

Wang, William S.-Y. 1994. Glottochronology, lexicostatistics, and other numerical methods. In: R. E. Asher, J. M. Y. Simpson (eds.). *The Encyclopedia of Language and Linguistics Vol. 3*: 1445–1450. Oxford: Pergamon Press.

Wang, William S.-Y. 1996. Linguistic diversity and language relationships. In: C.-T. James, Huang Yen-hui, Audrey Li (eds.). *New horizons in Chinese linguistics*: 235–267. Dordrecht: Springer.

Wáng, Yùdé. 1960. Chūgoku go dai hōgen no bunretsu nendai no gakuteki shitan (中国五大方言の分裂年代の学的試探 [The lexicostatistic estimation of time depths of the five main Chinese dialects]). *Gengo kenkyū* (言語研究) 38: 33–105.

Williams, Samuel Wells. 1856. *A Tonic Dictionary of the Chinese Language in the Canton Dialect*. Canton: Printed at the Office of the Chinese Repository.

Wu, Rui-wen (吳瑞文). 2014. Cóng bǐjiào Mǐnyǔ de guāndiǎn lùn Náncháo Jiāngdōng fāngyán qí yùn de nǐcè (從比較閩語的觀點論南朝江東方言齊韻的擬測 [The reconstruction of the rimes of the Náncháo Jiāngdōng dialect]). *Dōngfāng yǔyánxué* (東方語言學) 14: 60–80.

Wú, Wéi (吳維). 2016. Qīnzhōu Yuèyǔ yǔ Guǎngzhōu Yuèyǔ yǔyīn xìtǒng duìbǐ yánjiū (欽州粵語與廣州粵語語音系統對比研究 [Comparative Study of Qinzhou Cantonese and Guangzhou Cantonese Phonetic System]). *Guǎngxī jiàoyù xuéyuàn xuébào* (廣西教育學院學報) 1(2016): 45–47.

Xióng, Zhènghuī (熊正輝). 1987. Guǎngdōng fāngyán de qūfēn (廣東方言的區分 [The classification of Guǎngdōng dialects]). *Fāngyán* (方言) 5: 161–165.

Xióng, Zhènghuī (熊正輝), Zhāng Zhènxīng (張振興). 2008. Hànyǔ fāngyán de fēnqū (漢語方言的分區 [The classification of Chinese dialects]). *Fāngyán* (方言) 30(2): 97–108.

Xǔ, Jiéhóng (許潔紅). 2013. *Guǎngdōng Yángshān Yuèyǔ yǔyīn yánjiū* (廣東陽山粵語語音研究 [A phonetic study of Yangshan Cantonese]). Ph.D. diss., Jìnán University (Guǎngzhōu).

Xǔ, Wénxiàn (許文獻). 2001. *Zhànguó Chǔxì duō shēngfúzì yánjiū* (戰國楚系多聲符字研究 [Study of multi-reading characters of Warring States Chu]). Master's thesis, Department of Chinese Literature, Changhua Normal University.

Yáng, Huàndiǎn (楊煥典). 1990. Nánníng Yuèyǔ yǔyīn yǎnbiàn qūxiàng fēnxī (南寧粵語語音演變趨向分析 [Analysis of the Evolution of Cantonese Pronunciation in Nanning]). *Jìnán xuébào (zhéxué shèhuì kēxué bǎn)* (暨南學報哲學社會科學版) 1(1990): 79–84.

Yáng, Huàndiǎn (楊煥典), Liáng Zhènshì (梁振仕), Lǐ Pǔyīng (李譜英), Liú Cūnhàn (劉村漢). 1985. Guǎngxī de hànyǔ fāngyán (廣西的漢語方言 [The Chinese dialects of Guǎngxī]). *Fāngyán* (方言) 3(1985): 181–190.

Yáo, Yùmǐn (姚玉敏). 2009. Xiānggǎng Yuèyǔ shàngshēng biànhuà chūtàn: Yǔ yīn shíyàn yánjiū (香港粵語上聲變化初探: 語音實驗研究 [A Preliminary Study on the Change of Cantonese in Hong Kong: A Study of Speech Experiments]). *Yǔyán jì yǔyánxué* (語言暨語言學) 10(2): 269–291.

Yiu, T'ung. 1996. *The T'ai-Shan Dialect*. Ph.D. diss., Princeton University.

Yuán, Jiāhuá (袁家驊). 2001 [1960]. *Hànyǔ fāngyán gàiyào* (漢語方言概要 [Overview of Chinese dialects]). *Second Edition*. Běijīng: Yǔwén chūbǎnshè (語文出版社).

Yue-Hashimoto, Anne O. (余霭芹). 1973. *A Guide to the Tai-shan Dialect*. Washington, D.C.: Educational Resources Information Center.

Yue-Hashimoto, Anne O. (余霭芹). 1982. The differences between the literary and the vernacular readings in the Sui-hsi dialect. *Bulletin of the Institute of History and Philology*, Academia Sinica 53(2): 353–366.

Yue-Hashimoto, Anne O. (余靄芹). 1985. *The Suixi dialect of Leizhou: A study of its phonological, lexical and syntactic structure*. Ng Tor-tai Chinese Language Research Centre, Institute of Chinese Studies, Chinese University of Hong Kong.

Yue-Hashimoto, Anne O. (余靄芹). 1988. A preliminary investigation into the subclassification problem of the Yue dialects. *Computational Analyses of Asian and African Languages* 30: 7–41.

Yue-Hashimoto, Anne O. (余靄芹). 1991. Yuèyǔ fāngyán fēnqū wèntí chūtàn (粵語方言分區問題初探 [A Preliminary Study on the Subgrouping of Cantonese Dialects]). *Fāngyán* (方言) 3: 164–181.

Yue-Hashimoto, Anne O. (余靄芹). 1992. Guǎngdōng Kāipíng fāngyán de zhōngxìng wénjù (廣東開平方言的中性文句 [Neutral sentence of the Kaiping dialect of Canton]). *Zhōngguó yǔwén* (中國語文) 4: 279–286.

Yue-Hashimoto, Anne O. (余靄芹). 1993. *Comparative Chinese dialectal grammar: handbook for investigators*. Paris: Centre de Recherches linguistiques sur l'Asie orientale (École des hautes études en sciences sociales).

Yue-Hashimoto, Anne O. (余靄芹). 2002. Development of the stop endings in the Yue dialects. In: Dah-An Ho (ed.). *Dialect Variations in Chinese, Papers from the Third International Conference on Sinology, Linguistics Section*: 217–245. Taipei: Academia Sinica.

Yue-Hashimoto, Anne O. (余靄芹). 2006. *Táishān Dàncūn fāngyán yánjiū* (台山淡村方言研究 [The Dancun Dialect of Taishan]). Hong Kong: Language Information Sciences Research Centre, City University of Hong Kong.

Yue-Hashimoto, Anne O. (余靄芹). 2015. The Yue Language. In: William S.-Y. Wang, Chaofen Sun (eds.). *The Oxford Handbook of Chinese Linguistics*: 173–188. Oxford University Press.

Zēng, Jiànshēng (曾建生). 2014. Guǎngdōng Sìyì fāngyán gǔ qī, tòu, pāngmǔ cāyīnhuà (廣東四邑方言古溪, 透, 滂母擦音化 [Fricativization of kh, th, and ph initials in Sze Yap dialects].) *Yǔyán kēxué* (語言科學) 13(1): 96–104.

Zhān, Bóhuì (詹伯慧). 1981. *Xiàndài hànyǔ fāngyán* (现代汉语方言 [Modern Chinese Dialects]). Wǔhàn: Húběi rénmín chūbǎnshè (湖北人民出版社).

Zhān, Bóhuì (詹伯慧), Zhāng Rìshēng (張日昇). 1987. *Zhūjiāng sānjiǎozhōu fāngyán zìyīn duìzhào* (珠江三角洲方言字音對照 [Comparative pronunciation of Pearl River Delta dialects]). Guǎngzhōu: Guǎngdōng rénmín chūbǎnshè (廣東人民出版社).

Zhān, Bóhuì (詹伯慧), Cheung Yat-Shing (張日昇). 1988. *Zhūjiāng sānjiǎozhōu fāngyán cíhuì duìzhào* (珠江三角洲方言詞彙對照 [Comparison of vocabularies of Pearl River Delta dialects]). Guǎngzhōu: Guǎngdōng rénmín chūbǎn shè (廣東人民出版社).

Zhān, Bóhuì (詹伯慧), Zhāng Rìshēng (張日昇). 1990. *Zhūjiāng sānjiǎozhōu fāngyán zòngshù* (珠江三角洲方言綜述 [Summary of the Pearl River Delta dialects]). Guǎngzhōu: Guǎngdōng rénmín chūbǎnshè (廣東人民出版社).

Zhān, Bóhuì (詹伯慧), Zhāng Rìshēng (張日昇). 1994. *Yuè běi shíxiànshì Yuè fāngyán diàochá bàogào* (粵北十縣市粵方言調查報告 [Report of fieldwork in ten counties of northern Guangdong]). Jìnán dàxué chūbǎnshè (暨南大學出版社).

Zhān, Bóhuì (詹伯慧), Zhāng Rìshēng (張日昇). 1998. *Yuè xī shíxiànshì Yuè fāngyán diàochá bàogào* (粵西十縣市粵方言調查報告 [Report of fieldwork in ten counties of western Guangdong]). Jìnán dàxué chūbǎnshè (暨南大學出版社).

Zhāng, Jìngfēn (張靜芬). 2013. *Mǐnnán fāngyán de lìshǐ bǐjiào jí qí yǔyīn gòunǐ* (閩南方言的歷史比較及其語音構擬 [The historical comparison of the Minnan dialect and its phonetic reconstruction]). Master's thesis, Běijīng University.

Zhang, Meng-han, Pan Wuyun, Shi Yan, Li Jin. 2018. Phonemic evidence reveals interwoven evolution of Chinese dialects. Ms., available at: https://www.semanticscholar.org, accessed on May 2018.

Zhāng, Wèigāng (張為綱). 1943. Tàihé tòu dìng èr mǔ de liǎng zhǒng tèbié biànhuà zhī yánjiū (泰和透定二母的兩種特別變化之研究 [Special changes in tòu and dìng initials in the Tàihé dialect]). *Zhōngshān xuébào* (中山學報) 1(8): 72–82.

Zhào, Tóng (趙彤). 2006. *Zhànguó Chǔ fāngyán yīnxì* (戰國楚方言音系 [The sound system of the Warring States Chu dialect]). Běijīng: Zhōngguó xìjù chūbǎnshè (中國戲劇出版社).

Zhōu, Zhènhè (周振鶴), Yóu Rǔjié (遊汝傑). 1985. Húnán shěng fāngyán qūhuà jí qí lìshǐ bèijǐng (湖南省方言區劃及其歷史背景 [The classification of Húnán dialects and their historical background]). *Fāngyán* (方言) 4(1985): 257–272.

Appendix I. Developments of initial consonants in Yue dialects.

	dialects	1	2	3a	3b	4	5a	5b	6a	6b	7a	7b	8	9	10	11a	11b	11c
	Guǎngzhōu (廣州)																	+
	Huāxiàn (花縣)																	+
	Cónghuà (從化)													+				+
	Xìnyí (信宜)													+			+	
	Gāozhōu (高州)													+			+	
	Nánnìng báihuà (南寧白話)														+			+
	Fóshān (佛山)																	+
	Nánlǐng jiǔjiāng (南嶺九江)			+				+					+			+		
	Nánhǎi shātān (南海沙灘)	+					+											+
	Shùndé dàliáng (順德大良)	+				+	+						+					+
	Sānshuǐ (三水)												+					+
	Gāoyào (高要)	+		+														+
	Wúzhōu (吳州)		+				+				+				+	+		
	Huàxiàn (化縣)		+				+				+			+	+		+	
	Cāngwú (蒼梧)	+				+	+							+	+		+	
	Téngxiàn (藤縣)	+					+				+		+		+		+	
	Róngxiàn (容縣)	+			+		+				+				+		+	
	Yùlín (玉林)	+			+		+				+				+		+	
	Shínán (石南)	+			+										+		+	
	Bīnyáng (賓陽)	+			+										+		+	
	Nānnìng pínghuà (南寧平話)	+													+		+	

	Dōngwǎn (東莞)		+			+											+
	Bǎo'ān (寶安)																+
	Qīnzhōu (欽州)													+		+	
	Zhōngshān (中山)												+		+		
	Zhūhǎi (珠海)												+		+		+
	Jiāngmén (江門)									+							+
五邑	Xīnhuìchéng (新會城)					+				+			+		+		
	Xīnhuìhécùn (新會河村)									+			+		+		
	Táishān (台山)						+		+				+	+	+		
	Kāipíng (開平)						+		+		+		+	+	+		
	Ēnpíng (恩平)									+			+		+		
	Hèshān (鶴山)						+		+		+			+			+
	Dǒuménzhèn (斗門鎮)							+		+					+		
	Yángjiāng (陽江)												+	+			+
	Yángchūn (陽春)												+	+			+
	Sīhè (思賀)													+		+	
	Guīpíng (桂平)					+							+	+		+	
	Píngnán (平南)					+								+		+	

Data taken, with minor revision, from Yue-Hashimoto 1991.

List of features	
Number	description
1	medieval Chinese voiced consonants > tenuis
2	medieval Chinese voiced consonants > voiceless aspirated
3a	medieval Chinese *k- becomes palatalised, only in Grade III rimes of traditional *liú shè* 流攝, *shēn shè* 深攝, *zhēn shè* 臻攝

3b	medieval Chinese *k- becomes palatalised, only in Grade III rimes of traditional *liú shè* 流攝, *shēn shè* 深攝
4	medieval Chinese *jīng zǔ* 精組 (*ts-, *tsʰ-, *dz-, *s-, *z-) > ts-, tsʰ-, s-; *zhī zǔ* 知組 (*ʈ-, *ʈʰ-, *ɖ-, *ɳ-) and *zhào zǔ* 照組 (*tʂ-, *tʂʰ-, *dʐ-, *ʂ-, *ʐ-) > tɕ-, tɕʰ-, ɕ-
5a	medieval Chinese *jīng zǔ* 精組 (*ts-, *tsʰ-, *dz-, *s-, *z-) > t-, tʰ-
5b	medieval Chinese *jīng zǔ* 精組 (*ts-, *tsʰ-, *dz-, *s-, *z-) > tʰ-
6a	medieval Chinese *t- > 0
6b	medieval Chinese *tʰ- > h
7a	medieval Chinese *p- > b-, *t- > d-
7b	medieval Chinese *p- > v-
8	medieval Chinese *ɦ- > h-
9	medieval Chinese *k$^{(w)}$- and *k$^{h(w)}$- have merged
10	medieval Chinese *s- (in some dialects also *dz-, *z-, *ɕ-) > ɬ- or θ
11a	medieval Chinese *ŋ̍- > ŋ-
11b	medieval Chinese *ŋ̍- > ɳ-
11c	medieval Chinese *ŋ̍- > j-

It is interesting to note that there is no other branch, except for Ng Yap, which would exhibit features that are not shared by any other Yue dialect. Features 6a and 7a are unique distinctions of the Ng Yap branch. Features 4, 5ab, in the opinion of the present writer, are highly speculative; there is no real evidence that these phonemic mergers have really occurred.

Джорджио Орланди. Классификация диалектов нг-яп: к вопросу о принципах выделения подгрупп внутри синитической семьи

Диалекты группы нг-яп (ранее — сэй-яп) обычно считаются подветвью диалектной группы юэ. В настоящей статье предпринята попытка показать, что, несмотря на это широко распространенное мнение, диалекты нг-яп обнаруживают целый ряд дистинктивных особенностей, которые с точки зрения формальной языковой классификации вынуждают нас обособить их от группы юэ. В статье также обсуждаются общие критерии, используемые для диалектной классификации в современной синологии. Работа ориентирована в первую очередь на то, чтобы стимулировать дальнейшую дискуссию по данной теме, долгое время игнорировавшейся в китайской диалектологии.

Ключевые слова: диалекты нг-яп, диалекты юэ, языковая классификация, синитические языки, китайские диалекты.