

JINGYI GAO

Basic Color Terms in Chinese:
Studies after the Evolutionary Theory
of Basic Color Terms



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CONTENTS

LIST OF AUTHOR’S ARTICLES CONNECTED TO THIS DISSERTATION	6
1. INTRODUCTION	7
1.1. Background and task of this dissertation	7
1.2. Structure of this dissertation	9
1.3. Overview of the connected articles	9
2. MATERIALS AND METHODS	10
2.1. Definition of a basic color term	10
2.2. Main conceptions of the basic color term evolutionary theory	11
2.3. Materials and methods of the philological approach	13
2.4. Materials and methods of the experimental approach	15
3. RESULTS AND DISCUSSION	18
3.1. Results and discussion of the philological approach	18
3.1.1. Basic color terms for black, white and red in panchronic Chinese	18
3.1.2. Official colors of Chinese regimes	46
3.2. Results and discussion of the experimental approach	46
4. Overview.....	47
4.1. Overview of the philological approach	47
4.1.1. Basic color terms for black, white and red in panchronic Chinese	47
4.1.2. Primitive composite color categories in ancient Chinese	53
4.2. Overview of the experimental approach	54
4.3. Evolution of basic color terms in panchronic Chinese	55
4.4. Overview of major new advances of the present studies	57
5. CONCLUSION	59
SUMMARY IN ESTONIAN	60
REFERENCES	79
CONNECTED ARTICLES	85
ABSTRACT IN ENGLISH	241
ABSTRACT IN ESTONIAN	242
ABSTRACT IN CHINESE	243
CURRICULUM VITAE	244
ELULOOKIRJEDUS	246

LIST OF AUTHOR'S ARTICLES CONNECTED TO THIS DISSERTATION

- [P1] Gao, Jingyi (2012) Basic colour terms for black and white in Chinese: With discussions on models of language development. *Eesti ja soome-ugri keeleteaduse ajakiri / Journal of Estonian and Finno-Ugric Linguistics* 3.1: 87–128. [ETIS-1.2.]
- [P2] 高晶一[GĀO, JĪNG-YĪ] (2012) 白字的字源和语源[Bái zì de zì-yuán hé yǔ-yuán, “On graphical and etymological source of 白 ‘white’”]. 汉字文化[Hàn-zì wén-huà, Hanzi Culture] 2012.4: 69–70. [ETIS-1.2.]
- [P3] Gao, Jingyi (2012) Official colours of Chinese regimes: A panchronic philological study with historical accounts of China. *Trames: Journal of the Humanities and Social Sciences* 16.3: 237–285. [ETIS-1.1.]
- [P4] Gao, Jingyi & Urmas Sutrop (2014-in press) The basic color terms of Mandarin Chinese: A theory-driven experimental study. *Studies in Language* (accepted on January 18th 2014). [ETIS-1.1.]
- [P5] Gao, Jingyi & Urmas Sutrop (2014-submitted) Basic colour terms for red in historical Chinese: A philological study after the evolutionary theory of colours. (Unrevised version submitted to a journal).

I. INTRODUCTION

I.1. Background and task of this dissertation

Since the outstanding publication “*Basic Color Terms: Their Universality and Evolution*” by the American scholars Brent Berlin & Paul Kay (1969), basic color terms of various languages have been specifically researched in order to supply or revise the evolutionary theory regarding basic color terms first proposed by Berlin & Kay, and later modified by them and their colleagues (Kay & McDaniel 1978; Kay et al. 1991; Kay et al. 1997; Kay & Maffi 1999; Kay et al. 2009).

The evolutionary theory of basic color terms has two main conceptions:

(1) Basic color terms appear in a fixed order and there are a maximum of eleven basic color terms in a language (Berlin & Kay 1969: 2–3): At the first stage there are basic color terms for black and white. At the next stage red emerges, then at the third stage green or yellow is added. At the fourth stage there are terms for both green and yellow and at the fifth stage there is also a term for blue. At the sixth stage brown appears and at the seventh and final stage purple, pink, orange, and gray, or some combination of these, appear. The evolutionary trajectories of basic color terms have been revised in Kay et al. (1997) and Kay et al. (2009: 10–11, 30ff.).

(2) Primitive basic color terms actually denote composite color categories (cf. Kay & McDaniel 1978), e.g. grue (i.e., blue-green), green-yellow, light-warm (i.e., white-yellow-red) and dark-cool (i.e., black-blue-green). The composite color categories have been revised in Kay et al. (1991).

The main task of the studies of this dissertation (henceforth “the present studies”) is to research basic color terms in several historical and contemporary lects (i.e., language varieties) of the Sinitic (i.e., Chinese) language family (commonly understood as “Chinese languages” in the West; named “panchronic Chinese” or simply “Chinese” in this dissertation) according to the two main conceptions of the evolutionary theory of basic color terms.

The Chinese language family offers a good case for research of the evolutionary theory of basic color terms because it has a very long written history of up to 3500 years, a very high level of linguistic diversity with many mutually unintelligible lects, and a very wide social utility with over one billion native speakers.

The main questions of the present studies are:

(1) What are the basic color terms in a targeted Chinese lect? The criteria of a basic color term (cf. Berlin & Kay 1969: 6–7) are researched and validated in the present studies, unlike some previous studies (e.g. Fú 1988, 1989; Zhāng 1991; Xú 1999; Lǐ 2004, 2007; Xing 2009) that study more color terms; and other previous studies (e.g. Yáo 1988; Xiè 2008; Wu 2011; Wú 2012) that study basic color terms but do not double check the basic color terms with any criterion.

Liú (1990) did double check the basic color terms in Mandarin with some philological criteria but as Mandarin is a living language, it is more reliable to add an experimental study on the basic color terms.

Lü (1997) and Lin et al. (2001) are experimental studies on the basic color terms in Mandarin [of Taiwan], but both exhibit failures already evident in their materials and methods. Lü (1997) “was able to elicit a total of 73229 color terms that informants felt are ‘frequently used’”. It demonstrates the subjective influence of the informants and fails to maintain the objectivity of the materials. Lin et al. (2001) asked informants “to observe each sample and write down its number and colour name [in Chinese]”. The result is an increased presence of literary or dialectal terms that are uncommon to the Mandarin language and fails to uphold the particularity of the materials.

(2) What do the basic color terms actually denote? How have the basic color terms developed? Specifically, the possibilities of the composite color categories are researched and validated through the ancient Chinese lects in the present studies, unlike most previous studies (e.g. Wu 2011; Wú 2012) that pay no attention to this aspect.

Baxter (1983) did pay some attention to this aspect, but his materials were limited and his results contained a question mark. The present studies would solve such problems.

Furthermore, the author of the present studies largely specializes in etymology (commonly called “historical linguistics” by most modern linguists), has successfully studied etymologies on Chinese, Germanic, Finnic, Hungarian and Yeniseian languages (e.g. Gao 2005, 2014a, 2014b; Gāo 2008, 2013), and holds a panchronic view of language development named as the Water Model (Gao 2012a). Though this view is not relevant to the present studies, it has helped the author to differentiate historical Chinese lects in order to research the basic color terms in them, unlike most previous studies (e.g. Yáo 1988; Xú 1999; Wu 2011; Wú 2012) that analyze some combined lects e.g. “Old Chinese” which results in multiple basic color terms for one color category in a lect.

The connected articles of the present dissertation include:

(1) Philological studies directly on ten attested Chinese lects – Shang pre-Chinese, Zhou pre-Chinese, Qin-Han-Jin Chinese, Sui-Tang-Song Chinese, Yuan Chinese, Ming Chinese, Qing Chinese, Mandarin (Yan Chinese), Cantonese (Yue Chinese), Taiwanese (Min Chinese): (1.1) The basic color terms for black, white and red in Chinese lects; (1.2) The official colors of Chinese regimes.

(2) An experimental study directly on one living Chinese lect – Mandarin (Yan Chinese): The basic color terms in Mandarin Chinese.

1.2. Structure of this dissertation

The present dissertation consists of an introductory part and five connected articles. The introductory part is divided into five sections.

Section 1 introduces the background and the task of the dissertation, outlines the structure of the dissertation, and gives an overview of the connected articles and author's contributions. Section 2 describes the materials and methods used in this dissertation. Section 3 gives the results of this dissertation. Section 4 overviews the results, where the main contributions of the present studies are summarized. Section 5 forms a conclusion.

1.3. Overview of the connected articles

[P1] is a journal article of a philological study on the basic color terms for black and white in six attested Chinese lects – Shang pre-Chinese, Zhou pre-Chinese, Qin-Han-Jin Chinese, Sui-Tang-Song Chinese, Mandarin (Yan Chinese), and Taiwanese (Min Chinese). It establishes the framework of the philological approach to the basic color terms in Chinese.

[P2] is a Chinese journal article of a particular study on the common etymon for white in Chinese, including its proto-type and etymology. Its main conceptions are also published in [P1] and [P3]. It is one of the most advanced and innovative results of the present studies and has already attracted scholarly attention in China, although it is not necessarily associated with the evolutionary theory of basic color terms.

[P3] is a journal article of a philological study on the official colors of all major historical and contemporary Chinese regimes. Focused on the evolutionary theory of basic color terms, the possibilities of the composite color categories are researched and validated on ancient Chinese history.

[P4] is an international journal article of an experimental study on the basic color terms in Mandarin Chinese. As its first author, the author of this dissertation carried out the fieldwork in China, concluded all the experimental results except the analysis of gender difference, and wrote the first drafts of the article without the summary section. The second author wrote the summary section and contributed to the introductory and discussion parts. After the first round of peer-review, the second author amended the article with several discussions including the analysis of gender difference.

[P5] is a manuscript of a philological study on the basic color terms for red in seven historical Chinese lects – Shang pre-Chinese, Zhou pre-Chinese, Qin-Han-Jin Chinese, Sui-Tang-Song Chinese, Yuan Chinese, Ming Chinese, and Qing Chinese. As its first author, the author of this dissertation carried out the philological research in Chinese, concluded all the philological results, and wrote the first drafts of the article while the second author contributed to the introductory and discussion parts.

2. MATERIALS AND METHODS

2.1. Definition of a basic color term

The original criteria of a basic color term set in Berlin & Kay (1969: 6–7) are:

“(i) It is monolexemic; that is, its meaning is not predictable from the meaning of its parts. [...] (ii) Its signification is not included in that of any color term. [...] (iii) Its application must not be restricted to a narrow class of objects. [...] (iv) It must be psychologically salient for informants. Indices of psychological salience include, among others, (1) a tendency to occur at the beginning of elicited lists of color terms, (2) stability of reference across informants and across occasions of use, and (3) occurrence in the idiolects of all informants. [...]”

In the experimental approach of the present studies, the original criteria of a basic color term are fully followed.

In the philological approach of the present studies, the original criteria of a basic color term are slightly revised (in [P1] and [P5]) for a better application of the philological approach. The revised criteria are comparable to the original criteria:

(i) It is **prevalently used as a certain color** (e.g. 黑 (hēi/hắc)¹ ‘black’ and 白 (bái/bạch) ‘white’), not an item with a certain color. [A basic color term has to be a color term, at first.] Especially in ancient Chinese texts, there are monomorphemic terms for items with certain colors, e.g. 驪 (lí/--) ‘dark black horse’, 騊 (tāo/--) ‘light black horse’, 騄 (lù/--) ‘red horse’, 縑 (jīn/--) ‘black fabrics’, and 縹 (piāo/piêu) ‘light green-blue fabric’. These are not color terms.

(ii) It is **monolexemic** [This is identical to the original criterion (i)]. Thus it is predominantly monomorphemic (one *zì*) in Chinese. Especially in modern Chinese texts, there are polylexemic color terms, e.g. 深黑 ‘dark black’, 淺黑 ‘light black’, and 橘色 ‘color of orange’. These are modified and thus non-basic color terms. Note that some lexicalized polymorphemic words in modern Chinese can be also monolexemic, e.g. 老師 literally “old master”, but lexically ‘teacher’. The author has not found such polymorphemic but monolexemic color terms in Chinese, cf. Danish *lyserød* literally “light red” but literally ‘pink’, Finnish *vaaleapunainen* literally “light red” but literally ‘pink’. Anyway, there is no need to revise the original criterion. As long as the partible morphemes cannot predict the meaning of the compound, it is not monomorphemic, but still monolexemic.

¹ In this dissertation, most Chinese data have been elevated to an advanced academic level to make the data clearer to universal readers. A relevant Chinese term is regularly represented by its primary glyph (for Chinese references), primary reading in Pinyin and primary reading in Sino-Vietnamese (for general references). Sino-Vietnamese is an incumbent Latin orthography that is clearer to non-Chinese readers. Moreover, it is closer to some southern lects of the Chinese language.

(iii) Its application is **not restricted to a narrow class of objects**. [This is identical to the original criterion (iii)] Especially in Chinese literature, some color terms are restricted to coined terms, e.g. 玄^(xuán/huán) for black in 玄武 ‘[holy] black tortoise’, and 烏^(wū/ô) for black in 烏龜 ‘[ordinary] black tortoise’, and 烏雲 ‘black clouds’. These are non-basic color terms.

(iv) It is **not a secondary synonym** of another color term. [This is relevant to the original criterion (iv): “It must be psychologically salient for informants”. Ideally, the criterion (iv) should be confirmed by informants. The current criterion is particularly made for philological studies on written languages.] In practice, (1) it is much more used than its synonym(s); (2) it was used to explain its synonym(s); (3) it is understood by native speakers without literary education. Secondary synonyms may often enter a language via literary education. For example, an illiterate Mandarin speaker only knows the primary term 黑^(hēi/hác), but not the secondary term 玄^(xuán/huán) for black. The latter exists only in old literature.

(v) It is **not a hyponym** of another basic color term candidate that has already met the criteria (i–iv). [This is relevant to the original criterion (ii): “Its signification is not included in that of any color term.”] Especially in ancient Chinese texts, there are many such hyponyms, e.g. 赭^(xiá/--) ‘very red’ is a hyponym of 赤^(chì/xích) ‘red’, and 靛^(tiān/--) ‘whitened yellow’ is a hyponym of 黃^(huáng/hoàng) ‘yellow’. These are non-basic color terms.

2.2. Main conceptions of the basic color term evolutionary theory

The first main conception of the evolutionary theory of basic color terms about the evolutionary trajectories of basic color terms was originally set in Berlin & Kay (1969: 2–4), illustrated with the following figure (Figure 1).

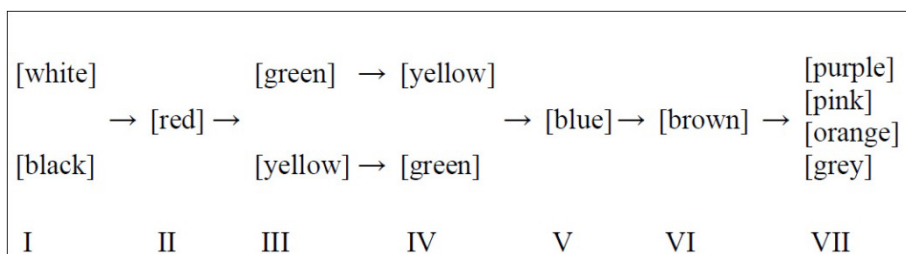


Figure 1. Evolutionary trajectories of basic color terms after Berlin & Kay (1969: 4)

This scheme means: at the first stage, there are only two basic color terms in a language for white and black; at the second stage, a third basic color term for red emerges; at the third stage, a fourth basic color terms for green or yellow emerges; at the fourth stage, there are five basic color terms including both green and yellow; at the fifth stage, a basic color term for blue emerges; at the sixth stage...

The latest revised version of the evolutionary theory was set in Berlin & Kay (2009: 10–11; 30ff.) and illustrated with the following figure (Figure 2).

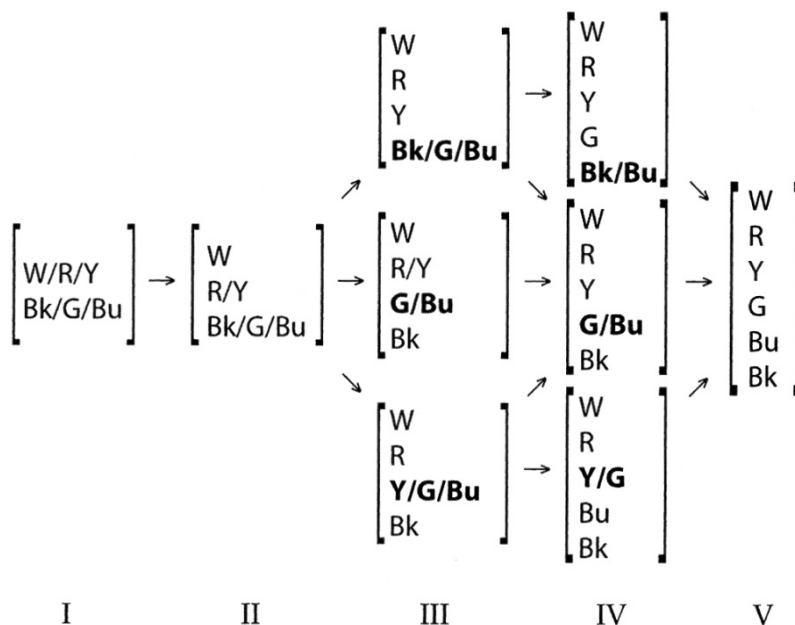


Figure 2. Evolutionary trajectories of basic color terms after Berlin et al. (2009: 11)

This scheme means: at the first stage, there are only two basic color terms in a language for the composite color categories white-red-yellow (W/R/Y) and black-green-blue (Bk/G/Bu); at the second stage, there are three basic color terms for the composite color categories white (W), red-yellow (R/Y), and black-green-blue (Bk/G/Bu); at the third stage, there are four basic color terms in a language for the color categories after three possibilities: (1) white, red, yellow and black-green-blue; (2) white, red-yellow, green-blue, black; (3) white, red, yellow-green-blue, black; at the fourth stage...

The second main conception of the evolutionary theory of basic color terms about the composite color categories was primitively founded by Kay (1975) with the recognition of the light-warm, dark-cool, and grue categories which were later developed in Witowski & Brown (1977) with “marcocolors”, and in Kay & McDaniel (1978) with “fuzzy unions”, then finally systematically concluded in Kay et al. (1991: 15) with the Composite Category Rule: “A possible

composite category is a fuzzy union of subset of fundamental neural response categories which, in Figure 2 [here Figure 3], forms an unbroken associational chain not crossing the diagonal line” (Kay et al. 1991: 16).

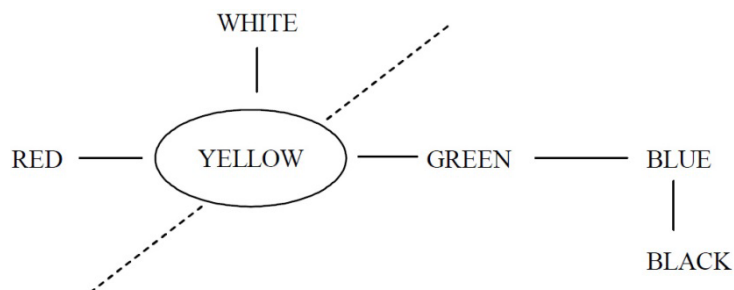


Figure 3. “Visual and linguistic relation of FRN² categories” after Kay et al. (1991: 15)

According the Composite Category Rule, theoretically possible composite color categories are: (1) black-blue-green-yellow, (2) white-yellow-red, (3) white-yellow, (4) red-yellow, (5) black-blue-green, (6) black-blue, (7) blue-green-yellow, (8) blue-green, and (9) green-yellow. All of them but black-blue-green-yellow have been attested in human languages in the World Color Survey (2009: 6) (first reported in Kay et al. 1991: 14).

Although some conceptions of the evolutionary theory of basic color terms are followed, the present studies have do not aim to discuss the whole evolutionary theory of basic color terms. For a short critique of the theory, see Sutrop (2002: 18–30, 2011). Uusküla (2008: 16–29) contains a detailed summary of the development of the theory from 1969 to 2007, including references to the criticisms of the theory. Hollman (2010: 42–49) contains a detailed summary of the development of the theory from 1969 to 2008.

2.3. Materials and methods of the philological approach³

Brief introductions and materials of the studied lects are separately listed before giving results in the section of results and discussions.

Conventional philological methods are used in collecting and analyzing data.

A researcher must first choose some relevant transmitted titles and chapters, then go through the content manually, understand the paragraphs, pick out key paragraphs, analyze and present them in readable texts in the language of the research paper.

² FRN = Fundamental neural response.

³ This section is basically taken from [P3].

If the topic is linguistic, it is more important to distinguish layers and dates. If the topic is historical, it is more important to confirm correctness.

Some topics of the present studies are linguistic rather than historical. Their main question is onomasiological: How does a lect express the sense of the color black, the color white and the color red? Meanwhile, it involves the definition of the basic color term: What is the basic color term in the lect?

There are two different approaches to get results in onomasiology.

(a) If a lect left no standard dictionary, the studies should start from the common texts in the lect. It is a corpus-based approach.

In this approach, first of all, it is important to identify the lect. Dates and layers of texts should be carefully handled. Notes and addenda in reissued texts should be excluded. In addition, a researcher must be aware that at any time, texts written in Chinese glyphs do not necessarily belong to the same lect. The lect could be a written dialect or even Sino-Korean.

Within a lect, the larger the corpus is, the better the results are. If the results are not consistent, e.g. there are multiple lexemes for the sense; it is time to ascertain the relationship of the lexemes. If they are synonyms, the primary one should be identified.

(b) If a lect left a standard dictionary, this standard dictionary should be trusted. Results are given based upon the standard dictionary with direct citations [引經據典] as well as three examples of the occurrence of the color term from common texts [書證].

Trusting the historical standard dictionaries is a foundation of philological research. The standard dictionary issued in the lect had authority for the lect itself. Some modern linguists question the ancient dictionaries, preferring to do the research only in the corpus-based way. Such actions are comparable to a case in which people do not trust the standard dictionary of Standard Mandarin Chinese, and thus base their results upon contemporary common texts. Different results may be found, because the common texts do not always fully follow the standard language. These results can be influenced by many dialectal and social factors. As a field of the humanities, some conventional rules are indeed human-made. How does a lect express a sense? The answer from the authorities is primary; the answers from the people are secondary.

In the present studies, the onomasiological approach is synthesized with the anthropological and psycholinguistic study of the basic color term. Results of basic color terms are presented in the same format. Generally, non-basic color terms are not presented unless there is a need to contradict opposite suggestions by previous studies.

Some topics of the present studies are historical rather than linguistic. Their main question is: What is the official of color of a Chinese regime?

A result can be established if the relevant historical records are definite and consistent. It would be better if some contemporary texts of that time by different authorities (enemy side or foreign country) confirmed the result in different ways. If the historical records regarding the topic are definite but not consistent, the different contents and sources should be analyzed, then at least

some sort of result can be established. If the historical records regarding the topic are not definite, further evidence should be gathered and discussed. If there are neither historical records nor clues regarding the topic, no result can be established.

In the present study, results on the historical official colors are studied in the above mentioned way with references. Old texts are preferred. Results on contemporary official colors are simply given according to the facts that many others also know.

Besides the main approach, if there are previous studies on the same topic, their materials should be expanded if possible, their methods should be improved if applicable, and their results should be compared if necessary. If previous results are identical to current results, the previous results should be acknowledged. If all the results are the same, the current study cannot publish a new research paper, but a review at most. If the current results are different than the previous results, it is necessary to refute the previous results with relevant proof, and ideally also with some analysis on how the previous studies went wrong.

2.4. Materials and methods of the experimental approach⁴

Language: Mandarin (the Yan [燕] lect), Chinese (Sinitic).

Mandarin (strictly speaking “Contemporary Mandarin Chinese”) is the official Chinese language variety (national lect) in China, corresponding to the native terms 現代漢語(*xiàndài hànyǔ*) or 普通話(*pǔtōnghuà*) in mainland China, and 華語(*huáyǔ*) or 國語(*guóyǔ*) in Taiwan (cf. Gao 2012a, 2012c).

Regions of data collection: Beijing [北京], Shenyang [瀋陽], Baoding [保定], etc. (within the historical Yan state) and Handan [邯鄲], Jinan [濟南], etc. (outside the historical Yan state), China.

Dates: (1) Summer 2011. (2) Summer 2012.

The experimenter: The author of this dissertation.

The language of the interview: Mandarin.

Informants: There were 60 informants in total (averaging 34.9 years of age). Among the informants there were 33 women aged 13–79 (average age 34.3 years) and 27 men aged 17–65 (average age 35.6 years). Their ages are roughly calculated at the time the data were collected.

The informants originated from the following counties or towns (in alphabetical order): Anguo [安國], Anshan [鞍山], Baoding [保定], Beijing [北京], Benxi [本溪], Binzhou [濱州], Changping [昌平], Changtu [昌圖], Chixian [磁縣], Dongling [東陵], Faku [法庫], Feixiang [肥鄉], Fuxin [阜新],

⁴ This section is basically taken from [P4]. The Chinese glyphs, that were omitted in the journal article, are resumed in this dissertation, for accurate references.

Gaobeidian [高碑店], Handan [邯鄲], Harbin [哈爾濱], Huludao [葫蘆島], Jinan [濟南], Kaixian [開縣], Kangping [康平], Lanzhou [蘭州], Mancheng [滿城], Mentougou [門頭溝], Nanyang [南陽], Shenyang [瀋陽], Shunyi [順義], Songyuan [松原], Xinmin [新民], Xinxiang [新鄉], Yanshi [偃師], Zibo [淄博].

The counties or towns administratively belong to seven provinces and two provincial-level prefectures: Heilongjiang Province [黑龍江省] (HL), Jilin Province [吉林省] (JL), Liaoning Province [遼寧省] (LN), Hebei Province [河北省] (HE), Shandong Province [山東省] (SD), Henan Province [河南省] (HA), Gansu Province [甘肅省] (GS), Beijing Prefecture [北京市] (BJ), Chongqing Prefecture [重慶市] (CQ).

The following counties and towns are historically located in the Yan state, where Yan Chinese, the base lect of the modern standard Mandarin Chinese, is natively spoken: Anguo [安國], Anshan [鞍山], Baoding [保定], Beijing [北京], Benxi [本溪], Changping [昌平], Changtu [昌圖], Dongling [東陵], Faku [法庫], Fuxin [阜新], Gaobeidian [高碑店], Huludao [葫蘆島], Kangping [康平], Mancheng [滿城], Mentougou [門頭溝], Shenyang [瀋陽], Shunyi [順義], Xinmin [新民]. Forty-nine informants are from these locations.

All informants performed the list task and color vision test first. After that 58 informants with normal color vision completed the color-naming task. Two informants without normal color vision were not asked to do the color-naming task. The informants were not informed until the beginning of the test that the questions would refer to colors and color terms.

The field method: The field method proposed by Davies & Corbett (1994, 1995) was used in which an interview comprises two parts: a list task and a color-naming task. After the list task the color vision test was conducted. The list task was described and modified in Sutrop (2001).

The list task: The informants were asked to name as many colors as they knew. The basic question is: ‘Please list all the colors you know!’ in Mandarin [請講一下！你/您都知道什麼顏色？(*Qǐng jiǎng yí xià! Nǐ/nín dōu zhīdao shénme yánsè?*)] ‘Please tell! What all the colors do you know!’. Curiously, since the Chinese writing system is morphemic [and etymological] (cf. Chao 1946; Gāo 2013), all literate Chinese people know the difference between monomorphemic and polymorphemic words. Many informants mentioned that polymorphemic colors are countless and therefore stopped naming them. The experimenter had to compromise.

All the answered color terms were written down in the order in which the informants listed them. The experimenter wrote down exactly what the informants said. After this, the informants were thanked and went on with the color vision test, and following this, the color-naming task.

Color vision test: All informants were tested by using The City University Color Vision Test (Fletcher 1980). The test was conducted after the list task and before the color-naming task. In the color vision test, the informant is shown ten black tiles, in the middle of which is a dot of a certain tone of color surrounded

by four differently colored dots. The interviewee has to say which dot is the most similar to the central one: above, below, right or left. The test makes it possible to diagnose almost all the anomalies of color vision such as deuteranopia, protanopia, tritanopia, etc.

The color-naming task: The informants were shown 65 color tiles, one tile at a time, in a random sequence. The order was different for each informant and the colors were shown in sufficient daylight on a light-gray base. Indicating a color tile, the experimenter asked the question: ‘What color is this?’ in Mandarin [這是什麼顏色? (*Zhè shì shénme yánsè?*)]. After first few color tiles, the informants would automatically answer as soon as the color tiles were shown. All the answered color terms were written down as said.

Stimuli of the color-naming task: In the color-naming task, 65 standard tiles were used as stimuli. Each tile was a 5 x 5 cm sized wooden square covered with colored paper. These colors had been chosen from the Color Aid Corporation range of color papers using the Ostwald color system (Ostwald et al. 1939; see also Jacobson 1948). The rationale for the 65 color sample selection can be found in Davies et al. (1992).

Additional methods in data analysis: The cognitive salience index proposed by Sutrop (2001) is used in data analysis. The frequency of a term and its mean position in the individual lists are both combined into an integral cognitive salience index.

Similar case studies: The similar experimental case studies on the world’s major languages include: Davies & Corbett (1994) on Russian; Davies & Corbett (1995) on English; Davies et al. (1995) on Catalan; Özgen & Davies (1998) on Turkish; Sutrop (2000) on Estonian [Hollman & Sutrop (2010) on Estonian Sign Language]; Hippisley (2001) on Ukraine and Belarusian; Uusküla & Sutrop (2007) on Hungarian; Uusküla (2007) on Finnish; Uusküla (2008) on Czech; Hippisley et al. (2008) on Lower Sorbian and Upper Sorbian; Androutsaki et al. (2009) on Modern Greek; Råbina (2011a) on Udmurt; Råbina (2011b) on Komi; Pranaitytė (2011) on Lithuanian.

3. RESULTS AND DISCUSSION

3.1. Results and discussion of the philological approach

3.1.1. Basic color terms for black, white and red in panchronic Chinese⁵

(1) Shang national lect [商卜辞] (ca.1500–ca.1050 BCE)

The Shang national lect refers to the standard lect of the Shang [商^(shāng/thương)] Empire [also commonly called “the Shang Dynasty”]. This lect has been referred to as “Old Chinese (the first period)” by the diachronic view. It should be called “Shang pre-Chinese” according to the panchronic view.

The Shang Empire left its written language on oracle bones, which are commonly called oracle bone inscriptions. The oracle bone inscriptions were first discovered and deciphered by contemporary scholars in the 20th century.

In the present study, a *cí*-book (polymorphemic dictionary with concrete etymological correlations) of the oracle bone inscriptions (1989-LZ) has been used and analyzed. It is treated as a source of materials. Its etymological correlations have been generally agreed and followed. The present studies have suggested some new interpretations.

Graphic attestation:

The present studies see the basic color term candidates: a term behind the etymon 𪛗^(--/--) is attested and understood as a color term for black; a term behind the etymon 白^(bái/bách) is attested and understood as a color term for white. A term behind the etymon 赤^(chì/xích) is attested and understood as a color term for red-brown.

(a) 𪛗^(--/--) for black, attested as 𪛗^(Period 1–3).

(b) 白^(bái/bách) for white, attested as 𠂔^(Period 1–5).

(c) 赤^(chì/xích) for red-brown, attested as 𠂔^(Period 1) and 𠂔^(Period 3–4).

Literary attestation:

For a relevant term, the present studies demonstrate all its occurrences that have been summarized in the reference (1989-LZ, abbreviated as Y in the tables).

(a) The etymon for black, 𪛗^(--/--), is attested 14 times (see Table 1), and applied in four contexts: (1) 𪛗牛 *‘black cattle’ [x4], (2) 𪛗羊 *‘black sheep’ [x4], (3) 𪛗犬 *‘black dog’ [x2], and (4) 𪛗 *‘black-human’ [x4] [It alone referred to a black (brown) Australoid or a black (dark) Mongoloid. Both existed in Shang pre-China.].

In the Shang national lect, the etymon 𪛗^(--/--) is a monolexemic color term for black. It is applied to many items with the black color (e.g. the humans, the cattle and the sheep), therefore its application is not restricted to a narrow class

⁵ This section is concluded from [P1], [P2], [P3] and [P5]. Some major revisions on [P1] are made in this dissertation.

of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for black in this lect.

(b) The etymon for white, 白^(bái/bach), is attested 94 times (see Table 2), and applied in 26 contexts: (1) 白人 *‘white human’ [x3] [referring to a white Caucasoid or a white (light) Mongoloid. Both existed in Shang pre-China.]; (2) 白羌 *‘white Germa (ethnonym)’ [x2]; (3) 白馬 *‘white horse’ [x5]; (4) 白羊 *‘white sheep’ [x4]; (5) 白犬 *‘white dog’ [x3]; (6) 白狐 *‘white fox’ [x3]; (7) 白鹿 *‘white deer’ [x2]; (8) 白木 *‘white tree/wood’ [x1]; (9) 白穢 *‘white sheaf’ [x3]; (10) 白帛 *‘white carve-wood’ [x1]; (11) 白帛 ? *‘white fabrics’ [x4]; (12) 白⑤ *‘white ?’ [x3]; (13) 白⑥ *‘white ?’ [x1]; (14) 白盛 *‘white container’ [x1]; (15) 白降⑦ *‘white ?’ [x2]; (16) 白林 *‘white forest’ [x1]; (17) 白剗 *‘white knife’ [x1]; (18) 白牛 *‘white cattle’ [x16]; (19) 白牝 *‘white cow’ [x1]; (20) 白牡 *‘white bull’ [x3]; (21) 白豕 *‘white pig’ [x13]; (22) 白豕 *‘white boar’ [x8]; (23) 白彘 *‘white wild-boar’ [x5]; (24) 白豚 *‘white young-pig’ [x5]; (25) 白兕 ? *‘white animal?’ [x1]; and (26) 白龟 *‘white turtle’ [x2].

In the Shang national lect, the etymon 白^(bái/bach) is a monolexemic color term for white. It is applied to many items with the white color (e.g. the humans, the horses, and the dogs), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for white in this lect.

(c) The etymon for red-brown, 赤^(chì/xích), is attested 10 times (see Table 3), four of them (#5–#8) have totally lost the contexts, one of them (#4) has lost the succeeding contexts, five of them are applied in three contexts: (1) 赤馬 *‘red-brown horse’ [x3], (2) 赤④友 *‘red-brown X1’, and (3) 赤⑤ *‘red-brown X2’.

(1) The etymon 赤^(chì/xích) is modifying the horse. Because the same etymon means primarily ‘red-brown’ in the Qin-Han-Jin national lect (see the relevant section) and the Sui-Tang-Song national lect (see the relevant section), it should most likely mean the same in the Shang lect, or at least a similar color.

The color of a horse can usually be black, white, red or brown. Because there are already separate terms for black and white in the Shang lect, but there is no separate term for the brown color, the etymon 赤^(chì/xích) should mean red or brown. It should be a primitive color term for red-brown.

(2) For the uncertain item X1, Wang (1996: 72) has suggested that it could be a kind of an animal. If it is true, the etymon 赤^(chì/xích) here may refer to the color of the animal.

(3) The uncertain item X2 consists of a fabric ④ and a woman ⑤, it could be ‘some fabric for women’, therefore, the etymon 赤^(chì/xích) here could also refer to the color.

In the Shang national lect, the etymon 赤^(chì/xích) is a monolexemic color term for red-brown. It is applied to many items with the red-brown color (e.g. the horses, the animal and the fabric), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for red-brown.

Summary: In the Shang national lect, the basic color term for black is 𪛗^(--/--) [new result]; the basic color term for white is 白^(bái/bách) [same as Wang (1996)]; the basic color term for red (including brown) is 赤^(chì/xích) [Wang (1996) was not precise enough (did not include brown)].

Refutation:

(1) Refuting the notion “幽^(yōu/ūu) for black” in the previous studies Yáo (1988), Wu (2011) and Wú (2012). Besides, Wang (1996) interpreted “幽^(yōu/ūu) for dark red”.

The term 幽^(yōu/ūu) is attested nine times with relative occurrences, but in just one sort of contexts: as an attribution of 𠂔^(niú) ‘cattle’. Its limited usage brings its denotation and property into doubt. In addition, there is another term for black in the Shang lect. Consequently, it cannot be a color term. It could mean ‘peaceful’ as in Classical and Modern Chinese.

(2) Refuting the concrete etymological link between 𪛗^(--/--) and 黑^(hēi/hǎc) listed in 1999-GL (8.738–742) and followed in Gao (2012a, 2012c).

There is actually no evidence to combine these two characters to one etymology. The prototypical gloss of the etymon 黑^(hēi/hǎc) is ‘smoke’ (see Section 4.1), while the glyph of the etymon 𪛗^(--/--) has nothing to do with fire or smoke, but similar to a person, and it alone could mean ‘black human’. Note that the term for white additionally took the etymon for human to order to mean ‘white human’. In conclusion, the prototypical gloss of the etymon 𪛗^(--/--) might be ‘black human’. It is more reasonable to follow the suggestion of Táng Lán (also cited but rejected in 1999-GL 8.738–742), that these two glyphs belong to distinct etymologies, while the etymon 𪛗^(--/--) was lost in later Chinese lects.

Limitation: Archaeological texts that originated from the lect have not been directly used and analyzed, but have been studied through contemporary collections and studies. Previous scholars have mainly identified etyma of color terms according to historical and contemporary lects. Theoretically, the Shang national lect could have other color terms that were not inherited by the later lects. However, it is less possible that there could be some other basic color terms for black, white and red than the current results.

Table 1. Literary attestation of the etymon 𣎵^(--/--) in Shang texts (after 1989-LZ).

(4)	(3)	(2)	(1)
二九五〇八 三二七〇六 七三三六三 懷一四〇七	二九五五四 英八三田	三〇〇〇二 三〇五五二 三〇七二〇 七三六三三
(Y:104)	(Y:104)	(Y:104)	(Y:104)

Table 2 (continued)

[illegible]

Table 2 (continued)

[illegible]

Table 3. Literary attestation of the etymon 赤^(chi/xich) in Shang texts (after 1989-LZ)

(8)	(7)	(6)	(5)	(4)	(3.1)	(2.1)	(1.1~3)
二九二二	二九二〇	一五六七九	三三三三	三三三三	一九八〇一	一〇一九八五	二八一九五
...
(Y:474)	(Y:474)	(Y:474)	(Y:474)	(Y:474)	(Y:474)	(Y:474)	(Y:474)

(2) Zhou national lect [周雅言] (ca.1050–256BCE)

The Zhou national lect refers to the standard lect of the Zhou [周^(zhōu/chāu)] Empire [also commonly called “the Zhou Dynasty”]. This lect has been referred to as “Old Chinese (the second period)” by the diachronic view. It should be called “Zhou pre-Chinese” according to the panchronic view.

The Zhou Empire left its written language on bronze artifacts, which are commonly called Chinese bronze inscriptions. In addition to the bronze artifacts, books made of bamboo and wooden slips were first produced in this period. Some texts written in this lect became the oldest transmitted texts in Chinese. The contemporary literature of that time included Zhou verse [詩^(shī/thi)] (including poem [風^(fēng/phong)], rhymed article [雅^(yǎ/nhā)] and song [頌^(sòng/tung)]) and prose [散文].

In the present study, a concrete etymological correlation of the bronze inscriptions (1925-JWB) has been accessed. It is treated as a source of materials. The transmitted texts «*Shi* [詩, ‘poem’]» and «*Yi* [易, ‘logic’]» which originated from the lect, have been used and analyzed as the primary references for literary attestations. The transmitted text «*Shu* [書, ‘writing’]» has not been studied,

because it is clear that many editions of this text were faked by people in later regimes and it is difficult to determine the original layers.

Graphic attestation:

The present studies see the basic color term candidates: a term behind the etymon 玄^(xuán/huǎn) is attested and understood as a color term for black; a term behind the etymon 白^(bái/bách) is attested and understood as a color term for white; a term behind the etymon 朱^(zhū/chu) is attested and understood as a color term for red.

(a) 玄^(xuán/huǎn) for black, attested as 𤣥 (1925-JWB: #05934).

(b) 白^(bái/bách) for white, attested as 𤣥 (1925-JWB: #05278–05282).

(c) 朱^(zhū/chu) for red, attested as 𤣥 (1925-JWB: #08628–08642).

Literary attestation:

For a relevant term, the present studies demonstrate all its occurrences from the studied transmitted texts.

(a) The etymon for black, 玄^(xuán/huǎn), is attested nine times and applied in seven contexts: (1) ‘black-yellow horse’ [x1]; (2) ‘black–fabrics’ [x1] [as a noun]; (3) ‘black dress’ [x2]; (4) ‘[burnt] black grass’ [x1]; (5) ‘black bird’ [x2]; (6) ‘The King Black’ [x1]; and (7) ‘black-yellow blood’ [x1]:

(1.1) 《詩·周南·卷耳》陟彼高岡 我馬玄黃

(2.1) 《詩·豳風·七月》載玄載黃 我朱孔陽 為公子裳

(3.1) 《詩·小雅·采芣》又何予之 玄衮及黼

(3.2) 《詩·大雅·韓奕》玄衮赤舄 鉤膺鏤錫

(4.1) 《詩·小雅·何草不黃》何草不玄 何人不矜

(5.1) 《詩·商頌·玄鳥》

(5.2) 《詩·商頌·玄鳥》天命玄鳥 降而生商

(6.1) 《詩·商頌·長發》玄王桓撥 受小國是達

(7.1) 《易·坤·上六》龍戰于野 其血玄黃

In the Zhou national lect, the etymon 玄^(xuán/huǎn) is a monolexemic color term for black. It is applied to most items with the black color (e.g. the horses, the dresses, and the birds), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for black.

(b) The etymon for white, 白^(bái/bách), is attested 29 times, and applied in 16 contexts: (1) ‘white reeds’ [x4]; (2) ‘white stone’ [x3]; (3) ‘white top’ [x1]; (4) ‘white dew’ [x3]; (5) ‘white flower’ [x3]; (6) ‘white flag’ [x1]; (7) ‘white 2-year-old-horse’ [x5]; (8) ‘white skirt’ [x1]; (9) ‘white cloud’ [x1]; (10) ‘white hoof’ [x1]; (11) ‘white bird’ [x1]; (12) ‘white felicitous–stone’ [x1]; (13) ‘whiten’ [as a verb] [x1]; (14) ‘white father–livestock’ [x1]; (15) ‘white horse’ [x1]; and (16) ‘white forge–ahead’ [x1]:

(1.1) 《詩·召南·野有死麕》野有死麕 白茅包之

(1.2) 《詩·召南·野有死麕》白茅純束 有女如玉

- (1.3) 《詩·小雅·白華》白華菅兮 白茅束兮
 (1.4) 《易·賁·初六》藉用白茅 无咎
 (2.1) 《詩·唐風·揚之水》揚之水 白石鑿鑿
 (2.2) 《詩·唐風·揚之水》揚之水 白石皓皓
 (2.3) 《詩·唐風·揚之水》揚之水 白石粼粼
 (3.1) 《詩·秦風·車鄰》有車鄰鄰 有馬白顛
 (4.1) 《詩·秦風·蒹葭》蒹葭蒼蒼 白露為霜
 (4.2) 《詩·秦風·蒹葭》蒹葭淒淒 白露未晞
 (4.3) 《詩·秦風·蒹葭》蒹葭采采 白露未已
 (5.1) 《詩·小雅·白華之什》
 (5.2) 《詩·小雅·白華》
 (5.3) 《詩·小雅·白華》白華菅兮 白茅束兮
 (6.1) 《詩·小雅·六月》織文鳥章 白旆央央
 (7.1) 《詩·小雅·白駒》
 (7.2) 《詩·小雅·白駒》皎皎白駒 食我場苗
 (7.3) 《詩·小雅·白駒》皎皎白駒 食我場藿
 (7.4) 《詩·小雅·白駒》皎皎白駒 賁然來思
 (7.5) 《詩·小雅·白駒》皎皎白駒 在彼空谷
 (8.1) 《詩·小雅·裳裳者華》裳裳者華 或黃或白
 (9.1) 《詩·小雅·白華》英英白雲 露彼菅茅
 (10.1) 《詩·小雅·漸漸之石》有豕白蹄 烝涉波矣
 (11.1) 《詩·大雅·靈臺》麀鹿濯濯 白鳥鵲鵲
 (12.1) 《詩·大雅·抑》白圭之玷 尚可磨也
 (13.1) 《詩·周頌·有客》有客有客 亦白其馬
 (14.1) 《詩·魯頌·閟宮》白牡騂剛 犧尊將將
 (15.1) 《易·賁·六四》賁如皤如 白馬翰如 匪寇婚媾
 (16.1) 《易·賁·上九》白賁 无咎

In the Zhou national lect, the etymon 白^(bái/bach) is a monolexemic color term for white. It is applied to most items with the white color (e.g. the clouds, the dew, and the horses), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for white.

(c) The etymon for red, 朱^(zhū/chu), is attested 10 times, applied in nine contexts: (1) 朱幘 ‘red trappings (cavalry)’; (2) 朱鞮 ‘red bald-skin (cavalry)’; (3) 朱褱 ‘red collar’; (4) 朱繡 ‘red embroidery’; (5) 朱 ‘red-fabrics’ (the etymon alone means ‘red fabrics’ as a noun); (6) 朱芾 ‘red leather-kneepad’ [x2]; (7) 朱英 ‘red fruitless-flower’; (8) 朱綬 ‘red thread’; (9) 朱紱 ‘red ribbon’:

- (1.1) 《詩·衛風·碩人》四牡有騁 朱幘鑣鑣
 (2.1) 《詩·齊風·載驅》載驅薄薄 簞芾朱鞮

- (3.1) 《詩·唐風·揚之水》素衣朱襮 從子于沃
 (4.1) 《詩·唐風·揚之水》素衣朱纁 從子于鵠
 (5.1) 《詩·豳風·七月》載玄載黃 我朱孔陽 為公子裳
 (6.1) 《詩·小雅·采芣》服其命服 朱芾斯皇
 (6.2) 《詩·小雅·斯干》其泣啍啍 朱芾斯皇
 (7.1) 《詩·魯頌·閟宮》公車千乘 朱英綠縢
 (8.1) 《詩·魯頌·閟宮》公徒三萬、貝冑朱綬
 (9.1) 《易·困·九二》困于酒食 朱紱方來

In addition, 朱^(zhū/chu) has been coined in the tale of the four holy animals, 青龍 白虎 朱雀 玄武 ‘green-blue dragon, white tiger, red bird, black tortoise’, which probably originates from the Zhou lect. The coined terms have remained the same to the present day, even though the basic color terms are not identical in the later lects. (E.g. in the current national lect, the notion of green-blue is split to blue and green; the term for red is not 朱^(zhū/chu) but 紅^(hóng/hǒng); the term for black is not 玄^(xuán/huàn) but 黑^(hēi/hǎi).)

In the Zhou national lect, the etymon 朱^(zhū/chu) is a monolexemic color term for red. It is applied to most items with the red color (the trappings, the collar, and the fruitless-flower), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for red.

Refutation:

(1) Refuting the notion “黑^(hēi/hǎi) for black” in the previous studies of Yáo (1988), Xú (1999) and Xiè (2008).

The term 黑^(hēi/hǎi) is actually not a basic color term for black. [This agrees with Baxter (1983), Wu (2011) and Wú (2012).] The term is attested only two times:

- (1) 《詩·邶風·北風》莫赤匪狐 莫黑匪烏 ‘crow [is not] black’
 (2) 《詩·小雅·大田》來方禋祀 以其騂黑 ‘a black red-horse’

It is applied to a few items with a black color; therefore, its application is restricted to a narrow class of objects. It could be a secondary synonym of another term for the color left by the previously dominant Shang national lect. [It was a basic color term for black in the Shang national lect.] In conclusion, it is not a basic color term for black.

(2) Refuting the notion “赤^(chì/xích) for red” in the previous studies of Baxter (1983) [stated as “赤^(chì/xích) or? (sic) 朱^(zhū/chu)”], Yáo (1988), Xú (1999) [stated as “赤^(chì/xích) and 朱^(zhū/chu)”], Xiè (2008), Wu (2011) and Wú (2012).

In the Zhou lect, the etymon 赤^(chì/xích) should actually mean the brown color instead of the red color.

The etymon [赤^(chì/xích)] is attested 10 times, applied in five contexts: (1) 赤狐 ‘brown fox’; (2) 赤芾 ‘brown leather-kneepad’ [x3]; (3) 赤舄 ‘brown shoe’ [x2]; (4) 赤豹 ‘brown leopard’; (5) 赤紱 ‘brown ribbon’:

- (1.1) 《詩·邶風·北風》莫赤匪狐 莫黑匪烏
 (2.1) 《詩·候人·候人》彼其之子 三百赤芻
 (2.2) 《詩·小雅·車攻》赤芻金舄 會同有繹
 (2.3) 《詩·小雅·采芻》赤芻在股 邪幅在下
 (3.1) 《詩·豳風·狼跋》公孫碩膚 赤舄几几
 (3.2) 《詩·小雅·大雅》玄衮赤舄 鉤膺鏤錫
 (4.1) 《詩·小雅·韓奕》獻其貔皮 赤豹黃羆
 (5.1) 《易·困·九五》剝削 困于赤紱

According to the objects in its applications, the color of a fox, a leather kneepad, a shoe, and a leopard should be brown rather than red. 赤紱 could be ‘brown ribbon’ rather than ‘red ribbon’, because 朱紱 ‘red ribbon’ existed in the same text.

The previous studies were likely inaccurate because the etymon means primarily ‘red-brown’ in the Qin-Han-Jin national lect (see the relevant section) and the Sui-Tang-Song national lect (see the relevant section), while it is usually mistaken for the simple red color.

Summary: In the Zhou national lect, the basic color term for black is 玄 (xuán/huǎn) [This confirms Baxter (1983), Wu (2011) and Wú (2012).]; the basic color term for white is 白 (bái/bách) [This confirms Baxter (1983), Yáo (1988), Xú (1999), Xiè (2008), Wu (2011) and Wú (2012).]; the basic color term for red is 朱 (zhū/chu) [Baxter (1983) (stated as “赤(chì/xìch) or? (sic) 朱(zhū/chu)”) and Xú (1999) (stated as “赤(chì/xìch) and 朱(zhū/chu)”) were imprecise.].

Limitation: Conventional texts in this lect have been reprinted and reissued several times through the ages. Ancient publishers could not ensure that the reprints remained identical. In addition, there could have been artificial adjustments that partly changed the original texts. These form a general limitation in philological studies. In the worst case, this limitation could question historical philology as a whole. Nevertheless, this dissertation supports the approach.

(3) Qin-Han-Jin national lect [秦漢晉通語]^(221BCE–589CE)

The Qin-Han-Jin national lect refers to the standard Chinese lect within Chinese sovereignty from the unification of the Qin [秦(qín/tǎn)] Empire in 221 BCE until the fall of the Chen [陳(chén/trǎn)] Empire in 589 CE, when the Chinese sovereignty was generally held by the same ruling population without fundamental linguistic changes. This lect has been referred to as “Old Chinese (the third period)” by the diachronic view. It should be called “Qin-Han-Jin Chinese” according to the panchronic view.

Books made of paper were produced in the Han Empire, although books made of bamboo and wooden slips still dominated in this era. Numerous texts written in this lect have survived to the present day. The contemporary literature of that time included Qin-Han-Jin verse (including Han-Jin verse [賦(fù/phú)], Jin binary-verse [駢賦] [contents of all verses in parallel] and Qin-Han-Jin lyrics [樂府]) and prose (including free prose [散文] and binary-prose [駢文]).

In the present study, the standard dictionaries (121-SW; 543-YP) of this lect have been used and analyzed. In addition, practical evidence has been cited from relevant common texts which must be non-linguistic and non-historiographical (Gao 2012a). Linguistic texts may consist of different lects. For example, the first dialectal dictionary, «...*fāngyán*» (18-FY), is a dictionary from regional lects to a national lect. Historiographical texts may consist of a large number of citations from different lects. In the Chinese environment, there is no need to translate written data from different lects, as long as they are written in Chinese glyphs.

Lexicographic attestation:

The present studies see the basic color term candidates: a term behind the etymon 黑^(hēi/hǎi) is attested and understood as a color term for black; a term behind the etymon 白^(bái/bách) is attested and understood as a color term for white; a term behind the etymon 赤^(chì/xích) is attested and understood as a color term for red-brown.

(a) 黑^(hēi/hǎi) for black, glossed as 火所熏之色也 ‘color of soot’ (121-SW: #6506).

(b) 白^(bái/bách) for white, glossed as 西方色也 ‘color of the West’ (121-SW: #4905).

(c) 赤^(chì/xích) for red-brown, glossed as 南方色也 ‘color of the South’ (121-SW: #6551).

The sense of the last term is usually mistaken for the simple red color. The present studies have noticed that there was no basic color term for brown in this lect and the term should be a primitive basic color term for red-brown.

Literary attestation:

For a simple sense of a relevant color term, the present studies demonstrate three examples of its occurrences from relevant common texts.

(a) The color term 黑^(hēi/hǎi) for black:

(1) 《春秋繁露·求雨》 (0N: by Dǒng Zhòng-shū [董仲舒]^(179–104BCE) of the Han Empire) 衣黑衣 ‘wear a black dress’.

(2) 《論衡·無形》 (0N: by Wáng Chōng [王充]^(27–97) of the Han Empire) 人少則髮黑 老則髮白 ‘hair [is] black’.

(3) 《世說新語·言語》 (0N: by Liú Yì-qīng [劉義慶]^(403–444) of the Song Empire) 卿瞳子白黑分明 ‘eyeball [is] black’.

In the Qin-Han-Jin national lect, the etymon 黑^(hēi/hǎi) is a monolexemic color term for black. It is applied to many items with the black color (e.g. the dress, the hair and the eyeball), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for black.

(b) The color term 白^(bái/bách) for white:

(1) 《春秋繁露·求雨》 (0N: by Dǒng Zhòng-shū [董仲舒]^(179–104BCE) of the Han Empire) 衣白衣 ‘wear a white dress’.

(2) 《論衡·無形》 (ON: by Wáng Chōng [王充]⁽²⁷⁻⁹⁷⁾ of the Han Empire) 人少則髮黑 老則髮白 ‘hair [is] white’.

(3) 《世說新語·言語》 (ON: by Liú Yì-qīng [劉義慶]⁽⁴⁰³⁻⁴⁴⁴⁾ of the Song Empire) 卿瞳子白黑分明 ‘eyeball [is] white’.

In the Qin-Han-Jin national lect, the etymon 白^(bái/bách) is a monolexic color term for white. It is applied to many items with the white color (e.g. the dress, the hair and the eyeball), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for white.

(c) The color term 赤^(chì/xích) for red[-brown]:

(1) 《鶴賦》 (ON: a verse by Lù Qiáo-rú [路喬如] of the Han Empire) 豈忘赤霄之上 忽池籩而盤桓 ‘red sky’.

(2) 《白虎通德論·封禪》 (ON: a prose by Bān Gù [班固]⁽³²⁻⁹²⁾ of the Han Empire) 朱草者 赤草也 ‘the red grass [wording in Zhou pre-Chinese] means red grass (*Alkanna*, the source of a red dye) [wording in Qin-Han-Jin Chinese]’.

(3) 《世說新語·汰侈》 (ON: a prose by Liú Yì-qīng [劉義慶]⁽⁴⁰³⁻⁴⁴⁴⁾ of the Song Empire) 簡文目庾赤玉 ‘red jade’.

The color term 赤^(chì/xích) for [red-]brown:

(1) 《春秋繁露·三代改制質文》 (ON: a prose by Dǒng Zhòng-shū [董仲舒]^(179-104BCE) of the Han Empire) 馬赤 ‘horse [is] brown’.

(2) 《思玄賦》 (ON: a verse by Zhāng Héng [張衡]⁽⁷⁸⁻¹³⁹⁾ of the Han Empire) 瞰瑤溪之赤岸兮 吊祖江之見劉 ‘brown shore’.

(3) 《世說新語·汰侈》 (ON: a prose by Liú Yì-qīng [劉義慶]⁽⁴⁰³⁻⁴⁴⁴⁾ of the Song Empire) 王以赤石脂泥壁 ‘brown stone’.

In the Qin-Han-Jin national lect, there is no separate color term for either red or brown. The Zhou basic term for red 朱^(zhū/chu) became a dated literary term, that is rarely used in the relevant common texts.

In the Qin-Han-Jin national lect, the etymon 赤^(chì/xích) is a monolexic color term for red-brown. It is applied to many items with the red-brown color (e.g. the fire thing, the horse and the stone), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for red-brown.

Summary: In the Qin-Han-Jin national lect, the basic color term for black is 黑^(hēi/hǎi) [This confirms Baxter (1983), Yáo (1988), Wu (2011) and Wú (2012)]; the basic color term for white is 白^(bái/bách) [This confirms Baxter (1983), Yáo (1988), Wu (2011) and Wú (2012)]; the basic color term for red (including brown) is 赤^(chì/xích). [Baxter (1983), Yáo (1988), Xú (1999), Xiè (2008), Wu (2011) and Wú (2012) were imprecise (did not include brown).]

Limitation: The limitation given for the Zhou national lect also applies here.

(4) Sui-Tang-Song national lect [隋唐宋通語]^(589–1276)

The Sui-Tang-Song national lect refers to the standard Chinese lect within the Chinese sovereignty from the unification of the Sui [隋^(suí/tuǐ)] Empire in 589 until the fall of the Greater Song [宋^(sòng/tóng)] Empire in 1276, when the Chinese sovereignty was generally held by the same ruling population without fundamental linguistic changes. This lect has been referred to as “Middle Chinese” by the diachronic view. It should be called “Sui-Tang-Song Chinese” according to the panchronic view.

Printing technology was developed in the Sui Empire. Since then, a large number of texts have survived to the present day. The contemporary literature of that time included Sui-Tang-Song verse (including Tang poem [詩^(shī/thi)] and Song lyric [詞^(cí/tǐ)]) and prose [散文]. Contemporary prose in this lect was rare because prestigious writers wrote according to the Qin-Han-Jin free prose, termed ‘ancient prose’ [古文].

In the present study, the standard dictionaries (1008-GW; 1039-JY) of this lect have been used and analyzed. In addition, practical evidence has been cited from relevant common texts.

Lexicographic attestation:

The present studies see the basic color term candidates: a term behind the etymon 黑^(hēi/hǎi) is attested and understood as a color term for black; a term behind the etymon 白^(bái/bāch) is attested and understood as a color term for white; (◼) a term behind the etymon 赤^(chì/xích) is attested and understood as a color term for red (including brown); and (●) a term behind the etymon 紅^(hóng/hòng) is attested and understood as a color term for red (including pink).

- (a) 黑^(hēi/hǎi) for black, glossed as 北方色 ‘color of the North’ (1008-GY: #24342).
- (b) 白^(bái/bāch) for white, glossed as 西方色 ‘color of the West’ (1008-GY: #23244).
- (c) (◼) 赤^(chì/xích) for red-brown, glossed as 南方色 ‘color of the South’ (1008-GY: #23666).

The sense of the last term is usually mistaken for the simple red color. The present studies have noticed that there was no basic color term for brown in this lect and the term should be a primitive basic color term for red-brown.

- (●) 紅^(hóng/hòng) for red-pink, glossed as 色也 ‘color’ (1008-GY: #260).

The original gloss is obscure; the present definition is arrived at based upon common texts and comparisons with the other lects.

In the Qin-Han-Jin national lect, the same etymon 紅^(hóng/hòng) primarily means “reddened white fabrics [帛赤白色] (pink fabrics)” (121-SW: #8580).

In the current national lect, the same etymon 紅^(hóng/hòng) primarily means red, “the color of fresh blood [像鲜血的颜色]” (2011-XHZZ: 190).

Therefore, it is reasonable to assume that the color is actually red or pink.

Literary attestation:

For a simple sense of a relevant term, the present studies demonstrate three examples of its occurrences from relevant common texts.

(a) The color term 黑^(hēi/hǎi) for black:

(1) 《秋浦歌》 (0N: by Lǐ Bái [李白]^(701–762) of the Tang Empire) 空吟白石爛 淚滿黑貂裘 ‘black marten’.

(2) 《賣炭翁》 (0N: by Bái Jū-yì [白居易]^(772–846) of the Tang Empire) 滿面塵灰煙火色 兩鬢蒼蒼十指黑 ‘ten fingers [are] black’.

(3) 《水調歌頭·相公倦臺鼎》 (0N: by Xīn Qì-jí [辛棄疾]^(1140–1207) of the Greater Song Empire) 占古語 方人也 正黑頭 ‘black top (hair)’.

In the Sui-Tang-Song national lect, the etymon 黑^(hēi/hǎi) is a monolexemic color term for black. It is applied to many items with the black color (e.g. the marten, the fingers, and the hair), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for black.

(b) The color term 白^(bái/bāch) for white:

(1) 《暖酒》 (0N: by Lǐ Bái [李白]^(701–762) of the Tang Empire) 撥卻白雲見青天 撥頭裡許便乘仙 ‘white clouds’.

(2) 《夢仙》 (0N: by Bái Jū-yì [白居易]^(772–846) of the Tang Empire) 坐乘一白鶴 前引雙紅旌 ‘white crane (bird)’.

(3) 《水調歌頭·日月如磨蟻》 (0N: by Xīn Qì-jí [辛棄疾]^(1140–1207) of the Greater Song Empire) 黃雞白酒 君去村社一番秋 ‘white alcohol’.

In the Sui-Tang-Song national lect, the etymon 白^(bái/bāch) is a monolexemic color term for white. It is applied to many items with the white color (e.g. the clouds, the crane bird, and the alcohol), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for white.

(c)(■) The color term 赤^(chì/xích) for red[-brown]:

(1) 《少年行》 (0N: a verse by Lǐ Bái [李白]^(701–762) of the Tang Empire) 赤心用盡為知己 黃金不惜栽桃李 ‘red heart’.

(2) 《旱熱二首》 (0N: a verse by Bái Jū-yì [白居易]^(772–846) of the Tang Empire) 勃勃旱塵氣 炎炎赤日光 ‘red sun’.

(3) 《後山談叢》 (0N: a prose by Chén Shī-dào [陳師道]^(1051–1101) of the Greater Song Empire) 生血皆赤 怒心之所出也 ‘row blood [is] all red’.

The color term 赤^(chì/xích) for [red-]brown:

(1) 《大唐六典》 (0N: 738, a law of the Tang Empire) 大裘冕 [...] 赤舄 ‘brown shoe’.

(2) 《魯郡堯祠送竇明府薄華還西京》 (0N: a verse by Lǐ Bái [李白]^(701–762) of the Tang Empire) 紅泥亭子赤闌幹 碧流環轉青錦湍 ‘brown railing–fence’.

(3) 《仲夏齋戒月》 (ON: a verse by Bái Jū-yì [白居易]⁽⁷⁷²⁻⁸⁴⁶⁾ of the Tang Empire) 禦寇馭冷風 赤松遊紫煙 ‘brown pine’.

(●) The color term 紅^(hóng/hòng) for red[-pink].

(1) 《秋浦歌》 (ON: a verse by Lǐ Bái [李白]⁽⁷⁰¹⁻⁷⁶²⁾ of the Tang Empire) 爐火照天地 紅星亂紫煙 ‘red spark’.

(2) 《憶江南》 (ON: a verse by Bái Jū-yì [白居易]⁽⁷⁷²⁻⁸⁴⁶⁾ of the Tang Empire) 日出江花紅勝火 春來江水綠如藍 ‘[the] sun risen [from the] river spray [is] redder than fire’.

(3) 《法駕導引·壽城山》 (ON: a verse by Liú Chén-wēng [劉辰翁]⁽¹²³²⁻¹²⁹⁷⁾ of the Greater Song Empire) 醉眼看紅霞 ‘red clouds’.

The color term 紅^(hóng/hòng) for [red-]pink.

(1) 《留別公安太易沙門》 (ON: a verse by Dù Fǔ [杜甫]⁽⁷¹²⁻⁷⁷⁰⁾ of the Tang Empire) 沙村白雪仍含凍 江縣紅梅已放春 ‘pink apricot[-flower] (*Prunus mume*)’.

(2) 《偶作》 (ON: a verse by Bái Jū-yì [白居易]⁽⁷⁷²⁻⁸⁴⁶⁾ of the Tang Empire) 紅杏初生葉 青梅已綴枝 ‘pink plum[-flower] (*Prunus armeniaca*)’.

(3) 《菩薩蠻·清明》 (ON: a verse by Shǐ Hào [史浩]⁽¹¹⁰⁶⁻¹¹⁹⁴⁾ of the Greater Song Empire) 桃紅柳綠年年事 ‘pink peach[-flower] (*Prunus persica*)’.

In this lect, the first color term 赤^(chì/xích) should be a dated literary term for red-brown inherited from the Qin-Han-Jin national lect, while the second color term 紅^(hóng/hòng) is an actual term for red-pink in the Sui-Tang-Song national lect. For the simple red sense, the second term was remarkably predominant in the Tang-Song poetry [唐詩宋詞], the newly formed contemporary literature of that time.

In the Sui-Tang-Song national lect, the etymon 紅^(hóng/hòng) is a monolexemic color term for red. It is applied to many items with the red color (e.g. the spark, the sun, and the clouds), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for red.

Summary: In the Sui-Tang-Song national lect, the basic color term for black is 黑^(hēi/hǎi) [This confirms Yáo (1988), Wu (2011) and Wú (2012).]; the basic color term for white is 白^(bái/bách) [This confirms Yáo (1988), Wu (2011) and Wú (2012).]; the basic color term for red (including pink) is 紅^(hóng/hòng) [This confirms Yáo (1988). Wu (2011) and Wú (2012) incorrectly considered the term 赤^(chì/xích) as the second basic color term for red, apparently because his study relied on the corpus including the historiographies. Historiographical texts may consist of a large number of citations from different lects. The term 赤^(chì/xích) as the Qin-Han-Jin basic color term for red was still attested in citations and inherited terms.]

Limitation: The limitation given for the Zhou national lect also applies here.

(5) Yuan national lect [元通語]^(1276–1368)

The Yuan national lect refers to the standard Chinese lect of the Yuan [元 (yuán/nguýên)] Empire or officially the Da-Yuan [大元] Empire. “Da- [大(dà/dài)]” is an attribute that means ‘great’. This lect has been referred to as “Proto-Mandarin Chinese” by the diachronic view. It should be called “Yuan Chinese” according to the panchronic view.

The Yuan Empire damaged Chinese culture in many aspects. The pervious standard lects were not followed. Officially, the Yuan Empire issued Tibeto-Mongolian 'Phags-pa scripts in order to replace all scripts of the conquered nations, including the Chinese glyphs. No standard Chinese dictionary was issued. On the other hand, it released Chinese people from the complicated philological situation. Chinese people started writing according to their own dialects. The Chinese dialect in Beijing brought from Kaiping became the *de facto* national lect. It left only rhyme books (without glosses). Its phonological foundation is the Zhao regional lect (also called the Jin regional lect) (cf. Lǐ 2002: 87–90). It is linguistically not identical to either Ming Mandarin or Qing Mandarin (see next sections) [thus it should not be called Proto-Mandarin].

The contemporary literature of that time included Yuan verse (predominately Yuan lyric [散曲]) and prose (predominately Yuan drama [雜劇]).

Because there is no standard dictionary, the present study has relied on relevant common texts written in this lect.

General attestation:

The present studies see the basic color term candidates: a term behind the etymon 黑(hēi/hǎc) is attested and understood as a color term for black; a term behind the etymon 白(bái/bàch) is attested and understood as a color term for white; a term behind the etymon 紅(hóng/hòng) is attested and understood as a color term for red.

(a) 黑(hēi/hǎc) for black.

(b) 白(bái/bàch) for white.

(c) 紅(hóng/hòng) for red.

Literary attestation:

For a simple sense of a relevant term, the present studies demonstrate three examples of its occurrences from relevant common texts.

(a) The term 黑(hēi/hǎc) for black:

(1) 《雙調·喬牌兒》(ON: a verse by Guān Hàn-qīn [關漢卿]^(ca.1210–ca.1300) of the Yuan Empire) 算到天明走到黑 ‘black [night]’.

(2) 《仙呂·醉中天·佳人臉上黑痣》(ON: a verse by Bái Pǔ [白樸]^(1226–1306) of the Yuan Empire) 佳人臉上黑痣 ‘black nevus’.

(3) 《南呂·四塊玉·天臺路采藥》(ON: a verse by Mǎ Zhì-yuǎn [馬致遠]^(1250–1321) of the Yuan Empire) 黑河邊有扇尾羊 ‘black river’.

In the Yuan national lect, the etymon 黑(hēi/hǎc) is a monolexic color term for black. It is applied to many items with the black color (e.g. the night, the nevus, and the river), therefore its application is not restricted to a narrow class

of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for black.

(b) The term 白^(bái/bách) for white:

(1) 《大石調·青杏子·騁懷》(0N: a verse by Guān Hàn-qīn [關漢卿]^(ca.1210-ca.1300) of the Yuan Empire) 恨孤眠水上白鷗 ‘white gull’.

(2) 《雙調·駐馬聽》(0N: a verse by Bái Pǔ [白樸]⁽¹²²⁶⁻¹³⁰⁶⁾ of the Yuan Empire) 白雪阳春 ‘white snow’.

(3) 《南呂·四塊玉·嘆世》(0N: a verse by Mǎ Zhì-yuǎn [馬致遠]⁽¹²⁵⁰⁻¹³²¹⁾ of the Yuan Empire) 白玉堆 ‘white jade’.

In the Yuan national lect, the etymon 白^(bái/bách) is a monolexemic color term for white. It is applied to many items with the white color (e.g. the gull, the snow, and the jade), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for white.

(c) The term 紅^(hóng/hòng) for red:

(1) 《雙調·碧玉簫》(0N: a verse by Guān Hàn-qīn [關漢卿]^(ca.1210-ca.1300) of the Yuan Empire) 秋景堪題紅葉滿山溪 ‘red leaf’.

(2) 《大石調·青杏子·咏雪》(0N: a verse by Bái Pǔ [白樸]⁽¹²²⁶⁻¹³⁰⁶⁾ of the Yuan Empire) 富貴人家應須慣紅爐暖不畏初寒 ‘red stove’.

(3) 《夜行船·秋思》(0N: a verse by Mǎ Zhì-yuǎn [馬致遠]⁽¹²⁵⁰⁻¹³²¹⁾ of the Yuan Empire) 眼前紅日又西斜 疾似下坡車 ‘red sun’.

In the Yuan national lect, the etymon 紅^(hóng/hòng) is a monolexemic color term for red. It is applied to many items with the red color (e.g. the leaf, the stove, and the sun), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for red.

Summary: In the Yuan national lect, the basic color term for black is 黑^(hēi/hǎc), the basic color term for white is 白^(bái/bách); the basic color term for red is 紅^(hóng/hòng). [Yáo (1988), Wu (2011) and Wú (2012) got the same results on their combined lects including this lect.]

Limitation: The limitation given for the Zhou national lect also applies here.

(6) Ming national lects [明雅言及南京官話]⁽¹³⁶⁸⁻¹⁶⁴⁴⁾

The Ming national lects refer to the standard Chinese lects of the Ming [明^(míng/míngh)] Empire or officially the Da-Ming [大明] Empire.

The Ming Empire wished to recover Chinese culture which had been damaged by the Yuan Empire. The Sui-Tang-Song national lect, the Qin-Han-Jin national lect, and the Zhou pre-Chinese lect were restored and fused as its

national lect [雅言 (yǎ-yán/nhã-ngôn), ‘art lect’] (primary literary language to be taught at school). It should be called “Ming Classical Chinese”.

Nevertheless, Chinese vernacular writers continued writing in their own lects. The Chinese dialect in Beijing, brought from Nanjing, became the official lect [官話 (guān-huà/quan-thoại), ‘official lect’] (spoken language by the authority, could be also written). It should be called “Ming Mandarin Chinese”. It is linguistically identical to the current Yang regional lect [揚州方言=上江話] of the Chinese language (cf. Lǚ 1985). [The lect in Beijing was identical to Nanjing, because the majority of the residents migrated from Nanjing with the central government of Ming.]

The contemporary literature of that time predominately consisted of novels [小說] written in Ming Mandarin Chinese by vernacular writers. However, educated scholars and officials wrote proses in Ming Classical Chinese, termed ‘octonary prose’ [八股文]. An octonary prose must rely on citations from the classical texts. The Classical Chinese language in the Ming Empire (also in the Qing Empire, see the next section) is comparable to the Latin language in Medieval Europe, as the prestigious languages were still maintained when the natural spoken bases had vanished.

In the present study, the standard dictionary (1375-HWZY) has been used and analyzed. In addition, practical proofs have been cited from relevant common texts.

(6.1) Ming Classical Chinese

There is no need to study this lect particularly, because it mainly consists of citations from the previous national lects and artificially stimulated wordings. For the results of the previous lects, see the previous sections.

(6.2) Ming Mandarin Chinese

Lexicographic attestation:

The present studies see the basic color term candidates: a term behind the etymon 黑 (hēi/hǎc) is attested and understood as a color term for black; a term behind the etymon 白 (bái/bách) is attested and understood as a color term for white; a term behind the etymon 紅 (hóng/hông) is attested and understood as a color term for red.

(a) 黑 (hēi/hǎc) for black, glossed as 黑色 ‘black color’ (1375-HWZY: #2137)

(b) 白 (bái/bách) for white, glossed as 西方色 ‘color of the West’ (1375-HWZY: #2132).

(c) 紅 (hóng/hông) for red, glossed as 淺赤也 ‘light red-brown’ (1375-HWZY: #13).

Literary attestation:

For a simple sense of a relevant term, the present studies demonstrate three examples of its occurrence from relevant common texts.

(a) The term 黑 (hēi/hǎc) for black:

(1) 《三國演義·第六回》(ON: a novel by Luó Guàn-zhōng [羅貫中]^(1330–1400) of the Ming Empire) 遙望火焰冲天 黑煙鋪地 ‘black smoke’.

(2) 《西遊記·第三回》(0N: a novel by Wú Chéng-ēn [吳承恩]^(1504–1582) of the Ming Empire) 龍王只認做是塊黑鐵 ‘black iron’.

(3) 《金瓶梅·第九回》(0N: a novel in the Ming Empire) 黑熊掌 紫駝蹄 酒後獻來香滿座 ‘black bear’.

In Ming Mandarin Chinese, the etymon 黑(hēi/hǎc) is a monolexemic color term for black. It is applied to many items with the black color (e.g. the smoke, the iron, and the bear), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for black.

(b) The term 白(bái/bāch) for white:

(1) 《三國演義·第一回》(0N: a novel by Luó Guàn-zhōng [羅貫中]^(1330–1400) of the Ming Empire) 白髮漁樵江渚上 慣看秋月春風 ‘white hair’.

(2) 《西遊記·第一回》(0N: a novel by Wú Chéng-ēn [吳承恩]^(1504–1582) of the Ming Empire) 翠蘚堆藍 白雲浮玉 光搖片片煙霞 ‘white cloud’.

(3) 《金瓶梅·第一回》(0N: a novel in the Ming Empire) 末後一匹大白馬上坐著一個壯士 ‘white horse’.

In Ming Mandarin Chinese, the etymon 白(bái/bāch) is a monolexemic color term for white. It is applied to many items with the white color (e.g. the hair, the cloud, and the horse), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for white.

(c) The term 紅(hóng/hǒng) for red:

(1) 《三國演義·第一回》(0N: a novel by Luó Guàn-zhōng [羅貫中]^(1330–1400) of the Ming Empire) 青山依舊在 幾度夕陽紅 ‘setting sun light [is] red’.

(2) 《西遊記·第四回》(0N: a novel by Wú Chéng-ēn [吳承恩]^(1504–1582) of the Ming Empire) 金光萬道滾紅霓 瑞氣千條噴紫霧 ‘red rainbow’.

(3) 《金瓶梅·第三十回》(0N: a novel in the Ming Empire) 盆栽綠草 瓶插紅花 ‘red flower’.

In Ming Mandarin Chinese, the etymon 紅(hóng/hǒng) is a monolexemic color term for red. It is applied to many items with the red color (e.g. the setting sun, the rainbow, and the flower), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for red.

Summary: In the Ming Mandarin Chinese, the basic color term for black is 黑(hēi/hǎc); the basic color term for white is 白(bái/bāch); the basic color term for red is 紅(hóng/hǒng). [Yáo (1988), Wu (2011) and Wú (2012) got the same results on their combined lects including this lect.]

Limitation: The limitation given for the Zhou national lect also applies here.

(7) Qing national lects [清雅言及北京官話]^(1644–1912)

The Qing national lects refer to the standard Chinese lects of the Qing [清 (qīng/thành)] Empire or officially the Da-Qing [大清] Empire (was written as “the Ta-Tsing Empire” by the West). “Da- [大^(dà/dai)]” is an attribute that means ‘great’.

The Qing Empire damaged Chinese culture especially in dressing customs but not in linguistic matters. However, its confused language policy deepened the gap between the national lect and the actual lect. Ming Classical Chinese, Sui-Tang- Song Chinese, Qin-Han-Jin Chinese and Zhou pre-Chinese were followed and fused as its national taught lect [雅言]. It should be called “Qing Classical Chinese”. The standard dictionary (1716-KXZD) did not define primary glosses for lexemes according to any actual lect. All glosses were summarized from the previous dictionaries and ancient texts. This meant that the national lect was totally manufactured upon all existing Chinese transmitted texts. This lect was used to study classical texts and produce official texts.

At the same time, Chinese vernacular writers continued writing in their own lects. The dialect in Beijing brought from Shenyang became its official lect [官話]. It should be called “Qing Mandarin Chinese”. It is fundamentally identical to the current national lect (see the next section), but not to Ming Mandarin. It is linguistically identical to the Yan regional lect [燕方言] of the Chinese language.

The contemporary literature of that time was identical to the literature of Ming. In addition, most historical literature genres were studied and stimulated in the Qing Empire.

In the present study, the standard dictionary (1716-KXZD) has been used and analyzed; and practical proofs have been cited from relevant common texts.

(7.1) Qing Classical Chinese

There is no need to study this lect particularly, because it mainly consists of citations from the previous national lects and artificially stimulated wordings. For the results of the previous lects, see the previous sections.

(7.2) Qing Mandarin Chinese

General attestation:

The present studies see the basic color term candidates: a term behind the etymon 黑^(hēi/hǎc) is attested and understood as a color term for black; a term behind the etymon 白^(bái/bách) is attested and understood as a color term for white; a term behind the etymon 紅^(hóng/hòng) is attested and understood as a color term for red.

(a) 黑^(hēi/hǎc) for black.

(b) 白^(bái/bách) for white.

(c) 紅^(hóng/hòng) for red.

Literary attestation:

For a simple sense of a relevant term, the present studies demonstrate three examples of its occurrence from relevant common texts.

(a) The term 黑 (

(1) 《醒世姻緣傳·第二回》 (0N: a novel by Xī-Zhōu-shēng [西周生]^(anonymous pen name) of the Qing Empire) 黑夜安穩睡了一覺 ‘black night’.

(2) 《紅樓夢·第三回》 (0N: a novel by Cáo Xuě-qín [曹雪芹]^(1724–1763) of the Qing Empire) 入一黑油漆大門內 ‘black lacquer’.

(3) 《老殘遊記·第一回》 (0N: a novel by Liú È [劉鶚]^(1857–1909) of the Qing Empire) 東邊有一絲黑影 ‘black shadow’.

In Qing Mandarin Chinese, the etymon 黑 (

(b) The term 白 (bái/bāch) for white:

(1) 《醒世姻緣傳·第一回》 (0N: a novel by Xī-Zhōu-shēng [西周生]^(anonymous pen name) of the Qing Empire) 出落得唇紅齒白 目秀眉清 ‘teeth [are] white’.

(2) 《紅樓夢·第一回》 (0N: a novel by Cáo Xuě-qín [曹雪芹]^(1724–1763) of the Qing Empire) 當下即命小童進去速封五十兩白銀並兩套冬衣 ‘white silver [money]’.

(3) 《老殘遊記·第一回》 (0N: a novel by Liú È [劉鶚]^(1857–1909) of the Qing Empire) 只見海中白浪如山 ‘white wave’.

In Qing Mandarin Chinese, the etymon 白 (bái/bāch) is a monolexemic color term for white. It is applied to many items with the white color (e.g. the teeth, the silver, and the wave), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for white.

(c) The term 紅 (hóng/hòng) for red:

(1) 《醒世姻緣傳·第一回》 (0N: a novel by Xī-Zhōu-shēng [西周生]^(anonymous pen name) of the Qing Empire) 出落得唇紅齒白 目秀眉清 ‘lips [are] red’.

(2) 《紅樓夢·第十一回》 (0N: a novel by Cáo Xuě-qín [曹雪芹]^(1724–1763) of the Qing Empire) 樹頭紅葉翩翩 ‘red leaf’.

(3) 《老殘遊記·第五回》 (0N: a novel by Liú È [劉鶚]^(1857–1909) of the Qing Empire) 眼眶子就漸漸發紅 ‘eye sockets [became] red (crying)’.

In Qing Mandarin Chinese, the etymon 紅 (hóng/hòng) is a monolexemic color term for red. It is applied to many items with the red color (e.g. the sun, the leaf, and the crying eye sockets), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for red.

Summary: In the Qing Mandarin Chinese, the basic color term for black is 黑^(hēi/hǎi), the basic color term for white is 白^(bái/bāch); the basic color term for red is 紅^(hóng/hòng). [Yáo (1988), Wu (2011) and Wú (2012) got the same results on their excessively combined lects including this lect.]

Limitation: The limitation given for the Zhou national lect also applies here.

(8) Current national lect [華語/普通話]⁽¹⁹²³⁻⁾ (= Yan regional lect [燕方言])

The current national lect refers to the standard Chinese language of modern China. It has been called “Modern Chinese” by the diachronic view. It should be named “Yan Chinese” according to the panchronic view (Gāo 2013)⁶. It is commonly called “Standard Chinese” or “Beijing Mandarin Chinese”. It is based on the Beijing dialect of the Yan regional lect [燕方言] of the Chinese language.

The current national lect is now maintained in parallel in mainland China and in Taiwan. It is locally called “the contemporary Han-Chinese lect [現代漢語]” and “the common lect [普通話]” in mainland China, but the “Hua-Chinese lect [華語]” or “national lect [國語]” in Taiwan.

In the present study, the standard dictionaries (1994-GYCD, 2011-XHZD) of this lect have been used and analyzed. Contemporary applications are provided.

Lexicographic attestation:

The present studies see the basic color term candidates: a term behind the etymon 黑^(hēi/hǎi) is attested and understood as a color term for black; a term behind the etymon 白^(bái/bāch) is attested and understood as a color term for white; a term behind the etymon 紅^(hóng/hòng) is attested and understood as a color term for red.

(a) 黑^(hēi/hǎi) for black, glossed as 像煤或墨的颜色 ‘color of coal and ink’ (2011-XHZD: 188).

(b) 白^(bái/bāch) for white, glossed as 像雪或乳汁的颜色 ‘color of snow and milk’ (2011-XHZD: 10).

(c) 紅^(hóng/hòng) for red, glossed as 像鲜血的颜色 ‘color of fresh blood’ (2011-XHZD: 190).

Contemporary attestation:

For a simple sense of a relevant term, the present studies demonstrate three examples of its contemporary occurrence.

(a) The term 黑^(hēi/hǎi) for black: (1) 黑影 ‘black shadow’. (2) 黑熊 ‘black bear’. (3) 黑貓 ‘black cat’.

In the current national lect, the etymon 黑^(hēi/hǎi) is a monolexemic color term for black. It is applied to many items with the black color (e.g. the shadow, the bear, and the cat), therefore its application is not restricted to a narrow class of

⁶ It was commonly considered that the Modern Chinese language is not old, but a young diachronic stage after Middle Chinese that could only be traced to 1324-ZYYY. Shen (2011) refuted this common view with findings of Modern Chinese phonological characteristics in older documents.

objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for black.

(b) The term 白^(bái/bách) for white: (1) 白雲 ‘white cloud’. (2) 白羊 ‘white sheep’. (3) 白貓 ‘white cat’.

In the current national lect, the etymon 白^(bái/bách) is a monolexemic color term for white. It is applied to many items with the white color (e.g. the cloud, the sheep, and the cat), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for white.

(c) The term 紅^(hóng/hòng) for red: (1) 紅太陽 ‘red sun’. (2) 紅霞 ‘red clouds’. (3) 紅葉 ‘red leaf’.

In the current national lect, the etymon 紅^(hóng/hòng) is a monolexemic color term for red. It is applied to many items with the red color (e.g. the sun, the clouds, and the leaf), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for red.

Summary: In the current national lect, the basic color term for black is 黑^(hēi/hǎi); the basic color term for white is 白^(bái/bách); the basic color term for red is 紅^(hóng/hòng). [It confirms Berlin & Kay (1969), Yáo (1988), Wu (2011) and Wú (2012).]

(9) Yue regional lect [粵方言]

The Yue [粵^(yuè/viêt)] regional lect refers to the standard variety of the Yue regional lect of the Chinese language in south coastal China. This lect is commonly called “[Standard] Yue Chinese” or “[Standard] Cantonese”, natively called “plain lect [白話]”.

The current standard of the Yue regional lect (Standard Cantonese) is conventionally set to its most developed dialect, the Guangzhou (town of Canton) dialect. Although there are many standard dictionaries regarding the Guangzhou dialect, there is no official document that has confirmed the Guangzhou dialect of Yue as Standard Yue Chinese.

In the present study, a standard dictionary for the Guangzhou dialect (2002-GZH) of this lect has been used and analyzed. Contemporary applications are provided.

Lexicographic attestation:

The present studies see the basic color term candidates: a term behind the etymon 黑^(hēi/hǎi) is attested and understood as a color term for black; a term behind the etymon 白^(bái/bách) is attested and understood as a color term for white; a term behind the etymon 紅^(hóng/hòng) is attested and understood as a color term for red.

(a) 黑^(hēi/hǎi) for black, glossed as 像煤或墨的颜色 ‘color of coal and ink’ (2002-GZH: 637).

(b) 白^(bái/bách) for white, glossed as 像霜雪一样的颜色 ‘color of frost and snow’ (2002-GZH: 522).

(c) 紅^(hóng/hòng) for red, glossed as 像鲜血一样的颜色 ‘color of fresh blood’ (2002-GXH: 314).

Contemporary attestation:

For a simple sense of a relevant term, the present studies demonstrate three examples of its contemporary occurrence.

(a) The term 黑^(hēi/hǎi) for black: (1) 黑影 ‘black shadow’. (2) 黑熊 ‘black bear’. (3) 黑貓 ‘black cat’.

In the Yue regional lect, the etymon 黑^(hēi/hǎi) is a monolexemic color term for black. It is applied to many items with the black color (e.g. the shadow, the horse, and the cat), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for black.

(b) The term 白^(bái/bách) for white: (1) 白雲 ‘white cloud’. (2) 白羊 ‘white sheep’. (3) 白貓 ‘white cat’.

In the Yue regional lect, the etymon 白^(bái/bách) is a monolexemic color term for white. It is applied to many items with the white color (e.g. the cloud, the sheep, and the cat), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for white.

(c) The term 紅^(hóng/hòng) for red: (1) 紅熱頭 ‘red sun’. (2) 紅霞 ‘red clouds’. (3) 紅葉 ‘red leaf’.

In the Yue regional lect, the etymon 紅^(hóng/hòng) is a monolexemic color term for red. It is applied to many items with the red color (e.g. the sun, the clouds, and the leaf), therefore its application is not restricted to a narrow class of objects having. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for red.

Summary: In the Yue regional lect, the basic color term for black is 黑^(hēi/hǎi); the basic color term for white is 白^(bái/bách); the basic color term for red is 紅^(hóng/hòng). [It confirms Berlin & Kay (1969) and Xiè (2008).]

(10) Min regional lect [閩方言]

The Min [閩^(mǐn/mān)] regional lect refers to the standard variety of the Min regional lect of the Chinese language in south-east coastal China. This lect is commonly called “[Standard] Min Chinese” or “[Standard] Taiwanese”.

The current standard of the Min regional lect is conventionally set by its most developed dialect, the Xiamen (Amoy) dialect. There is an academic dictionary called “the polymorphemic dictionary of the Xiamen dialect [廈門方

言詞典]” (1993-XMF). In Taiwan, the standard Min regional lect is officially established. It has a standard dictionary called “the polymorphemic dictionary of usual words of the South Min lect in Taiwan [臺灣閩南語常用詞辭典]” (2011-TWM). The same lect was called “the Taiwanese lect [臺灣語]” when Taiwan was seized by Japan from 1895 to 1945.

In the present study, the standard dictionaries (1993-XMF, 2011-TWM) of this lect have been used and analyzed. Contemporary applications are provided.

Lexicographic attestation:

The present studies see the basic color term candidates: a term behind the etymon 黑^(hēi/hăc) is attested and understood as a color term for black; a term behind the etymon 白^(bái/bach) is attested and understood as a color term for white; a term behind the etymon 紅^(hóng/hông) is attested and understood as a color term for red.

(a) 烏^(wū/ô) for black, glossed as 黑(色) ‘black color’ (1993-XMF: 62).

(b) 白^(bái/bach) for white, glossed as 白色 ‘white color’ (1993-XMF: 370).

(c) 紅^(hóng/hông) for red, glossed as 紅顏色 ‘red color’ (1993-XMF:251).

Contemporary attestation:

For a simple sense of a relevant term, the present studies demonstrate three examples of its contemporary occurrence.

(a) The term 烏^(wū/ô) for black: (1) 烏影 ‘black shadow’. (2) 烏熊 ‘black bear’. (3) 烏貓 ‘black cat’.

In the Min regional lect, the etymon 烏^(wū/ô) is a monolexemic color term for black. It is applied to many items with the black color (e.g. the shadow, the bear, and the cat), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for black.

(b) The term 白^(bái/bach) for white: (1) 白雲 ‘white cloud’. (2) 白羊 ‘white sheep’. (3) 白貓 ‘white cat’.

In the Min regional lect, the etymon 白^(bái/bach) is a monolexemic color term for white. It is applied to many items with the white color (e.g. the cloud, the sheep, and the cat), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for white.

(c) The term 紅^(hóng/hông) for red: (1) 紅日頭 ‘red sun’. (2) 紅霞 ‘red clouds’. (3) 紅葉 ‘red leaf’.

In the Min regional lect, the etymon 紅^(hóng/hông) is a monolexemic color term for red. It is applied to many items with the red color (e.g. the sun, the clouds, and the leaf), therefore its application is not restricted to a narrow class of objects. It is not a secondary synonym of another color term. It is not a hyponym of another basic color term candidate. In conclusion, it is a basic color term for red.

Summary: In the Min regional lect, the basic color term for black is 烏^(wū/ô); the basic color term for white is 白^(bái/bach); the basic color term for red is 紅^(hóng/hông). [It confirms Xiè (2008).]

(11) General remarks

The lects of the Chinese language are written in Chinese glyphs. Once they are academically written in Chinese glyphs, a Sino-linguistic procedure of etymological correlations is simultaneously done. Etymologically identical data are identically written. This advanced writing method has elevated the ordinary philological level of all Sino-literate Chinese [also Japanese, Korean and Vietnamese] people from lexemes to etyma (= zì [字^(zì/tǔ)]). For example, all Sino-literate Min speakers are able to tell other Chinese people that the etymon 黑^(hēi/hắc) exists in their own language, but that it is not primarily used for the black color. Nevertheless, on the same issue, literate English speakers without specialized knowledge of etymology are unable to tell other Germanic people that the etymon of (swart/*schwarz*) exists in their own language, but that it is not primarily used for the black color.

In summary, in Western texts, linguistic data with the same alphabets can be lexically identical; in Chinese texts, linguistic data with the same Chinese glyphs are not necessarily lexically identical but should be etymologically identical (excluding applications of the Semantically Read Forms [訓讀/訓読み^(kunyomi)]).

To make the results more understandable, the Chinese etyma are decoded to the Etymologically Read Forms [音讀/音読み^(onyomi)] in Table 4.

Table 4. Etymologically Read Forms [ERF] of the etyma analyzed in this section

variety↓ etymon→	白 ^(bái/bach)	玄 ^(xuán/huyền)	黑 ^(hēi/hắc)	烏 ^(wū/ô)
Standard Chinese (Pinyin)	<i>bái</i>	<i>xuán</i>	<i>hēi</i>	<i>wū</i>
Beijing Yan (IPA)	[paɪ˥]⁽ᴳ²⁾	[ɕy̌an˥]⁽ᴳ²⁾	[xɛɪ˥]⁽ᴳ¹⁾	[ʔuː˥]⁽ᴳ¹⁾
Yue Chinese (Jyutping)	<i>baak</i> ⁶	<i>jyun</i> ⁴	<i>hak</i> ¹	<i>wu</i> ¹
Guangzhou Yue (IPA)	[paːk̚˥]⁽ᴳ²⁾	[jyːn˥]⁽ᴳ²⁾	[hɛk̚˥]⁽ᴳ¹⁾	[wuː˥]⁽ᴳ¹⁾
Min Chinese (Tâi-lô)	<i>pik</i>	<i>hiân</i>	<i>hik</i>	<i>oo</i>
Xiamen Min (IPA)	[piǎk̚˥]⁽ᴳ²⁾	[hɿan˥]⁽ᴳ²⁾	[hiǎk̚˥]⁽ᴳ¹⁾	[ʔɔː˥]⁽ᴳ¹⁾

Table 4 (continued)

variety↓ etymon→	赤 ^(chi/xích)	朱 ^(zhū/chu)	紅 ^(hóng/hōng)
Standard Chinese (Pinyin)	<i>chì</i>	<i>zhū</i>	<i>hóng</i>
Beijing Yan (IPA)	[tʂʰiː˥]^(C)	[tʂuː˥]^(A1)	[xuː˥]^(A2)
Yue Chinese (Jyutping)	<i>chek³</i>	<i>zyu¹</i>	<i>hung⁴</i>
Guangzhou Yue (IPA)	[tʂʰeː˥˥]^(D3)	[tʂyː˥]^(A1)	[hɔŋ˥˥]^(A2)
Min Chinese (Tâi-lô)	<i>tshik</i>	<i>tsu</i>	<i>âng</i>
Xiamen Min (IPA)	[tʂʰi˥˥k˥]^(D1)	[tsuː˥]^(A1)	[ʔaː˥]^(A2)

However, ERF in the archaic Chinese lects cannot be directly given in phonetic alphabets, because these data were omitted in the sources, or given in Sino-phonology. This issue is not pursued because it is not required in the present non-phonological studies.

3.1.2. Official colors of Chinese regimes

The results and discussion of this part remain unchanged from [P3].

3.2. Results and discussion of the experimental approach

The results and discussion of this part remain unchanged from [P4].

4. OVERVIEW

4.1. Overview of the philological approach

4.1.1. Basic color terms for black, white and red in panchronic Chinese⁷

The basic color terms for black, white and red in the studied lects of the Chinese language are summarized in Table 5.

Table 5. Basic color terms for black, white and red in Chinese

lect↓ color→	black	white	red
Shang	𪛗(--/--)	白(bái/bạch)	赤(chì/xích)
Zhou	玄(xuán/huyền)	白(bái/bạch)	朱(zhū/chu)
Qin-Han-Jin	黑(hēi/hắc)	白(bái/bạch)	赤(chì/xích)
Sui-Tang-Song	黑(hēi/hắc)	白(bái/bạch)	紅(hóng/hồng)
Yuan	黑(hēi/hắc)	白(bái/bạch)	紅(hóng/hồng)
Ming	黑(hēi/hắc)	白(bái/bạch)	紅(hóng/hồng)
Qing	黑(hēi/hắc)	白(bái/bạch)	紅(hóng/hồng)
Yan (Mandarin)	黑(hēi/hắc)	白(bái/bạch)	紅(hóng/hồng)
Yue (Cantonese)	黑(hēi/hắc)	白(bái/bạch)	紅(hóng/hồng)
Min (Taiwanese)	烏(wū/ô)	白(bái/bạch)	紅(hóng/hồng)

All the studied color terms belong to eight etyma. Semantic assignations of the etyma in the studied lects are demonstrated in Table 6.

Table 6. Semantic assignations of the etyma

lect↓ etymon→	白(bái/bạch)	𪛗(--/--)	黑(hēi/hắc)	玄(xuán/huyền)	烏(wū/ô)
Shang	‘white’	‘black’	--	--	--
Zhou	‘white’	-lost-	‘black ₂ ’	‘black ₁ ’	‘crow’
Qin-Han-Jin	‘white’	-lost-	‘black’	‘black with red’	‘crow’
Sui-Tang-Song	‘white’	-lost-	‘black’	‘(black); abstruse’	‘peaceful’
Yuan	‘white’	-lost-	‘black’	‘(black); abstruse’	‘crow’
Ming	‘white’	-lost-	‘black ₁ ’	‘(black); abstruse’	‘black ₂ ’
Qing	‘white’	-lost-	‘black’	‘(black); abstruse’	‘(black)’
Yan (Mandarin)	‘white’	-lost-	‘black’	‘(black); abstruse’	‘(black)’
Yue (Cantonese)	‘white’	-lost-	‘black ₁ ’	‘(black); abstruse’	‘black ₂ ’
Min (Taiwanese)	‘white’	-lost-	‘black ₂ ’	‘(black); abstruse’	‘black ₁ ’

⁷ This section is concluded from [P1], [P2], [P3] and [P5]. Some major revisions on [P1] are made in this dissertation.

Table 6 (continued)

lect↓ etymon→	赤(chì/xích)	朱(zhū/chu)	紅(hóng/hōng)
Shang	‘red-brown’	‘root, stem’	--
Zhou	‘brown’	‘red’	--
Qin-Han-Jin	‘red-brown’	‘tree with red core’	‘pink fabric’
Sui-Tang-Song	‘(red-brown); bare’	‘(red)’	‘red-pink’
Yuan	‘(red-brown); bare’	‘(red)’	‘red’
Ming	‘(red-brown); bare’	‘(red)’	‘red’
Qing	‘(red-brown); bare’	‘(red)’	‘red’
Yan (Mandarin)	‘(red-brown); bare’	‘(red)’	‘red’
Yue (Cantonese)	‘(red-brown); bare’	‘(red)’	‘red’
Min (Taiwanese)	‘(red-brown); bare’	‘(red)’	‘red’

Note: Bold glosses are colors. Other glosses are abstract or concrete notions. Notions in brackets exist only in coined terms that are inherited from previous national lects. “--” means not attested. “₁” means primary, i.e., basic. “₂” means secondary, i.e., non-basic.

About the developments and etymologies of the color terms:

(1) 白(bái/bách)

The only term for white, the etymon 白(bái/bách), first emerged in the Shang national lect, where it was the basic color term for white. All the studied Chinese lects have it as their basic color term for white.

The ancient ERF of the etymon 白(bái/bách) is *beāk (Guō 1986: 127), *braag (Zhèng-zhāng 2003: 268) or *b̥r̥ga-L (mine). Outside Sinitic, its etymological equivalents include: Danish *bleg* ‘pale’, *mælk* ‘milk’; Swedish *blek* ‘pale’, *mjolk* ‘milk’; Icelandic *bleikur* ‘pale’, *mjolk* ‘milk’; Old Norse *bleikr* ‘pale’, *mjolk* ‘milk’; English *bleak*, *bleach*, *milk*; Old English *blāc* ‘pale’, *meolc* ‘milk’; Dutch *bleek* ‘pale’, *melk* ‘milk’; Old Low German *blēk* ‘pale’, *miluk* ‘milk’; German *bleich* ‘pale’, *Milch* ‘milk’; Old High German *bleh* ‘pale’, *miluh* ‘milk’; Gothic *miluks* ‘milk’; Tocharian A *malke* ‘milk’; Tocharian B *markwer* ‘milk’; Estonian *valge* ‘white’; Finnish *valkea* ‘white’; Cheremis *walyâdâ/wolyâdâ* ‘bright, clear’; Latvian *bāls* ‘pale’, *balts* ‘white’, *malks* ‘sip’; Lithuanian *baltas* ‘white’, *mélžti* ‘to milk’, *malkas* ‘sip’; Czech *bílý* ‘white’, *mléko* ‘milk’; Polish *biały* ‘white’, *mléko* ‘milk’; Russian белый (*belyj*) ‘white’, молоко (*moloko*) ‘milk’; Serbo-Croatian бео/*beo* ‘white’, млеко/*mleko* ‘milk’; Bulgarian бял (*bjal*) ‘white’, мляко (*mljako*) ‘milk’; Old Church Slavonic бѣлъ (*bělŭ*) ‘white’, млѣко (*mlěko*) ‘milk’; Welsh *blith* ‘milch’; Irish *bleacht* ‘milk yield’; Old Irish *mlicht*/*blight* ‘milk’; Latin *mulgē* ‘to milk’; Spanish *mecer* ‘to cradle’; Portuguese *mungir* ‘to milk’; Italian *ungere* ‘to milk’; Romanian *mulge* ‘to milk’; Albanian: *mjel* ‘to milk’; Greek αρμέγω (*armégo*) ‘I milk’; Ancient Greek ἀμέλω (*amelō*) ‘I milk’. In conclusion, this etymon is of Sino-Germanic origin.⁸

⁸ The etymological links within Indo-European languages (besides the etymological link between the etymology after English *bleak* and the etymology after English *milk*) were

(2) 莫(--/--)

The first term for black, the etymon 莫(--/--), first emerged in the Shang national lect, where it was the basic color term for black. It alone could also denote ‘black human’. It was lost in all the other attested lects.

This etymon is of an uncertain origin.

(3) 黑(hēi/hǎc)

The second term for black, the etymon 黑(hēi/hǎc), first emerged in the Zhou national lect, where it could be a dialectal color term for black. Later, in the Qin-Han-Jin national lect, it was the basic color term for black, since the dialect with it came to rule the Sinitic land. At present, most Chinese dialects, including the base dialect of the modern national lect, excluding the Min dialects, have it as the basic color term for black.

The ancient ERF of the etymon 黑(hēi/hǎc) is *xək (Guō 1986: 131), *hmluuug (Zhèng-zhāng 2003: 351) or *mhuge (mine). Outside Sinitic, its etymological equivalents include: Kachin *mu*² ‘be dark’; Lushai *mūk* ‘dull (in color)’; Limbu *mak* ‘black’; Yamphu *maik* ‘black’; Tibetan *mog/smag* ‘dark’, *smug* ‘cherry-brown, purple-brown’; English *smoke*; Old English *smoce* ‘smoke’; Dutch *smook* ‘smoke’; German *Schmauch* ‘smoke (dialectal)’; Welsh *mwg* ‘smoke’; Irish *múch* ‘to extinguish’; Old Irish *múch* ‘smoke’; Cornish *mok* ‘smoke’; Breton *moug/mog* ‘fire’, *moged* ‘smoke’; Russian *смуглый* (*smuglyj*) ‘dark in color’; Ancient Greek *σμούχω* (*smukhō*) ‘I smoke’; Armenian *մութ/մխոյ* (*mux\mxoy*) ‘smoke’; Old Armenian *մութ/մխոյ* (*mux\mxoy*) ‘smoke’. In conclusion, this etymon is of Sino-Celtic origin.^{9,10}

(4) 玄(xuán/huǎn)

The third term for black, the etymon 玄(xuán/huǎn), first emerged in the Zhou national lect, where it was the basic color term for black. Later, in the Qin-Han-Jin national lect, it was glossed as ‘black with red’. In later lects including the current national lect, it basically means ‘abstruse’, while the sense ‘black’ exists in coined terms that are inherited from the previous national lects. At present,

first made by Western etymologists (equivalents partly cited from 1959-IEW: 722–723). The etymological links within Uralic languages were first made by Western etymologists (equivalents cited from 1988-UEW: 554–556). The etymological link between the Sinitic etymology and the Germanic etymology after English *bleak* was first made in Gāo (2008: 130); the etymological link between the Sinitic etymology and the Germanic etymology after English *milk* was first made in Gāo (2012b).

⁹ The etymological links within Indo-European languages were made by Western etymologists (partly cited from 1959-IEW: 971). The etymological link between Sinitic and Tibeto-Burman is cited from 1996-CD5ST. The link between Sinitic and English was first made in Zhōu (2002: 145).

¹⁰ Refutation: Previously suggested etymological link between Finnic *mustA/musta* ‘black’ and Sinitic 黑(hēi/hǎc) ‘black’ is rejected due to phonetic disagreements and the identification of the better equivalent: Finnic *mustA/musta* ‘black’ is etymologically identical to Sinitic 勿(wù/vât) ‘?black? flag; do not’.

most Chinese dialects [excluding the Ningbo dialect of the Wu lect, pointed out in Xiè (2008), the basicness was not studied] do not have it as a color term for black.

The ancient ERF of 玄^(xuán/huǎn) is **yüen* (Guō 1986: 225), **g^ween* (Zhèng-zhāng 2003: 508) or **h^wenda* (mine). Outside Sinitic, its etymological equivalents include: Lithuanian *kirsnas* ‘horse black’; Old Prussian *kirsnan* ‘black’; Czech *černý* ‘black’; Polish *czarny* ‘black’; Russian *чёрный* (*čěrnýj*) ‘black’; Serbo-Croatian *crn/crn* ‘black’; Bulgarian *черен* (*čeren*) ‘black’; Old Church Slavonic *чрьнь* (*črĭnŭ*) ‘black’; and Sanskrit *kṛṣṇa* ‘black’. In conclusion, this etymon is of Sino-Slavic origin.^{11,12}

(5) 烏^(wū/ō)

The fourth term for black, the etymon 烏^(wū/ō), first emerged in the Zhou national lect, where it did not denote the color but ‘crow’. Later, in the Ming national lect, it became a secondary color term for black, likely because of some dialectal influence from south-east coastal China. At present, most Chinese dialects [excluding the Min dialects, pointed out in Xiè (2008), the basicness has been confirmed in the present studies] do not have it as a color term for black. An uncertain archaic lect, which served as the main source of the Min lect, could have had it as the basic color term of black.

The ancient ERF of is the etymon 烏^(wū/ō) is **a* (Guō 1986: 91), **qaa* (Zhèng-zhāng 2003: 491) or **h^wuhua-R* (mine: onomatopoeia after a crow). Outside Sinitic, its etymological equivalents include: Danish *råge* ‘rook’, Swedish *råka* ‘rook’; Icelandic *hrókur* ‘rook’, Old Norse *hrókr* ‘rook’, English *rook* ‘*Corvus frugilegus*’; Old English *hróc* ‘rook’; Dutch *roek* ‘rook’; Old Low German *hrōk* ‘rook’; German *Ruch* ‘rook’ (obsolete); Old High German *hruoh/hruohho* ‘rook’; Chuvash *хура* (*xura*) ‘black’; Turkish *kara* ‘black’; Turkmen *gara* ‘black’; Kazakh *қара* (*qara*) ‘black’; Kyrgyz *кара* (*qara*) ‘black’; Uzbek *qora* ‘black’; Uyghur *qara* ‘black’; Old Turkic *qara* ‘black’; Khakas *хара* (*xara*) ‘black’; Mongolian *хар* (*xar*) ‘black’; Japanese *kuroi* ‘black’. In conclusion, the etymon is of Sino-Germanic origin; the color usage is of Sino-Altaic origin.¹³

(6) 赤^(chì/xích)

The first term for red, the etymon 赤^(chì/xích), first emerged in the Shang national lect, where it was the basic color term for red-brown. In the Zhou national lect,

¹¹ The etymological links within Indo-European languages were first made by Western etymologists (equivalents cited from 1959-IEW: 583). The etymological link between Sinitic and Slavic was first made in Gao (2012a).

¹² Refutation: Previously suggested etymological link between Germanic *sort/svart/swart/schwarz* ‘black’ and Sinitic 玄^(xuán/huǎn) ‘black’ is rejected due to phonetic disagreements and the identification of the better equivalent in Balto-Slavic.

¹³ The etymological links within Germanic languages were first made by Western etymologists. The etymological links within Altaic languages were first made by Western etymologists. The etymological link among Sinitic, Germanic and Altaic was first made in Gao (2012a).

it was restricted to the brown color, while the basic color term for red was another term. The Shang national lect and the Zhou national lect are not different historical stages on the same clade. They developed in a parallel manner, however Zhou developed further and overwhelmed Shang. Later, in the Qin-Han-Jin national lect, this term was restored as the basic color term for red-brown, apparently because Qin-Han-Jin was linguistically closer to Shang than to Zhou. In the Sui-Tang-Song national lect and all later national lects, this etymon remained a literary term for red-brown after the Qin-Han-Jin national lect, while the natural term for red was another etymon [紅 (hóng/hǒng)]. This etymon was meanwhile the natural term meaning ‘bare’. At present, no studied Chinese dialect uses this as the basic term for red, according to Xiè (2008).

The ancient ERF of the etymon 赤^(chì/xích) is **tʰiǎk* (Guō 1986: 54) or **khljag* (Zhèng-zhāng 2003: 289). Outside Sinitic, its etymological equivalents include: Kachin *khje*.³³ ‘red’; (questionable) Tibetan *khrag* ‘blood’. In conclusion, it is of Sino-Tibetan origin.¹⁴

(7) 朱^(zhū/chu)

The second term for red, the etymon 朱^(zhū/chu), first emerged in the Shang national lect, where it did not denote the color but ‘root or stem’. In the Zhou national lect, it was the basic color term for red (probably including the sense of pink). Later, in the Qin-Han-Jin national lect, its meaning was restricted to ‘tree with red core’, while the sense for root and stem slid to its related etymon 株^(zhū/chu). In the Sui-Tang-Song national lect and all later national lects, this etymon remained a literary term for red after the Zhou national lect, while the natural term for red was another etymon [紅 (hóng/hǒng)]. At present, no studied Chinese dialect uses this as the basic term for red, according to Xiè (2008).

This etymon is of an uncertain origin.

(8) 紅^(hóng/hǒng)

The third term for red, the etymon 紅^(hóng/hǒng), first emerged in the Qin-Han-Jin national lect, where it did not denote the color but ‘pink fabric’. Later, in the Sui-Tang-Song national lect, it was the basic color term for red-pink. In the Yuan national lect and all later national lects, including the current national lect, it is the basic color term for red, while the sense for pink was assigned to polymorphemic word consisting of this morpheme 粉紅^(fěn-hóng/phân-hǒng), or to another etymon [粉^(fěn/phân)]. At present, all studied Chinese use this as the basic term for red, according to Xiè (2008).

This etymon is of an uncertain origin.

¹⁴ The etymological link between Sinitic and Kachin is cited from 1996-CD5ST. Other suggested equivalents are rejected.

(9) 丹^(dān/dān) (𤌶^(tóng/dòng))

There is a fourth term for red in Chinese 丹^(dān/dān) (𤌶^(tóng/dòng)), that has been observed in some previous studies. Although it is not a basic color term for red in any of the studied Chinese lects, the present studies analyze its development and etymology for the purpose of contrast.

The fourth term for red, the etymon 丹^(dān/dān), first emerged in the Shang national lect. Its glyph implies that it should denote ‘ore’. In the Zhou national lect, it split into two lexemes, 丹^(dān/dān) was the substantive for ore, 彤^(tóng/dòng) was the adjective for the color. In the Qin-Han-Jin national lect, 丹^(dān/dān) was glossed as 巴越之赤石也 ‘cinnabar of Ba-Yue (in south-west China)’ (121-SW: #3168); while 彤^(tóng/dòng) was glossed as 丹飾也 ‘decoration with the cinnabar’ (121-SW: #3170). Remarkably, the dictionary stated its south-west origin. In the Sui-Tang-Song national lect, both the lexemes were primarily glossed as 赤也 ‘red-brown’ [using the first term for red as the gloss] (1008-GW: #4612, #364). This term became a color term for red-brown, but not the primary synonym, thus not the basic color term. In the Yuan national lect and all later national lects including the current national lect, both the lexemes have been only retained as dated literary terms.

The ancient ERF of the etymon 丹^(dān/dān) is *tan (Guō 1986: 192) or *taan (Zhèng-zhāng 2003: 298). The ancient ERF of the etymon 彤^(tóng/dòng) is *duəm (Guō 1986: 288). The two etyma belong to the same root. Outside Sinitic, its etymological equivalents include: Lao 𪛗 [dɛːŋʈ] ‘red’; Thai แดง [dɛːŋʈ] ‘red’; Standard Zhuang (Wuming) [diŋʈ] ‘red’; Longzhou Zhuang [dɛːŋʈ] ‘red’; Standard Bouyei (Wangmo) [ʔdiŋʈ] ‘red’; Maonan [laːnʋ] ‘red’; Hlai [dɛːŋʈ] ‘red’. In conclusion, this etymon is of Sino-Tai-Kadai origin.¹⁵

(10) Remarks on models of language development

The overview of the color terms conflicts with both the synchronic view and the diachronic view but supports the panchronic view of language development.

The synchronic view may claim that the different terms for the same color are actually terms for slightly different shades. Its major weakness is that non-primary terms are more often attested as abstract or concrete notions (such as “crow”, “abstruse”, “root, stem”, “tree with red core” and “bare”) rather than slightly different shades (to be fair, there is just one attestation: “black with red”). The balance is unreasonable. Only the panchronic view solves this problem. The fact is, for example, that the Zhou term for red and the Sui-Tang-Song term for bare are etymologically identical. This is comparable to the fact that the Lithuanian term for red “*raudonas*” and the Estonian term for iron “*raud*” are etymologically identical.

The diachronic view may claim that there are different terms for red in different diachronic stages of the Chinese language. Its major weakness is that it

¹⁵ The etymological links within Tai-Kadai languages were made by Western etymologists. The etymological link between Sinitic and Tai-Kadai is first suggested in this dissertation.

requires a backward evolution after the Zhou Empire, while the more ancient Shang term for red must come back. The backward evolution is unreasonable. Only the panchronic view solves this problem.

Shang and Zhou used different but related lects. Their similar lects had a few differences in very elementary terms, including the term for red. Zhou ruled the country of Shang for hundreds of years, and therefore managed to impose the usage of their term for red instead of the Shang one. After the fall of the Zhou Empire, the new standard language was closer to Shang than to Zhou. Its basic color term for red was etymologically identical to the Shang one. It seemed that the Shang term came back. It has nothing to do with a backward evolution in the language.

Moreover, the diachronic view does not fit the actual history of the Chinese language. The first dialectal lexicographic work in China (18-FY) recorded greater dialectal differences in lexis. If people still defend the Tree Model with the diachronic view, they must assume that languages developed enough in the Tree Model before the documentation [and then most branches had to fade or fuse to get the present-day picture]. Is there any scientific theory that must avoid attested data?

Actually, it is more reasonable to suggest that the language development resembles a water system. There were more lects at the beginning. They are comparable to sources and brooks. The sources and brooks have flowed together to become a river. The rivers have flowed together to become a bigger river. This is the Water Model (first suggested in Gao 2012a) with a panchronic view of language development.

The Tree Model was based on an assumed single root of languages according to the suggested single origin of species. In the 19th century, people did not expect that there could be so many unrelated languages outside Eurasia. Nowadays, we understand that human languages developed independently much later than the common origin of humans. There were more unrelated languages in the past. Most languages became extinct quickly like small brooks. A few languages have survived longer like big rivers.

4.1.2. Primitive composite color categories in ancient Chinese

[P3] has suggested that the primitive composite color categories existed in ancient Chinese on account of clues in ancient Chinese histories (or say “legends”).

(1) The composite color category white-yellow

The official color of the Pao-xi Empire, also the official color of the Emperor Yao of the Xuan-yuan Empire, 白^(bái/bach), was the color of milk, or the composite color category white-yellow. This primitive color was favored by hunter-gatherers. Milk was their primary foodstuff.



(2) The composite color category red-yellow

The official color of the Shen-nong Empire, also the official color of the Emperor Shun of the Xuan-yuan Empire, 赤^(chì/xích), was the color of sun and fire, or the composite color category red-yellow. This primitive color was favored by farmers. The sun and fire are most important to their crops.

(3) The composite color category black-blue-green-yellow

The official color of the Yellow Emperor of the Xuan-yuan Empire, 黃^(huáng/hoàng), was the color of water bodies, or the composite color category black-blue-green-yellow. This primitive color was favored by herders. The water bodies are most important to their herds.

This primitive composite color category is also supported by some Chinese concrete etymologies. The Shang glyph for black and the Shang glyph for yellow are graphically similar (while different from the other color terms), and thus can be etymologically related:

The glyph for black –  . The glyph for yellow –  .

This may be the first attestation of the composite color category black-blue-green-yellow since the evolutionary theory of basic color terms.

(4) Suggested revision in the evolutionary trajectories

As the yellow region might be divided by the first three primitive composite color categories, this dissertation suggests a revision in the evolutionary trajectories of the basic color terms. When a basic color term for yellow did not emerge, its coverage could also be absorbed into the first three existing basic color terms, resulting three composite color categories: black-blue-green-yellow, white-yellow, and red-yellow.

4.2. Overview of the experimental approach

[P4] has studied the Mandarin Chinese language with 60 informants using the same field methods that have been applied to many other languages by linguists, and concluded that Mandarin Chinese has nine basic color terms, ranked according to the cognitive salience criterion: *hóng* [紅^(hóng/hòng)] ‘red’, *huáng* [黃^(huáng/hoàng)] ‘yellow’, *lǜ* [綠^(lǜ/lù)] ‘green’, *lán* [藍^(lán/lam)] ‘blue’, *hēi* [黑^(hēi/hǎi)] ‘black’, *bái* [白^(bái/bách)] ‘white’, *zǐ* [紫^(zǐ/tǐ)] ‘purple’, *fěn* [粉^(fěn/phán)] ‘pink’, and *huī* [灰^(huī/khói)] ‘gray’. The detailed summary remains unchanged from [P4].

4.3. Evolution of basic color terms in panchronic Chinese

The present studies find that the basic color terms in most studied Chinese language varieties (not in Zhou pre-Chinese) shared a common evolutionary tempo. Zhou pre-Chinese with distinct terms for black and red must be a parallel branch to Shang pre-Chinese, but also streamed from Xuan-yuan pre-Chinese. It had an advanced tempo, then interflowed to the branch of Shang pre-Chinese, but later lost its domination to Qin-Han-Jin Chinese that achieved the Chinese consolidation. Qin-Han-Jin Chinese is linguistically closer to Shang pre-Chinese with a slow evolutionary tempo of the basic color terms. The evolution of basic color terms in panchronic Chinese is demonstrated in Table 7.

Table 7. Evolution of basic color terms in panchronic Chinese

2000BCE	
Xuan-yuan pre-Chinese (Stage II)	
黃(huáng/hoàng) for black-blue-green-yellow ¹	
白(bái/bách) for white-yellow ¹	
赤(chì/xích) for red-yellow ¹	
1000BCE	
Shang pre-Chinese (Stage III)	Zhou pre-Chinese (Stage V+1)
黑(hēi/hắc) for black ¹	玄(xuán/huyền) for black ¹
白(bái/bách) for white ¹	白(bái/bách) for white ¹
赤(chì/xích) for red-brown ¹	朱(zhū/chu) for red ¹
黃(huáng/hoàng) for *yellow ² -blue-green ³	黃(huáng/hoàng) for yellow ⁴
	蒼(cāng/thương) for blue ⁴
	綠(lǜ/lục) for green ⁴
	赤(chì/xích) for brown ¹
1CE	
Qin-Han-Jin Chinese (Stage IV)	status of Zhou terms
黑(hēi/hắc) for black ¹	((玄(xuán/huyền) for black
白(bái/bách) for white ¹	=
赤(chì/xích) for red-brown ¹	=赤(chì/xích) for brown; ((朱(zhū/chu) for red
黃(huáng/hoàng) for yellow ²	=
青(qīng/thanh) for blue-green ²	((蒼(cāng/thương) for blue
	((綠(lǜ/lục) for green
1000CE	
Sui-Tang-Song Chinese (Stage V+1)	status of Zhou, Qin terms
黑(hēi/hắc) for black ¹	((玄(xuán/huyền) for black
白(bái/bách) for white ¹	=
紅(hóng/hồng) for red ¹	((朱(zhū/chu), 赤(chì/xích) for red
黃(huáng/hoàng) for yellow ²	=
藍(lán/lam) for blue ²	((蒼(cāng/thương) for blue
綠(lǜ/lục) for green ²	=; ((青(qīng/thanh) for blue-green
紫(zǐ/tử) for purple ²	

Table 7 (continued)

2000CE	
Modern Chinese (Stage V+3)	status of Zhou, Qin, Sui terms
<i>hēi</i> [黑(hēi/hǎi)] for black ¹	=; ((玄(xuán/huǎn)) for black
<i>bái</i> [白(bái/bách)] for white ¹	=
<i>hóng</i> [紅(hóng/hōng)] for red ¹	=; ((朱(zhū/chu), 赤(chì/xích) for red
<i>huáng</i> [黃(huáng/hoàng)] for yellow ¹	=
<i>lán</i> [藍(lán/lam)] for blue ¹	=; ((蒼(cāng/thương) for blue
<i>lǜ</i> [綠(lǜ/lục)] for green ¹	=; ((青(qīng/thanh) for blue-green
<i>zǐ</i> [紫(zǐ/tử)] for purple ¹	=
<i>fěn</i> [粉(fěn/phân)] for pink ¹	
<i>huī</i> [灰(huī/khôi)] for gray ¹	
Legends: ¹ – Results researched in the present studies. ² – Results adopted from the previous study Wu (2011). ³ – Because there was no basic color term for blue-green according to Wu (2011), this denotation is hypothetically added to this term in the present study. ⁴ – Results upon the previous study Lǐ et al. (2011) with corrections. = – Identical; ((– Archived as a classical literary term.	

Xuan-yuan pre-Chinese was at Stage II of the evolution of basic color terms. There were only three basic color terms for the first three primitive composite color categories: the primitive term 黃(huáng/hoàng) for black-blue-green-yellow, the primitive term 白(bái/bách) for white-yellow, and the primitive term 赤(chì/xích) for red-yellow.

Shang pre-Chinese (streamed from Xuan-yuan pre-Chinese) was at Stage III of the evolution of basic color terms. There were four basic color terms. The primitive term 黃(huáng/hoàng) for black-blue-green-yellow was split to the term 𤟉(-/-) for black and the term 黃(huáng/hoàng) for *yellow-blue-green (Caveat: This reconstructed denotation requires examinations in further studies). These two terms are possibly etymologically related. The primitive term 白(bái/bách) for white-yellow was restricted to white, while the primitive term 赤(chì/xích) for red-yellow was restricted to red, after the emergence of yellow.

Zhou pre-Chinese (streamed from Xuan-yuan pre-Chinese) was at Stage V (+ brown) of the evolution of basic color terms. There were seven basic color terms. The primitive term 黃(huáng/hoàng) for black-blue-green-yellow was restricted to yellow by the newly emerged terms 玄(xuán/huǎn) for black, 蒼(cāng/thương) for blue, and 綠(lǜ/lục) for green. The primitive term 白(bái/bách) for white-yellow was restricted to white after the emergence of yellow. The primitive term 赤(chì/xích) for red-yellow was restricted to brown by the newly emerged term 朱(zhū/chu) for red.

Qin-Han-Jin Chinese (streamed from Xuan-yuan pre-Chinese) was at Stage IV of the evolution of basic color terms. There were five basic color terms. The

primitive term 黃^(huáng/hoàng) for black-blue-green-yellow was restricted to yellow by the newly emerged terms 黑^(hēi/hǎc) for black and 青^(qīng/thanh) for blue-green. The primitive term 白^(bái/bach) for white-yellow was restricted to white, while the primitive term 赤^(chì/xích) for red-yellow was restricted to red, after the emergence of yellow.

Sui-Tang-Song Chinese (lexically streamed from Qin-Han-Jin Chinese) was at Stage V (+ purple) of the evolution of basic color terms. The blue-green category was split. The terms 藍^(lán/lam) for blue and 綠^(lǜ/luc) for green emerged. The Qin-Han-Jin term 青^(qīng/thanh) for blue-green was archived as a classical literary term. The new term 紫^(zǐ/tử) for purple emerged. The new term 紅^(hóng/hồng) for red replaced the Qin-Han-Jin term 赤^(chì/xích) for red-brown. It is unexpected that the term 赤^(chì/xích) for red-brown was not restricted to brown, but archived as a classical literary term, and the brown category was not established. This requires further studies.

Modern Chinese (lexically streamed from Sui-Tang-Song Chinese) is at Stage V (+ purple, pink, gray) of the evolution of basic color terms. The terms 粉^[fěn/fèn/phân] for pink and 灰^[huī/khôi] for gray emerged. According to [P4], there is not yet a single basic color term for brown; the brown category is existing with two competing terms 棕^(zōng/tông) and 褐^[hè/hat]; the term 棕^(zōng/tông) with a higher frequency in the spoken language will more likely become basic.

The Chinese lects, Xuan-yuan pre-Chinese (Stage II), Shang pre-Chinese (Stage III), Qin-Han-Jin Chinese (Stage IV), Sui-Tang-Song Chinese (Stage V+1), Modern Chinese (Stage V+3) share a common tempo of the evolution of basic color terms. This implies that the development of basic color terms in the mainstream of panchronic Chinese lects is consistent with the evolutionary theory of basic color terms.

4.4. Overview of major new advances of the present studies

On the domain of philology and lexicon:

(1) Refutation of interpreting the term 幽^(yōu/ru) as black. It should denote peaceful. [P1] [this dissertation]

(2) Finding that the oldest term for red 赤^(chì/xích) should actually denote the red-brown complex. [P5] [this dissertation]

(3) Clarifying that not 赤^(chì/xích) but 朱^(zhū/chu) is the basic color term for red in the Zhou national lect. [P5] [this dissertation]

(4) Advance of the panchronic view in lexicon. If there are multiple terms for the same sense in a lect, the multiple terms are most likely of different linguistic origins. [P1] [P5] [this dissertation]

(5) Concluding the primitive composite color categories in Chinese. Of them, the primitive color of water bodies may be the first attestation of the composite color category black-blue-green-yellow since the evolutionary theory of basic color terms. It is also suggested a revision in the evolutionary trajectories of basic color terms. When a basic color term for yellow did not emerge, its coverage could also be divided by three existing basic color terms, resulting three composite color categories: black-blue-green-yellow, white-yellow, and black-yellow. [P3] [this dissertation]

(6) Concluding through experimental methods that there are nine basic color terms in Mandarin Chinese. It has been the first experimental study on Mandarin Chinese using the same methods that have been applied to many other languages by linguists. [P4]

(7) Concluding that the basic color terms in most studied Chinese language varieties shared a common evolutionary tempo. This implies that the development of basic color terms in the mainstream of panchronic Chinese is consistent with the evolutionary theory of basic color terms. [this dissertation]

On the domain of etymology:

(1) Identifying that the etymon 白^(bái/bách) ‘white’ is of Sino-Germanic origin. (1a) Finding that its proto-type is milk. [P1 with errors] [P2] [P3] [this dissertation]

(2) Refutation of the concrete etymological link between the etymon 莫^(--/--) ‘black; black human’ and the etymon 黑^(hēi/hác) ‘black’. They ought to be distinct etymological units. [this dissertation, back to the notions of Táng Lán and Guō Mò-ruò] ([P1] wrongly followed the etymological link.)

(3) Identifying that the etymon 玄^(xuán/huyén) is of Sino-Slavic origin. [P1 with errors] [this dissertation]

(4) Identifying that the etymon 黑^(hēi/hác) is of Sino-Celtic origin. [P1 with errors] [this dissertation]

(5) Identifying that the etymon 烏^(wū/ó) is of Sino-Germanic and Sino-Altaic origins. [P1] [this dissertation]

(6) Identifying that the etymon 丹^(dān/dan) (𪛗^(tóng/dòng)) is of Sino-Tai-Kadai origin. [this dissertation]

5. CONCLUSION

The present studies research the basic color terms in several panchronic Chinese lects (i.e., language varieties) connected with the evolutionary theory of basic color terms, using philological and experimental methods.

The philological portion has studied ten attested Chinese lects: Shang pre-Chinese, Zhou pre-Chinese, Qin-Han-Jin Chinese, Sui-Tang-Song Chinese, Yuan Chinese, Ming Chinese, Qing Chinese, Mandarin (Yan Chinese), Cantonese (Yue Chinese), Taiwanese (Min Chinese), and deduced the basic color terms for black, white and red in these lects respectively.

The philological portion has also studied the historical accounts of all major Chinese regimes, and deduced their official colors. From these colors, primitive composite color categories were suggested. The primitive composite color categories revealed from the historical accounts are consistent with those in the evolutionary theory of basic color terms.

The experimental portion has studied the Mandarin Chinese language with 60 informants. It has concluded that Mandarin Chinese has nine basic color terms. The circumstance of the basic color terms in Mandarin Chinese is consistent with the evolutionary theory of basic color terms.

The overview portion has concluded that the development of basic color terms in the mainstream of panchronic Chinese is consistent with the evolutionary theory of basic color terms.

SUMMARY IN ESTONIAN

Hiina keelte põhivärvinimed: uurimus põhivärvinimede evolutsioonilise teooria põhjal

I. Sissejuhatus

I.1. Väitekirja taust ja eesmärk

Alates Ameerika teadlaste Brent Berlini & Paul Kay silmapaistva väljaande “*Basic Color Terms: Their Universality and Evolution*” ilmunisest (1969), on mitmesuguste keelte põhivärvinimesid eriliselt uuritud eesmärgiga täiendada või redigeerida põhivärvinimede evolutsiooniteooriat, mille esimesena esitasid Berlin & Kay, ning hiljem muutsid nemad ja nende kolleegid (Kay & McDaniel 1978; Kay et al. 1991; Kay et al. 1997; Kay & Maffi 1999, Kay et al. 2009).

Põhivärvinimede evolutsiooniteoorial on kaks peamist kontseptsiooni:

(1) Põhivärvinimed ilmuvad kindlas järjekorras ja keeles võib olla maksimaalselt 11 põhivärvinime (Berlin & Kay 1969: 2–3): Esimeses astmes on põhivärvinimed musta ja valge jaoks. Järgmises astmes ilmub punane, seejärel kolmandal astmel lisanduvad roheline ja kollane. Neljandal astmel on terminid nii rohelise kui kollase jaoks ja viiendal astmel on termin ka sinise jaoks. Kuuendal astmel ilmub pruun ja seitsmendal ning viimasel astmel ilmuvad violetne, roosa, oranž ja hall või mõni nende kombinatsioon. Põhivärvinimede evolutsioonilised trajektoorid on ümber tehtud teostes Kay et al. (1997) ning Kay et al. (2009: 10–11; 30ff.).

(2) Primitiivsed põhivärvinimed tähistavad tegelikult liitvärvikategooriaid (vrd. Kay & McDaniel 1978), nt sini-roheline, rohe-kollane, hele-soe (st valge-kollane- punane) ja tume-jahe (st must-sini-roheline). Liitvärvikategooriad on ümber tehtud teoses Kay et al. (1991).

Selle väitekirja uurimuste (edaspidi “käesolevad uurimused”) põhiülesanne on uurida põhivärvinimesid mitmes ajaloolises ja kaasaegses hiina keelkonna (Läänes tavaliselt nimetatud “Hiina keelteks”; käesolevas väitekirjas nimetatakse “pankrooniliseks hiina keeleks” või lihtsalt “hiina keeleks”) lektis (st keelevariantides) vastavalt põhivärvinimede evolutsiooniteooria kahele põhi-kontseptsioonile.

Hiina keelkond pakub hea võimaluse põhivärvinimede evolutsiooniteooria uurimiseks sest sel on väga pikk kirjakeele ajalugu, ulatudes 3500 aasta taha, väga kõrge keelelise mitmekesisuse tase paljude vastastikku arusaamatute lektidega ja väga lai sotsiaalne kasutus üle 1 miljardi emakeelse rääkijaga.

Käesoleva uurimuse põhiküsimused on:

(1) Mis on uuritava hiina lekti põhivärvinimed? Põhivärvinime kriteeriumid (vrd. Berlin & Kay 1969: 6–7) on uuritud ja kinnitatud käesolevates uurimustes, mitte nagu mõned varasemad uurimused (nt Fú 1988, 1989, Zhāng 1991, Xú 1999, Lǐ 2004, 2007, Xing 2009), mis uurivad rohkem värvnimetusi; ja teised varasemad uurimused (e.g. Yáo 1988, Xiè 2008, Wu 2011, Wú 2012), mis

uurivad põhivärvinimesid, kuid ei kontrolli üle põhivärvinimesid mitte ühegi kriteeriumiga.

Liú (1990) kontrollis üle mandariini hiina põhivärvinimed mõne filoloogilise kriteeriumiga, kuid kuna mandariini hiina keel on elav keel, oleks usutavam lisada põhivärvinimede eksperimentaalne uurimus.

Lü (1997) ning Lin et al. (2001) on [Taiwani] mandariini hiina põhivärvinimede eksperimentaalsed uurimused, kuid mõlematel on puudusi, mis tulevad esile juba nende materjalides ja meetodites. Lü (1997) “suutis esile tuua kokku 73229 värvinimetust, mis keelejuhtide arvates olid ‘sageli kasutatud’” [tõlgitud inglise keelest]. See demonstreerib keelejuhtide subjektiivset mõju ja ebaõnnestub materjali objektiivsuse säilitamises. Lin et al. (2001) palus keelejuhtidel “jälgida iga näidist ja kirjutada üles selle number ja värvinimi [hiina keeles]” [tõlgitud inglise keelest]. Tulemuseks on kirjanduslike või murdeliste nimetuste rohkus, mis on mandariini hiina keele jaoks ebatavalised ning ei suuda järgida materjali asjakohasuse nõuet.

(2) Mida põhivärvinimed tegelikult tähistavad? Kuidas on põhivärvinimed arenenud? Käesolevates uurimustes on uuritud ja kinnitatud liitvärvikategooriate võimalusi vanade hiina lektide kaudu, mitte nagu varasemad uurimused (e.g. Wu 2011, Wú 2012), mis ei pööra sellele aspektile tähelepanu.

Baxter (1983) pööras veidi tähelepanu sellele aspektile, kuid tema materjalid olid piiratud ja tema tulemused sisaldasid küsimärki. Käesolevad uurimused lahendavad sellised probleemid.

Veelgi enam, käesolevate uurimuste autor on spetsialiseerunud peamiselt etümoloogiale (üldiselt nimetavad enamus kaasaegsed lingvistikud seda “ajalooliseks keeleteaduseks”), on edukalt uurinud hiina, germaani, läänemeresoome, ungari ja jeniise keelte etümoloogiasid (nt Gao 2005, Gāo 2008, 2013, 2014, Gao 2014), ja autoril on pankrooniline vaade keele arengule, mis on tuntud kui Vee Mudel (Gao 2012a, Gāo 2013). Kuigi see ei ole relevantne käesolevate uurimuste seisukohast, on see aidanud autoril eristada ajaloolisi hiina lekte, selleks et uurida nende põhivärvinimesid, mitte nagu enamik varasemaid uurimusi (nt Yáo 1988, Xú 1999, Wu 2011, Wú 2012) mis analüüsisid mõnda ühendatud lekti nt “vanahiina” mille tulemuseks on mitu põhivärvinime ühe värvikategooria jaoks ühes lektis.

Käesoleva väitekirjaga seotud artiklite seas on:

(1) Kümne tõendatud hiina lekti otsesed filoloogilised uurimused – Shangi eel- hiina, Zhou eel-hiina, Qin-Han-Jini hiina, Sui-Tang-Songi hiina, Yuani hiina, Mingi hiina, Qingi hiina, mandariini (Yani hiina), kantoni (Yue hiina), Taiwani (Mini hiina): (1.1) Musta, valge ja punase põhivärvinimed hiina lektides; (1.2) Hiina valitsusvõimude ametlikud värvused.

(2) Ühe elava hiina lekti – mandariini (Yani hiina) otsene eksperimentaalne uurimus: mandariini hiina põhivärvinimed.

1.2. Väitekirja struktuur

Käesolev väitekirj koosneb sissejuhatavast osast ja viiest seotud artiklist. Sissejuhatav osa on jagatud viieks osaks.

Osa 1 teeb sissejuhatuse väitekirja tausta ja ülesandesse, esitab väitekirja struktuuri ja annab ülevaate seotud artiklitest ja autori panusest. Osa 2 kirjeldab väitekirjas kasutatud materjale ja meetodeid. Osa 3 esitab selle väitekirja tulemused. Osa 4 teeb ülevaate tulemustest, seal võetakse kokku käesolevate uurimuste põhipanused. Osa 5 moodustab kokkuvõte.

1.3. Seotud artiklite ülevaade

[P1] on ajakirjaartikkel filoloogilisest uurimusest põhivärvinimede valge ja must kohta kuues hiina lektis – Shangi eel-hiina, Zhou eel-hiina, Qin-Han-Jini hiina, Sui-Tang-Songi hiina, mandariini (Yani hiina) ja Taiwani (Mini hiina). See kehtestab filoloogilise lähenemise raamistiku hiina põhivärvinimedele.

[P2] on Hiina ajakirja artikkel uurimusest ühtsest etümoneist ‘valge’ jaoks hiina keeles, mis sisaldab selle prototüüpi ja etümoloogiat. Selle põhiväited on avaldatud ka artiklites [P1] ja [P3]. See on üks kõige arenenumaid ja innovatiivsemaid tulemusi käesolevatest uurimustest ja on juba leidnud akadeemilist tähelepanu Hiinas, kuigi see ei ole tingimata seostuv põhivärvinimede evolutsiooniteooriaga.

[P3] on ajakirja artikkel filoloogilisest uurimusest kõikide peamiste ajalooliste ja tänapäeva Hiina valitsusvõimude ametlikest värvidest. Fokuseerituna põhivärvinimede evolutsiooniteooriale, uuritakse ja kinnitatakse liitvärvikategooriate võimalusi iidse Hiina ajaloo tekstide põhjal.

[P4] on rahvusvaheline ajakirjaartikkel eksperimentaalsest uurimusest mandariini hiina põhivärvinimede kohta. Esimese autorina viis selle väitekirja autor läbi välitöö Hiinas, tegi kõik eksperimentaalsed järeldused välja arvatud sooerinevuse analüüs ja kirjutas artikli esimese visandi ilma kokkuvõtva osata. Teine autor kirjutas kokkuvõtva osa ja tegi kaastööd sissejuhatavas ja arutlevas osas. Pärast eelretsenseerimise esimest ringi parandas teine autor artiklit mitmete diskussioonidega sealhulgas sooerinevuse analüüsiga.

[P5] on filoloogilise uurimuse käsikirj põhivärvinimest ‘punane’ seitsmes ajaloolises hiina lektis – Shangi eel-hiina, Zhou eel-hiina, Qin-Han-Jini hiina, Sui-Tang-Songi hiina, Yuani hiina, Mingi hiina ja Qingi hiina. Esimese autorina viis selle väitekirja autor läbi filoloogilise uurimise hiina keeles, järeldas kõik filoloogilised tulemused ja kirjutas artikli esimese variandi sellal kui teise autori kaastöö seisnes sissejuhatava ja arutlusosa täiendamises.

2. Materjalid ja meetodid

2.1. Põhivärvinime definitsioon

Algsed kriteeriumid põhivärvinimede jaoks, mille esitasid Berlin & Kay (1969: 6–7), on:

“(i) See on monolekseemne; see tähendab, et selle tähendus ei ole ettearvatav selle osade tähendusest. [...] (ii) Selle tähistatav ei sisaldu üheski värvinimes. [...] (iii) Selle kasutus ei tohi olla piiratud kitsale objektiklassile. [...] (iv) See peab olema keelejuhtide jaoks psühholoogiliselt esiletõusev. Psühholoogilise esiletõusvuse näitajad on teiste seas, (1) kalduvus ilmuda esilekutsutud värvinimetuste nimekirjade alguses, (2) viitamise stabiilsus nii keelejuhtide lõikes kui ka kasutusolukordade lõikes ning (3) kõikide keelejuhtide idiolektides esinemine. [...]” [tõlgitud inglise keelest]

Käesolevate uurimuste eksperimentaalses lähenemises järgitakse täielikult põhivärvinime algseid kriteeriume.

Käesolevate uurimuste filoloogilises lähenemises on põhivärvinime algseid kriteeriume veidi muudetud (väljaannetes [P1] ja [P5]) filoloogilise lähenemise paremaks kasutamiseks. Kohandatud kriteeriumid on võrreldavad algsete kriteeriumitega:

(i) Seda **kasutatakse valdavalt kindla värvusena** (nt. 黑^(hēi/hác)¹⁶ ‘must’ ja 白^(bái/bách) ‘valge’), mitte kindla värviga esemena. [põhivärvinimi peab olema esmalt värvinimi.] Eriti iidsetes hiina tekstides on monomorfeemseid nimetusi kindla värviga objektide jaoks, nt. 驪^(lí/--) ‘tume must hobune’, 騮^(gǒu/--) ‘hele must hobune’, 騊^(tāo/--) ‘punane hobune’, 緇^(zī/--) ‘must riie’ ja 縹^(piǎo/piěu) ‘hele rohekassinine riie’. Need ei ole värvinimed.

(ii) See on **monolekseemne** [See ei ole identne algse kriteeriumiga (i)]. See on valdavalt monomorfeemne (üks *zì*) hiina keeles. Eriti tänapäeva hiina tekstides on polülekseemseid värvinimetusi, nt. 深黑 ‘tume must’, 淺黑 ‘hele must’ ja 橘色 ‘apelsinivärv’. Need on muudetud ja seega mitte põhivärvinimed. Tuleb tähele panna, et mõned leksikaliseeritud polümorfeemsed sõnad võivad tänapäeva hiina keeles olla ka monolekseemsed, nt. 老師 sõna-sõnalt “vana meister”, kuid leksikaalselt ‘õpetaja’. Autor ei ole leidnud selliseid polümorfeemseid kuid monolekseemseid värvinimesid hiina keeles, vrd taani *lyserød*, sõna-sõnalt “hele punane” kuid tähendusega ‘roosa’, soome *vaaleapunainen* sõna-sõnalt “hele punane” kuid tähendusega ‘roosa’. Siiski pole vajadust alget kriteeriumi muuta. Seni kuni koostismorfeemid ei saa ennustada liitsõna tõendust, ei ole see monomorfeemne, kuid on ikkagi monolekseemne.

¹⁶ Selles väitekirjas on enamik hiina andmetest tõstetud edasijõudnud akadeemilisele tasemele et teha andmestik selgemaks üldisele lugejaskonnale. Asjakohast hiina nimetust esitatakse järjekindlalt oma primaarse glüüfiga (hiina viite jaoks), primaarse lugemisviisiga pinyinis ja primaarse lugemisviisiga sino-vietnami kirjas (üldiseks viitamiseks). Sino-vietnami kiri on ladina ortograafia, mis on selgem mittehiina lugejatele. Lisaks on see ka lähem mõnele hiina keele lõunapoolsele lektile.

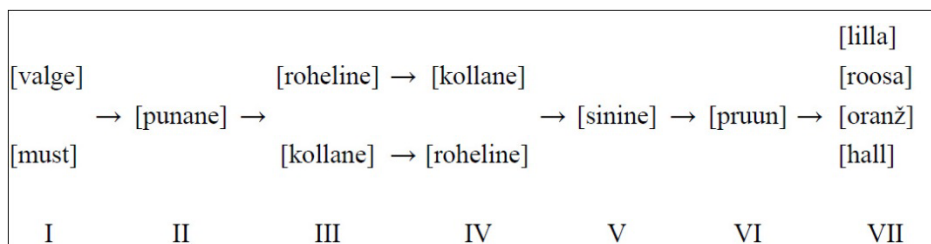
(iii) Selle kasutus **ei ole piiratud kitsa objektide klassiga**. [See on identne algse kriteeriumiga (iii)] Eriti hiina kirjanduses on mõned värvinimed piiratud loodud nimetustega, nt. 玄 (xuán/huyèn) musta jaoks sõnas 玄武 ‘[püha] must kilpkonn’ ja 烏 (wū/ó) musta jaoks sõnas 烏龜 ‘[tavaline] must kilpkonn’ ja 烏雲 ‘mustad pilved’. Need on mitte-põhivärvinimed.

(iv) See ei ole teise värvinime **sekundaarne sünonüüm**. [See on relevantne algse kriteeriumiga (iv): “See peab olema psühholoogiliselt esiletõusev keelejuhtide jaoks”. Ideaaljuhul peaksid keelejuhid kinnitama kriteeriumit (iv). Käesolev kriteerium on tehtud eriti kirjakeelte filoloogiliseks uurimiseks.] Praktikas on see (1) palju levinum kui selle sünonüüm(id); (2) seda kasutati selle sünonüümi(de) selgitamiseks; (3) seda mõistavad ilma hariduseta emakeelena kõnelejad. Sekundaarsed sünonüümid võivad sageli keelde jõuda kirjakeelse hariduse kaudu. Näiteks teeb kirjaoskamatu mandariinihiina kõneleja ainult primaarset nimetust 黑 (hēi/hác) , aga mitte sekundaarset nimetust 玄 (xuán/huyèn) musta jaoks. Viimane esineb vaid vanas kirjanduses.

(v) See **ei ole** teise, juba kriteeriumitele (i–iv) vastava põhivärvinime kandidaadi **hüponüüm**. [See on relevantne algse kriteeriumiga (ii): “Selle tähistatav ei sisaldu üheski teises värvinimes.”] Eriti iidsetes hiina tekstides, on palju selliseid hüponüüme, nt. 赭 (xiá/--) ‘väga punane’ on 赤 (chí/xích) ‘punane’ hüponüüm ja 黧 (lī/--) ‘valkjaskollane’ on 黃 (huáng/hoàng) ‘kollane’ hüponüüm. Need on mitte-põhivärvinimed.

2.2. Põhivärvinimede evolutsiooniteooria põhikontseptsioonid

Esimese põhivärvinimede evolutsiooniteooria põhikontseptsiooni põhivärvinimede evolutsioonitrajektooridest esitati algselt teoses Berlin & Kay (1969: 2–4), mida illustreerib järgnev joonis (Joonis 1).

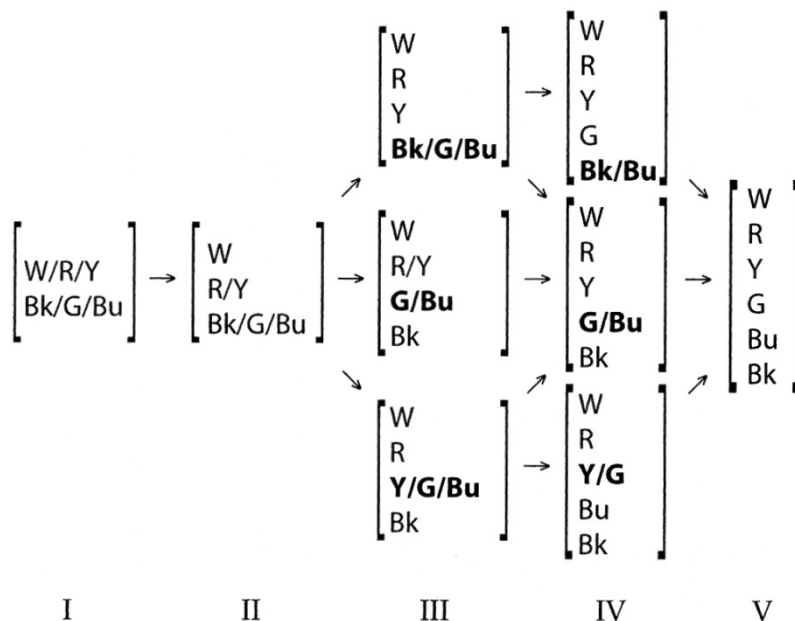


Joonis 1. Põhivärvinimede evolutsioonilised trajektoorid Berlin & Kay (1969: 4) järgi.

See skeem tähendab: esimesel astmel on keeles ainult kaks põhivärvinime, musta ja valge jaoks; teisel astmel, tekib kolmas põhivärvinimi punase jaoks; kolmandal astmel tekib neljas põhivärvinimi rohelise või kollase jaoks;

neljandal astmel on viis põhivärvinime, mis sisaldavad nii rohelist kui kollast; viiendal astmel tekib põhivärvinimi sinise jaoks; kuuendal astmel...

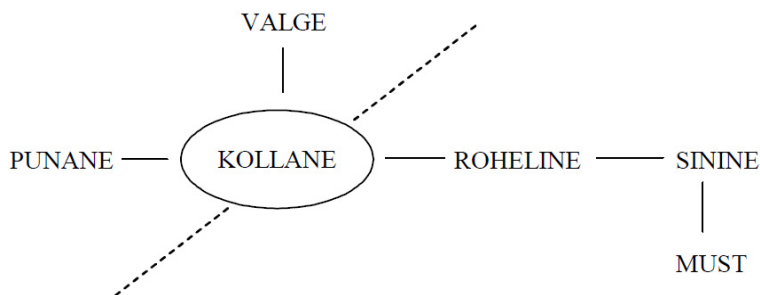
Viimane muudetud versioon evolutsiooniteooriast esitati teoses Berlin & Kay (2009: 10–11; 30ff.) ja illustreeriti järgneva joonisega (Joonis 2).



Joonis 2. Põhivärvinimede evolutsioonilised trajektoorid Berlin et al. (2009: 11) järgi.

See skeem tähendab: esimesel astmel on keeles vaid kaks põhivärvinime liitvärvikategooriate valge-punane-kollane (W/R/Y) ja must-roheline-sinine (Bk/G/Bu) jaoks; teisel astmel on kolm põhivärvinime liitvärvikategooriate valge (W), punane-kollane (R/Y), ja must-roheline-sinine (Bk/G/Bu) jaoks; kolmandal astmel on keeles neli põhivärvinime värvikategooriate jaoks kolme võimaluse järgi: (1) valge, punane, kollane ja must-roheline-sinine; (2) valge, punane-kollane, roheline-sinine, must; (3) valge, punane, kollane-roheline-sinine, must; neljandal astmel...

Teine põhivärvinimede evolutsiooniteooria põhikontseptsioon liitvärvikategooriatest rajas esialgsel kujul Kay (1975) tunnistades hele-soe, tume-jahe ja sinirohelise (*grue*) kategooriaid, mille hiljem arendasid Witowski & Brown (1977) “makrovärviks” ja teoses Kay & McDaniel (1978) “hägusühenduseks”, seejärel lõplikult süstemaatiliselt kokku võttes teoses Kay et al. (1991: 15) Liitkategoriareeglina: “Võimalik liitkategorია on hägune fundamentaalsete neuraalvastusekategoriate allrühma hägusühendus, mis joonisel 2 [siin Joonis 3], moodustab katkematu assotsiatiivse ahela, mis ei ületa diagonaaljoont” (Kay et al. 1991: 16).



Joonis 3. “FRN¹⁷ kategooriate visuaalne ja lingvistiline suhe” Kay et al. (1991: 15) järgi.

Vatsavalt liitkategoriareeglile on teoreetiliselt võimalikud liitvärvikategooriad: (1) must-sinine-roheline-kollane, (2) valge-kollane-punane, (3) valge-kollane, (4) punane-kollane, (5) must-sinine-roheline, (6) must-sinine, (7) sinine-roheline-kollane, (8) sinine-roheline ja (9) roheline-kollane. Kõik need peale must-sinise-rohelise-kollase on kindlaks tehtud inimkeeltes uurimuses World Color Survey (2009: 6) (esmalt esitatud teoses Kay et al. 1991: 14).

Kuigi on järgitud mõnda põhivärvinimede evolutsiooniteooria kontseptsiooni, ei ole käesolevate uurimuste eesmärgiks arutleda kogu põhivärvinimede evolutsiooniteooriat. Lühikese teooria kriitika kohta vaata teost Sutrop (2002: 18–30, 2011). Uusküla (2008: 16–29) sisaldab üksikasjalikku kokkuvõtet teooria arengust 1969 kuni 2007, kaasa arvatud viited teooria kriitikutele. Hollman (2010: 42–49) sisaldab üksikasjalikku kokkuvõtet teooria arengust aastatel 1969 kuni 2008.

2.3. Filoloogilise lähenemise materjalid ja meetodid¹⁸

Lühikesed uuritud lektide sissejuhatused ja materjalid on eraldi loendatud enne tulemuste esitamist tulemuste ja arutluste lõigus.

Andmete kogumisel ja analüüsil on kasutatud konventsionaalseid filoloogilisi meetodeid.

Uuriija peab kõigepealt valima mõned asjakohased edasi kantud pealkirjad ja peatükid, seejärel sisu manuaalselt läbi käima, mõistma paragrahve, noppima välja võtmeparagrahvid, analüüsima ja esitama need loetava tekstina uurimuse esitamise keeles.

Kui teema on lingvistiline, on tähtsam eristada kihte ja ajajärku. Kui teema on ajalooline, on tähtsam kinnitada õigsust.

Mõned käesolevate uurimuste teemad on pigem keeleteaduslikud kui ajaloolised. Nende põhiküsimus on onomasioloogiline: Kuidas väljendab teatud

¹⁷ FRN = Fundamentaanel neuraalne vastus.

¹⁸ See lõik on põhiliselt võetud artiklist [P3].

lekt mõisteid must värvus, valge värvus ja punane värvus? Samas sisaldab see põhivärvinime definitsiooni: Mis on põhivärvinimed antud lektis?

Tulemuste saamiseks onomasioloogias on kaks lähenemist.

(a) Kui antud lektist ei ole standardsõnaraamatut, peab uurimine alguse saama selle lekti tavatekstidest. See on korpusepõhine lähenemine.

Selles lähenemises on kõigepealt tähtis teha kindlaks antud lekt. Hoolikalt tuleb käsitleda tekstide ajastust ja kihte. Tekstide uusväljaannete märkused ja lisad tuleb välja jätta. Lisaks peab uurija olema teadlik, et igal ajal ei pruugi hiina kirjamärkidega kirjutatud tekst kuuluda tervikuna samasse lekti. Lekt võib olla kirja pandud dialekt või isegi hiina märkidega kirjutatud korea keel.

Ühe lekti piires on tulemused seda paremad, mida suurem on korpus. Kui tulemused ei ole järjekindlad, nt mõiste jaoks on mitmeid lekseme, on aeg veenduda lekseemide omavahelises suhtes. Kui need on sünonüümid, tuleb teha kindlaks primaarne nimetus.

(b) Kui lektist on säilinud standardsõnaraamat, tuleb usaldada seda standard-sõnaraamatut. Tulemused antakse standardsõnaraamatule tuginedes otse-tsitaatidena [引經據典] ning lisatakse kolm näidet värvinimetuse esinemise kohta tavatekstides [書證].

Ajalooliste standardsõnaraamatute usaldamine on filoloogilise uurimistöö alus. Teatud lekti jaoks välja antud standardsõnaraamat oli autoriteet lekti enda jaoks. Mõned tänapäeva lingvistid seavad küsimuse alla vanad sõnaraamatud, eelistades teha uurimistööd ainult korpusepõhiselt. Selline teguviis on võrreldav juhtumiga kui inimesed ei usaldaks standardse mandariinihiina keele standard-sõnaraamatut ja seega tugineksid oma tulemustes kaasaegsetele tavatekstidele. Tulemused võivad olla erinevad, sest tavatekstit ei järgi alati täielikult standard-keelt. Need tulemused võivad olla mõjutatud mitmete murde- ja sotsiaalsete faktorite poolt. Humanitaarteadusena on mõned tavapärased reeglid tõepoolest inimeste loodud. Kuidas väljendab lekt mõistet? Vastused autoriteetidelt on primaarsed; vastused inimestelt on sekundaarsed.

Käesolevates uurimustes on onomasioloogilist lähenemist sünteesitud põhi-värvinimede antropoloogilise ja psühholingvistilise uurimisega. Põhivärvinimede tulemused on esitatud samas formaadis. Üldiselt ei ole mittepõhivärvinimesid esitatud välja arvatud juhul kui on vaja umber lükata varasemate uurimuste vastupidiseid tulemusi.

Mõned käesolevate uurimuste teemad on pigem ajaloolised kui lingvistilised. Nende põhiküsimus on: Mis on mingi hiina valitsusvõimu ametlik värv?

Tulemuseni saab jõuda kui asjakohased ajaloolised kirjanekud on selged ja järjekindlad. Oleks parem kui mõni selle aja kaasaegne tekst erinevalt autori-teedilt (vaenupool või välisriik) kinnitaks tulemust teist teed pidi. Kui teemat käsitlevad ajaloolised kirjanekud on selged aga pole järjekindlad, tuleks analüüsida kõike erinevat sisu ja allikaid, siis saaks vähemalt mingi tulemuse saavutada. Kui teemat käsitlevad ajaloolised kirjanekud ei ole selged, tuleks koguda rohkem tõestusmaterjali ja selle üle arutleda. Kui ajaloolised kirjanekud ja teemat puudutavad vihjed puuduvad, ei ole tulemust võimalik saavutada.

Käesolevas uurimuses on uuritud tulemuslikult ajaloolisi ametlikke värvusi eelkirjeldatud viisil koos viidetega. Eelistatud on vanu tekste. Kaasaegsete ametlike värvuste tulemused on antud lihtsalt vastavuses faktidega, mida palju teised teavad samuti.

Lisaks põhilähenemisele, kui leidub samateemalisi varasemaid uurimusi, tuleb nende materjale võimalusel laiendada, nende meetodeid tuleks võimalusel parandada ja nende tulemusi tuleks vajadusel võrrelda. Kui varasemad tulemused on samad, mis käesolevad tulemused, tuleb varasemaid tulemusi tunnustada. Kui kõik tulemused on samad, ei saa käesolev uurimus avaldada uut uurimust, äärmisel juhul ülevaate. Kui käesolevad tulemused erinevad varasemate uurimuste tulemustest, tuleb varasemad tulemused ümber lükata asjakohaste tõenditega ja ideaaljuhul ka analüüsiga selle kohta, kuidas varasemad uurimused eksisid.

2.4. Eksperimentaalse lähenemise materjalid ja meetodid¹⁹

Keel: mandariini (Yani [燕] lekt), hiina [keelkond].

Mandariini keel (rangelt võttes “kaasaegne mandariini hiina keel”) on ametlik Hiina keelevariant (riiklik lekt) Hiinas, mis vastab omakeelsetele terminitele 現代漢語(*xiàndài hànyǔ*) või 普通話(*pǔtōnghuà*) mandri Hiinas ja 華語(*huáyǔ*) või 國語(*guóyǔ*) Taiwanil (vrd Gao 2012a, 2012c).

Andmete kogumise piirkonnad: Peking [北京], Shenyang [瀋陽], Baoding [保定], jne. (ajaloolise Yani riigi aladel) ja Handan [邯鄲], Jinan [濟南], jne. (väljaspool ajaloolist Yani riiki), Hiinas.

Aeg: (1) Suvi 2011. (2) Suvi 2012.

Eksperimenteerija: selle väitekirja autor.

Intervjuude keel: mandariini hiina.

Keelejuhid: Kokku oli 60 keelejuhti (keskmine vanus 34,9 aastat). Keelejuhtide seas oli 33 naist vanuses 13–79 (keskmine vanus 34,3 aastat) ja 27 meest vanuses 17–65 (keskmine vanus 35,6 aastat). Nende vanus arvestati andmete kogumise ajal.

Keelejuhid olid pärit järgmistest maakondadest või linnadest (tähestikulises järjekorras): Anguo [安國], Anshan [鞍山], Baoding [保定], Benxi [本溪], Binzhou [濱州], Changping [昌平], Changtu [昌圖], Chixian [磁縣], Dongling [東陵], Faku [法庫], Feixiang [肥鄉], Fuxin [阜新], Gaobeidian [高碑店], Handan [邯鄲], Harbin [哈爾濱], Huludao [葫蘆島], Jinan [濟南], Kaixian [開縣], Kangping [康平], Lanzhou [蘭州], Mancheng [滿城], Mentougou [門頭溝], Nanyang [南陽], Peking [北京], Shenyang [瀋陽], Shunyi [順義], Songyuan [松原], Xinmin [新民], Xinxiang [新鄉], Yanshi [偃師], Zibo [淄博].

¹⁹ See lõik on põhiliselt võetud artiklist [P4]. Hiina glüüfid, mis jäeti ära ajakirjaartiklis, on täpse viitamise huvides taastatud selles väitekirjas.

Maakonnad või linnad kuuluvad administratiivselt seitsmesse provintsi ja kahte provintsi õigustega prefektuuri: Heilongjiangi provints [黑龍江省] (HL), Jilini provints [吉林省] (JL), Liaoningi provints [遼寧省] (LN), Hebei provints [河北省] (HE), Shandongi provints [山東省] (SD), Henani provints [河南省] (HA), Gansu provints [甘肅省] (GS), Beijingi prefektuur [北京市] (BJ), Chongqingi prefektuur [重慶市] (CQ).

Järgmised maakonnad ja linnad asuvad ajaloolise Yani riigi alal, kus räägitakse emakeelena Yan-hiina keelt, tänapäeva standardse mandariinihiina keele põhilekti: Anguo [安國], Anshan [鞍山], Baoding [保定], Benxi [本溪], Changping [昌平], Changtu [昌圖], Dongling [東陵], Faku [法庫], Fuxin [阜新], Gaobeidian [高碑店], Huludao [葫蘆島], Kangping [康平], Mancheng [滿城], Mentougou [門頭溝], Peking [北京], Shenyang [瀋陽], Shunyi [順義], Xinmin [新民]. 49 keelejuhti on pärit nendest kohtadest.

Kõik keelejuhid sooritasid esialgu loetelukatse ja värvitaju katse. Pärast seda sooritasid 58 normaalse värvitajuga keelejuhti nimeandmiskatse. Kaht normaalse nägemistajuta keelejuhti ei palutud teha värvinimetamisülesannet. Keelejuhte ei teavitatud enne testi algust, et küsimused tulevad värvuste ja värvinimetuste kohta.

Välitöö meetod: Kasutati välitöö meetodit, mille käisid välja Davies & Corbett (1994, 1995), milles intervjuu koosneb kahest osast: loetelukatse ja nimeandmiskatse. Pärast loetelukatset viidi läbi värvitaju katse. Loetelukatset kirjeldas ja muutis Sutrop (2001).

Loetelukatse: Keelejuhtidel paluti nimetada nii palju värvusi kui nad teadsid. Põhiküsimus on: 'Palun loetlege kõik värvid, mida te teate!' mandariini keeles [請講一下！你/您都知道什麼顏色？(*Qǐng jiǎng yí xià! Nǐ/nín dōu zhīdao shénme yánsè?*)] "Palun öelge! Mis kõiki värve sa/Te tead/teate!"]]. On huvitav, et kuna hiina kirjasüsteem on morfeemiline [ja etümoloogiline] (vrd Chao 1946; Gāo 2013), teavad kõik kirjaoskajad hiina inimesed mis on vahe monomorfeemsetel ja polümorfeemsetel sõnadel. Mitmed keelejuhid märkisid, et polümorfeemseid värvinimetusi on lõputu arv ja seetõttu peatasid nad nende nimetamise. Katse tegija pidi sellega leppima.

Kõik vastusena antud värvinimetused pandi kirja järjekorras, milles keelejuhid neid loetlesid. Katse tegija kirjutas üles täpselt mida keelejuhid ütlesid. Pärast seda tänati keelejuhte ja jätkati värvinägemiskatsega ning seejärel nimeandmiskatsega.

Värvipimedustesti: Kõiki keelejuhte testiti kasutades testi nimega The City University Color Vision Test (Fletcher 1980). Katse viidi läbi pärast loetelukatset ja enne nimeandmiskatset. Värvitaju katses näidati keelejuhile kümmet musta tahvlit, mille keskel on kindla värvusega täpp, mis on ümbritsetud nelja erinevat värvi täpiga. Küsitletav peab ütlema, milline täpp on kõige sarnasem keskmisele: üleval, all, paremal või vasakul. See katse võimaldab diagnoosida peaaegu kõiki värvitajuanomaaliaid, nagu deuteronoopia, protonoopia, tritanoopia jne.

Nimeandmiskatse: Keelejuhtidele näidati ühekaupa 65 värvitahvlit juhuslikus järjestuses. Järjestus oli iga keelejuhi jaoks erinev ja värve näidati piisavas päevavalguses helehallil taustal. Näidates värvitahvlit küsis katse tegija küsimuse: 'Mis värv see on?' mandariini hiina keeles [這是什麼顏色? (*Zhè shì shénme yánsè?*)]. Pärast mõnda esimest värvitahvlit vastasid keelejuhid automaatselt kohe kui värvitahvlit näidati. Kõik vastatud värvinimetused pandi kirja nii nagu need öeldi.

Nimeandmiskatse stiimulid: Nimeandmiskatses kasutati stiimulitena 65 standardtahvlit. Iga tahvel oli 5 x 5 cm suurune puidust ruut, mis oli kaetud värvilise paberiga. Need värvid olid valitud Color Aid Corporationi värviliste paberite reast, mis kasutas Ostwaldi värvisüsteemi (Ostwald et al. 1939; vaata ka Jacobson 1948). 65 värvi valiku põhjenduse võib leida teosest Davies et al. (1992).

Andmeanalüüsi lisameetodid: Kognitiivse esiletuleku indeksit, mille esitas Sutrop (2001) on kasutatud andmeanalüüsis. Nimetuse sagedus ja selle keskmine asukoht individuaalsetes loendites on kombineeritud integreeritud kognitiivse esiletuleku indeksiks.

Sarnased üksikuurimused: Sarnased eksperimentaalsed üksikuurimused maailma suuremate keelte kohta on näiteks: Davies & Corbett (1994) vene keele kohta; Davies & Corbett (1995) inglise keele kohta; Davies et al. (1995) katalaani keele kohta; Özgen & Davies (1998) türki keele kohta; Sutrop (2000) eesti keele kohta [Hollman & Sutrop (2010) eesti viipekeele kohta]; Hippiisley (2001) ukraina ja valgevene keele kohta; Uusküla & Sutrop (2007) ungari keele kohta; Uusküla (2007) soome keele kohta; Uusküla (2008) tšehhi keele kohta; Hippiisley et al. (2008) alam- ja ülemsorbi keele kohta; Androuraki et al. (2009) uuskreeka keele kohta; Râbina (2011a) udmurdi keele kohta; Râbina (2011b) komi keele kohta; Pranaitytė (2011) leedu keele kohta.

3. Tulemused ja diskussioon

3.1. Filoloogilise lähenemise tulemused ja diskussioon

Shangi eel-hiina keeles on põhivärvinimi musta jaoks 黑^(hēi/hǎi) [uus tulemus]; põhivärvinimi valge jaoks on 白^(bái/bách) [sama, mis Wang (1996)]; põhivärvinimi punase jaoks (kaasaarvatud pruun) on 赤^(chì/xích) [Wang (1996) ei olnud piisavalt täpne (ei sisaldanud pruuni).].

Zhou eel-hiina keeles on põhivärvinimi musta jaoks 玄^(xuán/huǎn) [sama, mis Baxter (1983), Wu (2011) ja Wú (2012)]; põhivärvinimi valge jaoks on 白^(bái/bách) [sama, mis Baxter (1983), Yáo (1988), Xú (1999), Xiè (2008), Wu (2011) ja Wú (2012)]; põhivärvinimi punase jaoks on 朱^(zhū/chu) [Baxter (1983) (mainitud kui “赤^(chì/xích) või? (sic) 朱^(zhū/chu)”) ja Xú (1999) (mainitud kui “赤^(chì/xích) ja 朱^(zhū/chu)”) olid ebatäpsed.].

Qin-Han-Jini hiina keeles on põhivärvinimi musta jaoks 黑^(hēi/hǎi) [sama, mis Baxter (1983), Yáo (1988), Wu (2011) ja Wú (2012)]; põhivärvinimi valge

jaoks on 白^(bái/bách) [sama, mis Baxter (1983), Yáo (1988), Wu (2011) ja Wú (2012)]; põhivärvinimi punase jaoks (kaasaarvatud pruun) on 赤^(chì/xích). [Baxter (1983), Yáo (1988), Xú (1999), Xiè (2008), Wu (2011) ja Wú (2012) olid ebatäpsed (ei sisaldanud pruuni).]

Sui-Tang-Songi hiina keeles on põhivärvinimi musta jaoks 黑^(hēi/hǎi) [sama, mis Yáo (1988), Wu (2011) ja Wú (2012)]; põhivärvinimi valge jaoks on 白^(bái/bách) [sama, mis Yáo (1988), Wu (2011) ja Wú (2012)]; põhivärvinimi punase jaoks (sealhulgas roosa) on 紅^(hóng/hòng) [sama, mis Yáo (1988), Wu (2011) ja Wú (2012) pidas ebaõigesti nimetust 赤^(chì/xích) teiseks põhivärvinimeks punase jaoks, ilmselt seetõttu, et tema uurimus tugines korpusele, mis sisaldas historioograafiaid. Historiograafilised tekstid võivad sisaldada suurt hulka tsitaate erinevatest lektidest. Nimetus 赤^(chì/xích) kui Qin-Han-Jini põhivärvinimi punase jaoks oli veel tuvastatav tsitaatides ja päritud nimetustes.]

Yuani hiina keeles on põhivärvinimi musta jaoks 黑^(hēi/hǎi); põhivärvinimi valge jaoks on 白^(bái/bách); põhivärvinimi punase jaoks on 紅^(hóng/hòng). [Yáo (1988), Wu (2011) ja Wú (2012) said samad tulemused kombineeritud lektide kohta, mis hõlmasid seda lekti.]

Mingi mandariini hiina keeles on põhivärvinimi musta jaoks 黑^(hēi/hǎi), põhivärvinimi valge jaoks on 白^(bái/bách); põhivärvinimi punase jaoks 紅^(hóng/hòng). [Yáo (1988), Wu (2011) ja Wú (2012) said samad tulemused kombineeritud lektide kohta, mis hõlmasid seda lekti.]

Qingi mandariini hiina keeles on põhivärvinimi musta jaoks 黑^(hēi/hǎi), põhivärvinimi valge jaoks on 白^(bái/bách); põhivärvinimi punase jaoks 紅^(hóng/hòng). [Yáo (1988), Wu (2011) ja Wú (2012) said samad tulemused oma üleliia kombineeritud lektidega, mis hõlmasid seda lekti.]

Tänapäeva mandariini hiina keeles on põhivärvinimi musta jaoks 黑^(hēi/hǎi), põhivärvinimi valge jaoks on 白^(bái/bách); põhivärvinimi punase jaoks on 紅^(hóng/hòng). [Samad, mis Berlin & Kay (1969), Yáo (1988), Wu (2011) ja Wú (2012)]

Yue regionaalses lektis on põhivärvinimi musta jaoks 黑^(hēi/hǎi), põhivärvinimi valge jaoks on 白^(bái/bách); põhivärvinimi punase jaoks on 紅^(hóng/hòng). [Samad, mis Berlin & Kay (1969) ja Xiè (2008)]

Mini regionaalses lektis on põhivärvinimi musta jaoks 烏^(wū/ō); põhivärvinimi valge jaoks on 白^(bái/bách); põhivärvinimi punase jaoks on 紅^(hóng/hòng). [Samad, mis Xiè (2008)]

3.1.2. Hiina valitsusvõimude ametlikud värvid

Selle osa tulemused ja arutelu on muutumatud võrreldes [P3]-ga.

3.2. Eksperimentaalse lähenemise tulemused ja diskussioon

Selle osa tulemused ja arutelu on muutumatud võrreldes [P4]-ga.

4. Ülevaade

4.1. Filoloogilise lähenemise ülevaade

4.1.1. Põhivärvinimed musta, valge ja punase jaoks pankroonilises hiina keeles²⁰

Põhivärvinimed musta, valge ja punase jaoks on uuritud hiina keele lektides kokku võetud tabelis 1.

Tabel 1. Põhivärvinimed musta, valge ja punase jaoks hiina keeles

lekt↓ värv→	must	valge	punane
Shang	𪛗 (---)	白 (bái/bách)	赤 (chì/xích)
Zhou	玄 (xuán/huǎn)	白 (bái/bách)	朱 (zhū/chu)
Qin-Han-Jin	黑 (hēi/hǎi)	白 (bái/bách)	赤 (chì/xích)
Sui-Tang-Song	黑 (hēi/hǎi)	白 (bái/bách)	紅 (hóng/hǒng)
Yuan	黑 (hēi/hǎi)	白 (bái/bách)	紅 (hóng/hǒng)
Ming	黑 (hēi/hǎi)	白 (bái/bách)	紅 (hóng/hǒng)
Qing	黑 (hēi/hǎi)	白 (bái/bách)	紅 (hóng/hǒng)
Yan (mandariini)	黑 (hēi/hǎi)	白 (bái/bách)	紅 (hóng/hǒng)
Yue (kantoni)	黑 (hēi/hǎi)	白 (bái/bách)	紅 (hóng/hǒng)
Min (Taiwani)	烏 (wū/ō)	白 (bái/bách)	紅 (hóng/hǒng)

Kõik uuritud värvinimed kuuluvad kaheksa etümone alla. Etümonide semantilisest määratlusest uuritud lektides on esitatud tabelis 2.

Tabel 2. Etümonide semantilised määratlused

lekt↓ etümon→	白 (bái/bách)	𪛗 (---)	黑 (hēi/hǎi)	玄 (xuán/huǎn)	烏 (wū/ō)
Shang	‘valge’	‘must’	--	--	--
Zhou	‘valge’	-kadunud-	‘must ₂ ’	‘must ₁ ’	‘vares’
Qin-Han-Jin	‘valge’	-kadunud-	‘must’	‘must punasega’	‘vares’
Sui-Tang-Song	‘valge’	-kadunud-	‘must’	‘(must); arusaamatu’	‘rahulik’
Yuan	‘valge’	-kadunud-	‘must’	‘(must); arusaamatu’	‘vares’
Ming	‘valge’	-kadunud-	‘must ₁ ’	‘(must); arusaamatu’	‘must ₂ ’
Qing	‘valge’	-kadunud-	‘must’	‘(must); arusaamatu’	‘(must)’
Yan (mandariini)	‘valge’	-kadunud-	‘must’	‘(must); arusaamatu’	‘(must)’
Yue (kantoni)	‘valge’	-kadunud-	‘must ₁ ’	‘(must); arusaamatu’	‘must ₂ ’
Min (taiwani)	‘valge’	-kadunud-	‘must ₂ ’	‘(must); arusaamatu’	‘must ₁ ’

²⁰ See osa on kokku võetud artiklitest [P1], [P2], [P3] ja [P5]. Siinses väitekirjas on mõningaid artikli [P1] seisukohti revideeritud.

Tabel 2 (jätkub)

lekt↓ etümon→	赤(chì/xìch)	朱(zhū/chu)	紅(hóng/hōng)
Shang	'punane-pruun'	'juur, tüvi'	--
Zhou	'pruun'	'punane'	--
Qin-Han-Jin	'punane-pruun'	'punase südamikuga puu'	'roosa riie'
Sui-Tang-Song	'(punane-pruun); paljas'	'(punane)'	'punane-roosa'
Yuan	'(punane-pruun); paljas'	'(punane)'	'punane'
Ming	'(punane-pruun); paljas'	'(punane)'	'punane'
Qing	'(punane-pruun); paljas'	'(punane)'	'punane'
Yan (mandariini)	'(punane-pruun); paljas'	'(punane)'	'punane'
Yue (kantoni)	'(punane-pruun); paljas'	'(punane)'	'punane'
Min (taiwani)	'(punane-pruun); paljas'	'(punane)'	'punane'

Märge: Poolpaksu kirjaga on värvinimed. Teised glossid on abstraktsed või konkreetset mõistet. Sulgudes mõistet esinevad ainult loodud nimetustes mis on päritud varasematest riiklikest lektidest. "--" tähendab 'pole registreeritud'. "₁" tähendab primaarne, st, põhiline. "₂" tähendab sekundaarne, st, mittepõhiline.

4.1.2. Primitiivsed liitvärvikategooriad iidse hiina keeles

[P3] on väitnud, et primitiivsed liitvärvikategooriad olid olemas iidse hiina keeles tuginedes vanades hiina juttudes (või "legendides") leiduvatele vihjetele.

(1) Liitvärvikategooria valge-kollane

Pao-xi keisririigi ametlik värvus, samuti Xuan-yuani keisririigi keiser Yao ametlik värv, 白(bái/bách), oli piima värvus ehk liitvärvikategooria valge-kollane. See primitiivne värvus oli küttide-korilaste lemmik. Piim oli nende esmane toiduaine.

(2) Liitvärvikategooria punane-kollane

Shen-nongi keisririigi ametlik värvus, samuti Xuan-yuani keisririigi keiser Shuni ametlik värv, 赤(chì/xìch), oli päikese ja tule värvus ehk liitvärvikategooria punane-kollane. See primitiivne värvus oli põllumeeste lemmik. Päike ja tuli on kõige tähtsamad nende viljale.

(3) Liitvärvikategooria must-sinine-roheline-kollane

Xuan-yuani keisririigi Kollase keisri ametlik värv, 黃(huáng/hoàng), oli veekogude värvus, või liitvärvikategooria must-sinine-roheline-kollane. See primitiivne värvus oli karjapidajate lemmik. Veekogud on kõige tähtsamad nende kariloomadele.

Seda primitiivset liitvärvikategooriat toetavad ka mõned konkreetset hiina etümoloogiad. Shangi glüüf musta jaoks ja Shangi glüüf kollase jaoks on graafiliselt sarnased (samad erinevad teistest värvinimetustest) ja võivad seega olla etümoloogiliselt seotud:

Musta tähistav glüüf –  . Kollast tähistav glüüf – .

See võib olla esimene liitvärvikategooria must-sinine-roheline-kollane kindlakstegemine põhivärvinimede evolutsiooniteooria tekkimisest alates.

(4) Ettepanek arengutrajektooride korrigeerimiseks

Kuna kollase ala võib jaguneda esimese kolme liitvärvikategooria vahel, teeb see väitekirj ettepaneku korrigeerida põhivärvinimede arengutrajektoore. Kui põhivärvinimi kollase jaoks ei ole tekkinud, võib selle ala saada kaetud kolme olemasoleva põhivärvinime poolt, mille tulemuseks on kolm liitvärvikategooriat: must-sinine-roheline-kollane, valge-kollane ja punane-kollane.

4.2. Eksperimentaalse lähenemise ülevaade

[P4] on uurinud mandariini hiina keelt 60 keelejuhi põhjal kasutades samu välitöömeetodeid mida on keeleteadlased rakendanud mitmete teiste keelte puhul, ja järeldas, et mandariini hiina keeles on üheksa põhivärvinime, mis reastatuna kognitiivse esiletuleku indeksi järgi on: *hóng* [紅(hóng/hòng)] ‘punane’, *huáng* [黃(huáng/hoàng)] ‘kollane’, *lǜ* [綠(lǜ/lù)] ‘roheline’, *lán* [藍(lán/lam)] ‘sinine’, *hēi* [黑(hēi/hǎi)] ‘must’, *bái* [白(bái/bách)] ‘valge’, *zǐ* [紫(zǐ/tǐ)] ‘lilla’, *fěn* [粉(fěn/phán)] ‘roosa’, ja *huī* [灰(huī/khōi)] ‘hall’. Üksikasjalik kokkuvõte jääb samaks, mis [P4]-s.

4.3. Põhivärvinimede areng pankroonilises hiina keeles

Käesolevad uurimused leiavad, et põhivärvinimed enamikus uuritud hiina keelevariantides (mitte Zhou eel-hiina keeles) jagasid ühist arengutempot. Zhou eel-hiina eraldi nimetustega musta ja punase jaoks peab olema Shang eel-hiina keele paralleelne haru, kuid samuti tulenenud Xuan-yuani eel-hiina keelest. Sellel oli kiirem tempo, seejärel segunes see Shang eel-hiina haruga, kuid hiljem kaotas oma ülemvõimu Qin-Han-Jini hiina keelele, mis saavutas Hiina konsolideerumise. Qin-Han-Jini hiina keel on keeleliselt lähemal Shang eel-hiina aeglase põhivärvinimede arengutempoga. Põhivärvinimede areng pankroonilises hiina keeles on kujutatud Tabelis 3.

Tabel 3. Põhivärvinimede areng pankroonilises hiina keeles.

2000BCE	
Xuan-yuani eel-hiina (arengujärgul II)	
黃(huáng/hoàng)	musta-sinise-rohelise-kollase jaoks ¹
白(bái/bách)	valge-kollase jaoks ¹
赤(chì/xìch)	punase-kollase jaoks ¹
1000BCE	
Shang eel-hiina (arengujärgul III)	Zhou eel-hiina (arengujärgul V+1)
𣎵(-/-) musta jaoks ¹	玄(xuán/huǎn) musta jaoks ¹
白(bái/bách) valge jaoks ¹	白(bái/bách) valge jaoks ¹
赤(chì/xìch) punakaspruuni jaoks ¹	朱(zhū/chū) punase jaoks ¹
黃(huáng/hoàng) *kollase ² -sinise-rohelise jaoks ³	黃(huáng/hoàng) kollase jaoks ⁴
	蒼(cāng/thuāng) sinise jaoks ⁴
	綠(lǜ/lù) roheline jaoks ⁴
	赤(chì/xìch) pruuni jaoks ¹

Tabel 3 (jätkub)

1CE	
Qin-Han-Jin hiina (arengujärgul IV)	Zhou nimetuste staatus
黑 (hēi/hǎi) musta jaoks ¹	((玄 (xuán/huán) musta jaoks
白 (bái/bách) valge jaoks ¹	=
赤 (chì/xích) punakaspruuni jaoks ¹	=赤 (chì/xích) pruuni jaoks; ((朱 (zhū/chu) punase jaoks
黃 (huáng/hoàng) kollase jaoks ²	=
青 (qīng/thanh) siniroheline jaoks ²	((蒼 (cāng/thương) sinise jaoks
	((綠 (lǜ/lục) roheline jaoks
1000CE	
Sui-Tang-Songi hiina (arengujärgul V+1)	Zhou, Qini nimetuste staatus
黑 (hēi/hǎi) musta jaoks ¹	((玄 (xuán/huán) musta jaoks
白 (bái/bách) valge jaoks ¹	=
紅 (hóng/hōng) punase jaoks ¹	((朱 (zhū/chu), 赤 (chì/xích) punase jaoks
黃 (huáng/hoàng) kollase jaoks ²	=
藍 (lán/lam) sinise jaoks ²	((蒼 (cāng/thương) sinise jaoks
綠 (lǜ/lục) roheline jaoks ²	=; ((青 (qīng/thanh) sini-roheline jaoks
紫 (zǐ/tử) lilla jaoks ²	
2000CE	
Tänapäeva hiina keel (arengujärgul V+3)	Zhou, Qin, Sui nimetuste staatus
hēi [黑 (hēi/hǎi)] musta jaoks ¹	=; ((玄 (xuán/huán) musta jaoks
bái [白 (bái/bách)] valge jaoks ¹	=
hóng [紅 (hóng/hōng)] punase jaoks ¹	=; ((朱 (zhū/chu), 赤 (chì/xích) punase jaoks
huáng [黃 (huáng/hoàng)] kollase jaoks ¹	=
lán [藍 (lán/lam)] sinise jaoks ¹	=; ((蒼 (cāng/thương) sinise jaoks
lǜ [綠 (lǜ/lục)] roheline jaoks ¹	=; ((青 (qīng/thanh) sini-roheline jaoks
zǐ [紫 (zǐ/tử)] lilla jaoks ¹	=
fěn [粉 (fěn/phân)] roosa jaoks ¹	
huī [灰 (huī/khôi)] halli jaoks ¹	
Märkused:	
¹ – Tulemused, mis on saavutatud käesolevates uurimustes.	
² – Tulemused, mis on võetud uurimusest Wu (2011).	
³ – Kuna põhivärvinime sinise-roheline jaoks Wu (2011) järgi ei olnud, on see nimetus hüpoteetiliselt lisatud sellele terminile käesolevas uurimuses.	
⁴ – Tulemused varasema uurimuse Li et al. (2011) järgi parandustega.	
= – Identne; ((– Arhiveeritud kui klassikaline kirjanduslik termin.	

Xuan-yuani eel-hiina keel oli põhivärvinimede arengujärgul II. Selles oli vaid kolm põhivärvinime kolme esimese primitiivse liitvärvikategooria jaoks: primitiivne termin 黃 (huáng/hoàng) musta-sinise-roheline-kollase jaoks, primitiivne termin 白 (bái/bách) valge-kollase jaoks ja primitiivne termin 赤 (chì/xích) punase-kollase jaoks.

Shangi eel-hiina keel (tulenenud Xuan-yuan eel-hiina keelest) oli põhivärvinimede arengujärgul III. Selles oli neli põhivärvinime. Primitiivne termin 黃 (huáng/hoàng) musta-sinise-roheline-kollase jaoks jagunes terminiks 莫 (–/–) musta jaoks ja terminiks 黃 (huáng/hoàng) *kollase-sinise-roheline jaoks (hoiatuse: See

rekonstrueeritud tähistus nõuab edaspidist uurimist). Need kaks nimetust on tõenäoliselt etümoloogilises suguluses. Primitiivne termin 白^(bái/bách) valge-kollase jaoks piirati valgega, sellal kui primitiivne termin 赤^(chí/xích) punase-kollase jaoks piirati punasega pärast kollase tekkimist.

Zhou eel-hiina keel (tulenenud Xuan-yuani eel-hiina keelest) oli põhivärvinimede arengujärgul V (+ pruun). Selles oli seitse põhivärvinime. Primitiivne nimetus 黃^(huáng/hoàng) musta-sinise-rohelise-kollase jaoks piirati kollasega äsja tekkinud nimetustega 玄^(xuán/huǎn) musta jaoks, 蒼^(cāng/thuāng) sinise jaoks ja 綠^(lǜ/lùc) rohelise jaoks. Primitiivne nimetus 白^(bái/bách) valge-kollase jaoks piirati valgega pärast kollase tekkimist. Primitiivne nimetus 赤^(chí/xích) punase-kollase jaoks piirati pruuniga äsja tekkinud nimetusega 朱^(zhū/chu) punase jaoks.

Qin-Han-Jini hiina (tulenenud Xuan-yuani eel-hiina keelest) oli põhivärvinimede arengujärgul IV. Selles oli viis põhivärvinime. Primitiivne nimetus 黃^(huáng/hoàng) musta-sinise-rohelise-kollase jaoks piirati kollasega äsja tekkinud nimetustega 黑^(hēi/hǎc) musta ja 青^(qīng/thanh) sinise-rohelise jaoks. Primitiivne nimetus 白^(bái/bách) valge-kollase jaoks piirati valgega, sellal kui primitiivne nimetus 赤^(chí/xích) punase-kollase jaoks piirati punasega pärast kollase tekkimist.

Sui-Tang-Songi hiina (leksikaalselt tulenenud Qin-Han-Jini hiina keelest) oli põhivärvinimede arengujärgul V (+ lilla). Kategooria sinine-roheline jagunes. Tekkisid terminid 藍^(lán/lam) sinise ja 綠^(lǜ/luc) rohelise jaoks. Qin-Han-Jini nimetus 青^(qīng/thanh) sinise-rohelise jaoks arhiveeriti klassikalise kirjandusliku nimetusena. Tekkis uus nimetus 紫^(zǐ/tǐ) lilla jaoks. Uus nimetus 紅^(hóng/hǒng) punase jaoks asendas Qin-Han-Jini nimetuse 赤^(chí/xích) punase-pruuni jaoks. On ootamatu, et nimetust 赤^(chí/xích) punase-pruuni jaoks ei piiratud pruuniga, vaid arhiveeriti klassikalise kirjandusliku nimetusena ja pruuni kategooriat ei tekkinud. See nõuab edaspidist uurimist.

Tänapäeva hiina keel (leksikaalselt tulenenud Sui-Tang-Songi hiina keelest) on põhivärvinimede arengujärgul V (+ lilla, roosa, hall). Tekkisid nimetused 粉^(fěn/phán) roosa ja 灰^(huī/khôi) halli jaoks. Vatsavalt [P4]-le, ei ole veel ühte põhivärvinime pruuni jaoks; pruuni kategooria jaoks on kaks võistlevat nimetust 棕^(zōng/tóng) ja 褐^(hè/hạt); kõnekeeles kõrgema sagedusega nimetus 棕^(zōng/tóng) muutub tõenäoliselt põhivärvinimeks.

Hiina lektid, Xuan-yuani eel-hiina (arengujärgul II), Shang eel-hiina (arengujärgul III), Qin-Han-Jini hiina (arengujärgul IV), Sui-Tang-Songi hiina (arengujärgul V+1), tänapäeva hiina (arengujärgul V+3) jagavad põhivärvinimede arengu ühist tempot. Sellest tuleneb, et põhivärvinimede areng pankrooniliste hiina lektide põhivoolus on vastavuses põhivärvinimede evolutsiooni-teooriaga.

4.4. Käesolevate uurimuste peamiste uute edusammude ülevaade

Filoloogia ja leksikoloogia valdkonnas on käesoleva uurimistöö kõige olulisemad tulemused järgmised:

(1) Lükati ümber väide, et 幽^(yōu/ū) võib tõlgendada kui musta värvi. Pigem tähendab see rahulikku.

(2) Selgitati välja, et vanim termin punase jaoks (põhivärvinimi) 赤^(chi/xich) tähistas algselt punakaspruuni värvide liitkategoriat.

(3) Jõuti järeldusele, et mitte 赤^(chi/xich) vaid 朱^(zhū/chu) on põhivärvinimi punase jaoks Zhou riiklikus lektis.

(4) Laiendati pankroonilist vaadet hiina põhivärvinimedele. Kui ühes lektis on mitmed terminid sama mõiste jaoks, siis peaksid need olema pärit erinevatest keelelistest allikatest.

(5) Leiti, et hiina keeles on primitiivsed liitvärvide kategooriad. Neist primitiivne värvinimi veekogude jaoks võiks olla esimene kinnitus värvide liitkategorია must-sinine-roheline-kollane jaoks, mida värvinimede liitkategoriate teooria lubab, aga mida ei ole seni atesteeritud. Soovitati ka täiendada põhivärvinimede evolutsiooni trajektoore (põhivärvinimede ilmumise järjekorda): kui kollase kategooria ei olnud veel kasutusele tulnud, siis kollane värv võis olla jagatud olemasolevate kolme põhikategooria vahel. Siit tuleneb, et üheaegselt võis kasutusel olla kolm põhivärvinimede liitkategoriat: must-sinine-roheline-kollane, valge-kollane ja punane-kollane.

(6) Eksperimentaalse uurimistööga (välitöödega) tuvastati, et mandariini hiina keeles on üheksa põhivärvinime. See on esimene eksperimentaalne uurimus mandariini hiina keele kohta kasutades samu meetodeid, mida on rakendatud paljudes teistes keeltes keeleteadlaste poolt viimase kahekümne aasta jooksul.

(7) Kokkuvõtvalt sedastati, et põhivärvinimede arenemine pankroonilise hiina keele põhihoovuses ja põhivärvinimede evolutsiooniline teooria on heas kooskõlas.

5. Lõpetus

Käesolevad uurimused uurivad põhivärvinimesid mitmes pankroonilise hiina keele lektis (st., keelevariandis) seoses põhivärvinimede evolutsiooniteooriaga kasutades filoloogilisi ja eksperimentaalseid meetodeid.

Filoloogilises osas on uuritud kümmet tõendatud hiina lekti: Shangi eel-hiina, Zhou eel-hiina, Qin-Han-Jini hiina, Sui-Tang-Songi hiina, Yuani hiina, Mingi hiina, Qingi hiina, tänapäeva mandariini (Yani hiina), kantoni (Yue hiina), taiwani (Mini hiina) ja tuletatud põhivärvinimed musta, valge ja punase jaoks nendes lektides.

Filoloogilises osas on uuritud ka kõigi peamiste Hiina valitsusvõimude ajaloolisi kirjeldusi ja järeldatud nende ametlikud värvused. Neist värvustest järeldati primitiivsed liitvärvikategooriad. Primitiivsed liitvärvikategooriad, mis ilmsid ajaloolistest kirjanekutest on vastavuses põhivärvinimede evolutsiooni-teooria omadega.

Eksperimentaalne osa on uurinud mandariini hiina keelt 60 keelejuhiga. Selle järelduseks on, et mandariini hiina keeles on üheksa põhivärvinime. Põhivärvinimede asjaolud mandariini hiina keeles on vastavuses põhivärvinimede evolutsiooniteooriaga.

Ülevaate osas on jõutud järeldusele, et põhivärvinimede arenemine pankroonilise hiina keele põhihoovuses ja põhivärvinimede evolutsiooniline teooria on heas kooskõlas.

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CONNECTED ARTICLES

ABSTRACT IN ENGLISH

The present dissertation researches basic color terms in seven historical and three contemporary lects (i.e., language varieties) of the Sinitic (i.e., Chinese) language family (commonly understood as Chinese languages in the West) with reference to the two main conceptions of the evolutionary theory of basic color terms: (1) The evolutionary trajectories of basic color terms (Berlin & Kay 1969: 2–3; Kay et al. 2009: 10–11, 30ff.); and (2) the composite color categories (Kay 1975; Kay et al. 1991: 15).

The present studies of this dissertation has two main parts: (1) A philological portion on two themes (1.1) the basic color terms for black, white and red in Chinese lects; and (1.2) the official colors of Chinese regimes; (2) An experimental portion on the basic color terms in Mandarin Chinese.

The philological methods follow Chinese philological traditions and are concretely described. The experimental methods follow the bases founded in Davies & Corbett (1994, 1995), and the amendments made in Sutrop (2001).

Materials used in the philological approach include the relevant Chinese standard dictionaries (e.g. 121-SW; 543-YP; 1008-GY; 1039-JY; 1375-HWZY; 1716-KXZD) and common texts. For historical topics relevant Chinese historiographies are used. Informants interviewed in the experimental approach are 60 Mandarin Chinese native speakers.

On the domain of philology and lexicology, major new contributions of the present studies are:

(1) Advance of the panchronic view: If there are multiple terms for the same sense in a language, the multiple terms ought to be of different linguistic origins.

(2) Concluding the primitive composite color categories in ancient Chinese. Of them, the primitive color of water bodies may be the first attestation of the composite color category black-blue-green-yellow since the evolutionary theory of basic color terms.

(3) Concluding that there are nine basic color terms in Mandarin Chinese. It has been the first experimental study on Mandarin Chinese using the same methods that have been applied to many other languages by linguists in the past twenty years.

(4) Concluding that the development of basic color terms in the mainstream of panchronic Chinese is consistent with the evolutionary theory of basic color terms.

ABSTRACT IN ESTONIAN

Väitekirj uurib põhivärvinimesid seitsmes ajaloolises ja kolmes kaasaegses hiina lektis (s.t. keelevariandis, mille all tavaliselt mõistetakse hiina keeli). Seejuures tuginetakse põhivärvinimede evolutsioonilise teooria kahele peamisele kontseptsioonile: (1) Põhivärvinimede evolutsiooniline kujunemine (Berlin & Kay 1969: 2–3; Kay et al. 2009: 10–11, 30ff.) ja (2) liitvärvinimede kategooriad (Kay 1975; Kay et al. 1991: 15).

Väitekirjal on kaks peamist osa: (1) Filoloogiline osa kahel teemal (1.1) põhivärvinimed musta, valge ja punase jaoks hiina lektides ja (1.2) hiina ajalooliste valitsusvõimude ametlikud värvid; (2) Eksperimentaalne osa teemal põhivärvinimed mandariini hiina keeles.

Filoloogilised meetodid järgivad Hiina filoloogilisi traditsioone ja on töös põhjalikult kirjeldatud. Eksperimentaalsed meetodid järgivad põhivärvinimede uurimise välimeetodit (Davies & Corbett 1994, 1995) ning selle täiustusi loetelutakse ja kognitiivse esiletuleku indeksi osas (Sutrop 2001).

Töö filoloogilises osas kasutati asjaomaseid hiina standardseid sõnaraamatuid (nt. 121-SW; 543-YP; 1008-GY; 1039-JY; 1375-HWZY; 1716-KXZD) ja tavatekste, ajaloolistel teemadel ka asjaomaseid hiina ajalooramatuid. Töö eksperimentaalses osas küsitletud keelejuhtidest on 60 mandariini hiina keelt emakeelena kõnelejat.

Filoloogia ja leksikoloogia valdkonnas on käesoleva uurimistöö kõige olulisemad tulemused järgmised:

(1) Laiendati pankroonilist vaadet: Kui ühes keeles on mitmed terminid sama mõiste jaoks, siis peaksid need olema pärit erinevatest keelelistest allikatest.

(2) Leiti, et iidse hiina keeles on primitiivsed liitvärvide kategooriad. Neist primitiivne värvinimi veekogude jaoks võiks olla esimene kinnitus värvide liitkategorია must-sinine-roheline-kollane jaoks, mida värvinimede liitkategoriate teooria lubab, aga mida ei ole seni atesteeritud.

(3) Eksperimentaalse uurimistööga (välitöödega) tuvastati, et mandariini hiina keeles on üheksa põhivärvinime. See on esimene eksperimentaalne uurimus mandariini hiina keele kohta kasutades samu meetodeid, mida on rakendatud paljudes teistes keeltes keeleteadlaste poolt viimase kahekümne aasta jooksul.

(4) Kokkuvõtvalt sedastati, et põhivärvinimede arenemine pankroonilise hiina keele põhihoovuses ja põhivärvinimede evolutsiooniline teooria on heas kooskõlas.

摘要 (Abstract in Chinese)

此論著研究漢語七種歷史變體及三種當代變體中的基本顏色詞，參考基本顏色詞進化理論的兩大概念：一、基本顏色詞進化過程(Berlin & Kay 1969: 2-3; Kay 等 2009: 10-11, 30ff.); 二、複合顏色範疇(Kay 1975; Kay 等 1991: 15)。

此論著分為兩大部分：一、文獻研究部分又分兩個主題，其一、漢語言指示黑白紅三色的基本顏色詞；其二、中國歷代尚色。二、問卷調查研究部分的主題為現代漢語中的基本顏色詞。

文獻研究方法遵照中方文獻學傳統並有具體描述。問卷調查研究方法遵照 Davies & Corbett (1994, 1995)建立的基礎以及 Sutrop (2001)做出的改良。

文獻研究材料包括有關的漢語字書（例如 121-說文; 543-玉篇; 1008-廣韻; 1039-集韻; 1375-洪武正韻; 1716-康熙字典）以及普通文獻；針對歷史主題還包括有關的中國史書。問卷調查研究材料暨語料受訪者為 60 位現代漢語人口。

此論著在文獻學及詞彙學領域的最主要新貢獻有：

一、推進泛時語言發展觀：當一種語言中有多個詞語指示同一語義，這些詞語應來自不同的語源源流。

二、論證古漢語中的原始複合顏色範疇。其中原始水色可為基本顏色詞進化理論中所推定的黑—藍—綠—黃複合顏色範疇的首個例證。

三、論證現代漢語中有九個基本顏色詞。這是近二十年來國際語言學通用的顏色詞問卷調查研究方法針對現代漢語的首次運用。

四、論證泛時漢語主流中的基本顏色詞發展符合基本顏色詞進化理論。

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