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Morphemes of PUREUDA in Korean Complex Nouns:
Traits and Motivations of GRUE in Use

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Ⅰ. Introduction

This research aims to investigate the fundamental semantic relationships between the Korean morphemes of GRUE[1)] and the referent-specific properties of chromaticity in the complex nouns (henceforth, CN) for entity or state

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1) In this account, ‘grue’ is a term that refers to a special range of cool-color-related concepts or spaces in which the color hue of “green” and that of “blue” coexist within one color boundary (Biggam, 2012). Capitalization indicates the concept in English. In Korean, [ ] is used, instead, for the notation of the “grue” concept (e.g., [푸르다]). The distinction between a concept and a referent is important in this context (Elbourne, 2011; Kwon & Lim, 2020).

names. By looking into the semantic characteristics and semiotic mechanisms of the Korean GRUE morphemes (that is, the morphemes of PUREUDA[2] such as {푸르다} (*pureuda*), {파랗다} (*parata*), {청} (*cheong*), and {녹} (*nok*)) in the referent-specific complex nouns[3] that are realized in the form '1 color morpheme + another morpheme(s)' as in 푸른거북 (*pureungeobuk* "green turtle"), 파란불 (*paranbul* "green light"), 청자 (*cheongja* "green or blue celadon"), and 녹두 (*nokdu* "green gram"), it seeks to better understand the main traits and motivations of the Korean-specific GRUE examples in use. While many color studies conclude that the notion and phenomenon of GRUE can be easily observed in those languages which are at a transitory stage

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2) In this account, PUREUDA in the capital letters refers to the generic "grue" concept in Korean. Thus, PUREUDA is assumed to correspond to the chromaticity-related conceptual category of GRUE in Korean. Here, 'pureuda' is a word form that indicates the specific morpheme {푸르다}. "pureuda" is the semantic content or meaning that the word 'pureuda' possesses. The lexical item '푸르다' is not the same as PUREUDA or [푸르다]. '푸르다' itself can be taken as a basic color term while PUREUDA as a complex concept cannot be used as a color term. In Korean, there are, at least, 4 kinds of PUREUDA-related and morpheme-specific lexical candidates, which can act as modifiers (e.g., '청', '녹', '파란'/ '파랑', and '푸른').

3) The unit of a complex noun is selected to allow for a comprehensive collection and analysis of grue-sensitive words. As long as there is 1 morpheme of GRUE/ PUREUDA to refer to, diverse examples are treated equally. Here, metaphors are excluded (e.g.,청년 (*cheongnyeon* "the young"). In addition, the unit of the simple word is excluded to disregard the debates on the lexical status of Hanja examples (cf. 녹화 *nokhwa* "green space making"). In this formula, there are 3 important criteria: (1) the status as 1 lexical item or entry, not as a general phrase (e.g., 푸른박새1 (*pureunbaksae*1 "False Helle-borine") & 푸른박새2 (*pureunbaksae*2 "the blue chickadee"), not a totally 푸른 박새 (*pureun baksae* "a totally blue chickadee-like bird); (2) the existence of the referents as a categorizable class, species, state, or phenomenon (e.g., 청강석1 (*cheonggangseok*1 "green jadeite") vs. 청강석2 (*cheonggangseok*2 "blue jadeite"); (3) the application of Hanja-specific homographs, not Hangeul-based homonyms only (e.g., 청소기 (*cheongsogi* "blue ceremonial flags of the Korean Empire" from 靑素旗) with no need to consider 청소기[2] from 淸掃機 ("a vacuum cleaner")). In this research, the Arabic numerals are used to indicate a set of homographs that have a distinct group of referents respectively (cf. NOT the superscript numbers).

before the full distinction between the 2 colors (Berlin & Kay, 1969), this pilot study proposes to examine whether the PUREUDA morphemes do possess and demonstrate the "composite" and "disjunctive" traits of a "grue" word (Pereltsvaig, 2011) in the context-specific and referent-specific conditions and, also, whether there are peculiar traits and motivations in the PUREUDA-related color morphemes, especially, when the morphemic meaning and the referent information are compared via online chromaticity checking. By means of the referent-chromaticity-sensitive investigation and classification which can go beyond narrow abstract construal, it is expected to be able to shed light on the underlying semantic aspects and the fundamental semiotic mechanisms of the PUREUDA morphemes in use (e.g., semiotic metonymy in the observer's interpretation of the referent's chromaticity; similarity and difference between the native uses and the Hanja uses; translational factors).

Ⅱ. Literature Review

2.1. GRUE in Lexical Semantics

Since the concept of PUREUDA is related to the notion of grue which is the theoretical term for 'a composite or expanded macrocategory' (Biggam, 2012, 61) realized as a basic color term (e.g., 'yàš' in Tzeltal, 'qīng' in Chinese), it is crucial to comprehend how 'grue' is treated and described in the history of color studies. A well-known precursor to the discovery of GRUE as a macrocategory that encompasses the hue of green and that of blue with no distinct boundary is the psycholinguistic study on the focal area that Tzeltal speakers perceive visually and semantically (Berlin & Kay, 1969). Because of

the individual differences in the selection of the major focal area or point (e.g., either blue or green), a non-distinct fuzzy boundary is suggested for Tzeltal's bifocal color category for green and blue (Berlin & Kay, 1969). It is Kay's (1975) follow-up research that proposes "grue" as an authentic color category slash color term[4] for the color ranges of green and blue. According to Kay's (1975) macrocategory-sensitive proposal about the evolutionary trajectories of basic color terms' historically expansive changes (cf. Rosch, 1972), GRUE plays an essential role at stage 3 and stage 4 in the diachronic delineation of the basic color categories' evolution patterns and order (Biggam, 2012). Biggam (2012) points out that GRUE is composed of 1 non-focal area and 1 boundary like other single categories and is found to behave like a single

4) According to Biggam (2012, 11-15), there had been other metasemantic attempts at the description of the referents and contexts of some language-specific color terms for 'composite' color categories (e.g., Homeric Greek (Gladstone, 1858), the evolutionary order of the sequential development of visually perceived colors and color names (Magus, 1877)). Although their examples implied the potential existence of a composite color concept like GRUE, the actual authors were not aware of the need to consider GRUE or a grue-like term in color studies. To make matters worse, they did not distinguish between perceptibility and expressibility and between the literary, poetic, or figurative uses and the descriptive, prose, or literal uses (Biggam, 2012, 11-12). Some researchers even viewed the existence of a composite-category-based color name as empirical evidence of the "indefinite" and "defective" naming and ascribed it to the language users' "partial insensitivity" or "defective sensibility" for a single color hue like 'blue' (Rivers, 1901, 94-95, cited in Biggam, 2012, 16-17). In the early 20th century, the previously prevalent assumption about the language users' lack of "perception" for a certain color was changed to the relatively positive assumption about the word-concept correlation (i.e., no color word for "blue" causing no "color concept of blueness" in the minds of certain language users, a.k.a. linguistic determinism (Biggam, 2012, 18)). Ever since, the differential "codability" in color naming and the differential "memorability" in color recognition have become a hot potato either in favor of or against linguistic relativity (Biggam, 2012, 18-19). Berlin & Kay (1969), for instance, raise a question on the relativist premise (e.g., arbitrarily differential color categorization) and support the universalist view in terms of the order, number, and pattern of the linguistic encoding of basic color categories.

color category (Biggam, 2012, 61). But, McLaury (1997, 265-278) argues that the number of the actual focus/ foci may vary from 0 to 2 or 3. Some studies present the recently salient use of some borrowed or existing color term for a single hue as evidence of the evolution of GRUE into 2 distinct categories (e.g., Otjiherero's 'burou' divided into 'burou' and 'girine' in Clifford et al. (2014); Korean's '파랑' (*parang*) and '청' (*cheong*) often used for "blue" only in Chin, S.-L. (2003); Korean speakers' tendency to classify the color of the green light as "녹" or "초록" (*nok* or *chorok* "green") in spite of its name '파란불' (*paranbul* "blue/ grue" + "fire/ light") in Yang (2021)). Although a vast majority of such psychological and anthropological research has shed new light on the nature of GRUE in color perception and psycholinguistic categorization, there are also some pitfalls: (1) focusing too much on the universalist-versus-relativist debate underestimates or overgeneralizes the metasemantic nature of a GRUE term in language-specific contexts; (2) too much focus on the evolutionary sequences disregards the value of metasemantic and metasemiotic scrutinization into the specific 'grue' term in a particular language (for example, in some research, various "grue"-related morphemes inside a language get excluded to pick 1 representative "grue" morpheme.); (3) at the expense of a basic color term theory, the neologism of grue obscures and evades the precise inquiry into each linguistic color expression's metasemiotic or metasemantic mechanism (for example, few studies explain why 0~3 focal area(s) should be put under the same 'grue' category with no discussion on homonymy or polysemy.); (4) many researchers follow and cite Berlin & Kay's earlier hypothesis (Berlin & Kay, 1969) in non-critical ways.

2.2. PUREUDA in Korean Semantics

When it comes to the research on GRUE in Korean, there are the particular examples of the PUREUDA category and their properties. The 2 main methodologies devised to examine such information are (1) the visual-specimen-based naming (e.g., color chips or pictures) of informants and (2) the linguistic-example-based analysis (e.g., words/ phrases in books or (mental) dictionaries) of researchers. The former is prevalent in psycholinguistics and linguistic anthropology while the latter is common in descriptive linguistics. Methodologically speaking, the main contrast lies in the translation method: intersemiotic translation[5] from the nonverbal cues to the verbal contents versus that from the verbal cues to the nonverbal contents. In the former case, Berlin & Kay (1969) do not detect any trace of GRUE or PUREUDA by analyzing Korean's native morpheme {파랗다} (*parata*) as the basic color term for "green" and {창[6]} (*chang*) for "blue". On the other hand, {녹} (*nok*) for "green" is disregarded as a loanword. Recent psycholinguistic studies exhibit relative differences in individuals' color perception and color naming in PUREUDA-related tasks (e.g., textbook-based color words' broad representations from 연두 (*yeondu* "light green") to 남색 (*namsaek* "navy

5) The term 'Intersemiotic Translation' is one of the three major translation types that are proposed by Roman Jakobson (Jakobson, 1959). This type of translation takes place between and across different sign systems. The application of this type requires an adequate level of interest in (and comprehension about) Peirce's paradigm of the sign. In this account, it may imply the fundamentally Peircean paradigm of translation that Petrilli expands and systematizes (i.e., the sign-internal interpretation process), too (Petrilli, 2003).

6) In their description of the Korean informant's color naming, 창 (*chang*) refers to the Hanja character 蒼. Cho (2017, 79) says that this color morpheme '창' is derived from the Hanja character 蒼 which denotes the color of the clear sky (e.g., 창공 (*changgong*/ 蒼空), 창천 (*changcheon*/ 蒼天)).

blue"), and further into other hues in specific contexts (Kim, J.-E., 2015); "blue" and "blue-purple" causing confusion-induced variance among 파란색 (*paransaek*), 하늘색 (*haneulsaek*), 청록색 (*cheongroksaek*), and 남색 (*namsaek*) in naming tasks (Kim, E.-J., 2020); confusion about color areas in naming 파랑 (*parang*), 청록 (*cheongrok*), and 남색 (*namsaek*) (Hong, J.-I., 2012, 91) along with 연두 (*yeondu*) and 초록/ 녹 (*chorok/ nok*) (Lee & Shin, 2012; cf. Park & Lee, 2011)). The results imply causality-based correlation between the Korean language and Korean speakers' color perception, on the one hand, and the general difficulty and variability in the color-to-name matching, on the other hand.

In the latter case of descriptivist linguistics, there are 2 major tendencies led by formalists and cognitivists. As reductive referentialists or internalists, strict formalists argue for the existence of a formally fixed and independent pair of the unique or basic color category and its linguistic form. Lots of them view 색채어 (*saekchaeeo* "color terms") as 색채표현 (*saekchaepyohyeon* "color-related expressions") or 색채어휘 (*saekchaeeohwi* "color-related vocabulary"), that is, all the linguistic forms slash words that express a certain color hue. The role of PUREUDA, thus, is taken up by the single representative word of "grue" and its semantics, grammar, or usage. Some choose the noun {파랑} (*parang*) as the basic color word (for "blue" and/or "green" (Kim, A., 1985, 428; Kim, S.-H., 2013; Kim, H.-Y., 2014; Park, J.-G., 2014, 93)) while others select the adjective {푸르다} (*pureuda*) (Ku, 1998; Lim, S.-J., 2016; Park, J.-W., 2021).

Cognitivists presuppose the existence of some fuzzy, salient, and nameable color range which can be conceptualized, categorized, fossilized, expanded, shifted, and/ or (re-) encoded by uses, experiences, and other cognitive faculties. The category of PUREUDA, thus, is argued to be presented in

various terms and fashions (whether prototypical or not): (1) {파랑} (*parang*) and {파랗다} (*parata*) only (Kim, J.-I., 2009); (2) {파랑} (*parang*) along with {파랗다} (*parata*) and {푸르다} (*pureuda*) (Ku, 2008); (3) {푸르다} (*pureuda*), {파랗다} (*parata*), and {퍼렇다} (*peoreota*) (Oh, S., 2020) (cf. plus 42 derived words (Jang, S.-L., 2016); plus 3 derived words (Kim, D.-Y., 2020)); (4) {푸르다} (*pureuda*) plus 63 derived words (Beon, 2015). As linguistic expressions' behaviors and properties are viewed as representing or involving the cognitive characteristics that interact with bodily experiences in the individuals' interpretation of the reality and world, the fuzzy and polysemous nature in both of the PUREUDA concept and the {pureuda} form (as Korean {grue})—as well as the evolutionary semantic shift, expansion, or divergence—is taken to be a natural and consequential aspect in human language (cf. non-compositionality of compound nouns in Kim, D.-H., 2005; Kim, S.-J., 2021). Here, while the formalist approaches seem to have obtained a higher degree of descriptive adequacy, the cognitivist approaches seem to have demonstrated a higher degree of explanatory adequacy. Nonetheless, a lot of the PUREUDA-related studies in Korean linguistics often resort to the abstract, general, and popular sample data (e.g., frequently used words, phrases, or sentences) available to the researcher himself/ herself (e.g., 청신호 (*cheongsinho* "green light"); 파란불 (*paranbul* "green light"); 푸른 숲 (*pureun sup* "green forest"); 파란 하늘 (*paran haneul* "blue sky"); 바다가 파랗다 (*badaga parata* "the sea is blue")). At times, even figurative uses like 청춘 (*cheongchun* "youth") and 청년 (*cheongnyeon* "the young") are included, too. In addition, the linguistic context or environment is often restricted to the morphemic (or lexical) level for the construal of the color category and the color word. And, the predicate or modifier is artificially or purposefully delimited to the prototypically associated concepts or entities (e.g., sky, forest,

sea, traffic light, etc.). Elsewhere, even though GRUE-related phenomena have been characterized by various issues (e.g., a zero or fuzzy boundary between (non-) focal areas or colors, individual or group differences in grue identification and naming tasks, discrepancies in researchers' criteria, scopes, conceptions, methods, and sampling dimensions for GRUE slash PUREUDA whether they center on the chromatic properties or the verbal features, etc.), many binarism-centered approaches (e.g., the form-content paradigm, the word-to-color-value-as-meaning paradigm, the color-hue-to-lexeme-as-sememe paradigm, etc.) seem to focus on the general description of the formally—especially, morphemically—conditioned information of some PUREUDA/ GRUE candidate word with no or little attention to the metasemantic investigation into the underlying semiotic processes, mechanisms, and motivations. Many studies on the semantic information, too, tend to be concerned with the word form's explicit yet abstract[7] morphemic meaning (e.g., Choi, H.-Y., 2018, 77) (cf. primary/ extended senses (Park, J.-W., 2021)).

From the metatheoretical and metasemantic review, it becomes clear that more of the context-sensitive, referent-specific, language-specific, and methodology-specific approaches will be able to provide further insight and knowledge into GRUE, especially in the case of the Korean uses.

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7) For instance, {녹} in 녹두 (*nokdu* "green gram") has the morphemic meaning of "녹/ green" only. But, the actual content of the entity is 연황 (*yeonhwang* "light yellow"). {청} in 청개구리 (*cheonggaeguri* "tree/ green frog") has the lexical meaning of "녹/ green" in spite of the facts that (1) the tree frog's skin colors include 금황 (*geumhwang* "golden yellow"), 연갈 (*yeongal* "light brown"), 흑 (*heuk* "black"), and 백 (*baek* "white"); (2) the tree frog's skin colors can change from light green to grey, light brown, mint green, and greenish blue; (3) the original Hanja word (靑蛙/ *cheongwa*/ 청와) means the normal frog (참개구리/ *chamgaeguri*) according to *Dongeui Bogam* (Heo, 1613). In ignoring the metasemantic or metasemiotic relationships between the linguistic form and the referent's chromaticity, such abstraction may be prone to reductive overgeneralization.

Ⅲ. PUREUDA Morphemes in Complex Nouns for Entities

When it comes to the major cool color shades that English users categorize, identify, and distinguish as 2 different chromatic hues by giving each of the 2 differently perceived spaces a distinct name (e.g., ‘green’ and ‘blue’) respectively, there are some languages of which the speakers make no subcategorical distinction in the linguistic naming of those cool color spaces or the visually perceived categories in spite of the presence of the general capacity for visual perception. Anthropologists and linguists call this kind of “composite or disjunctive color category” ‘grue’[8] (Pereltsvaig, 2011), a make-shift term made available via clipping-based compounding of ‘green’ and ‘blue’ in English. So, ‘grue’ can be said to involve the fuzzy multichromatic or bichromatic category. As far as the language-specific basic color terms of GRUE are concerned, some unrelated languages are reported to have their own terms (or morphemes) to represent GRUE (e.g., {qing} in (Old) Chinese, {ao} in Japanese, {pureuda} in Korean, {khiaw} in Thai, {xanh} in Vietnamese, {glas} in Old Welsh, {yax} in Yucatec Maya, {luhlaza} in Zulu, etc.) (Pereltsvaig, 2011). Some lesser-known languages that are reported to have a morpheme or word for GRUE include Pirahã, Walpiri, Yupik, Ebenki, and Nivh (Kay & Maffi, 1999; Eom, S.-C., 2019; Eom, S.-C., 2021). Although the previous studies on “grue” have provided much insight into the basic color terms of GRUE in various languages, especially, in the aspect of the

8) In this account, the concept itself is to be expressed as GRUE, that is, in the capitalized form. On the other hand, the hypothetical default morpheme {grue} is to be used in the theoretical context to discuss the GRUE-based linguistic unit. However, since the actual language-specific morphemes or lexical items of GRUE differ and, also, because the basic color terms of GRUE vary from language to language, it is not certain if {grue} in ‘grue’ has 1 GRUE in reality. Here, both GRUE and {grue} are used as general abstract notions (cf. {grue} in English).

diachronic or evolutionary order in the extensive development and/or specific combination of the verbalized forms of primary cool color shades (e.g., Ku, 1998; 2008 on {pureuda} as the Korean "grue" morpheme, Tao (1996) on {qing} as the (Old) Chinese "grue" morpheme (cf. Bogushevskaya, 2015), Grandison et al. (2014) on {burou} as the Otjiherero "grue" morpheme, etc.), the (psycho-) linguistic approaches to basic color terms (to be precise, the macrocategorical term for "blue" and "green") have shown a tendency to focus on the general abstract meaning(s) of a representative morpheme or word. In Korean, too, it is common to see researchers generalizing the major morphemic or lexical meaning(s) realized in a common noun phrase that consists of a PUREUDA-based modifier and a topic-relevant prototypical noun (e.g., 푸른 산 *pureun san* "green mountain", 푸른 하늘 *pureun haneul* "blue sky", 푸른 바다 *pureun bada* "blue sea", etc.) and restricting the range of the referred objects, states, and/or concepts to a limited set of homogeneous blue or green color shades in artificially controlled fashions. Such abstraction-centered methodologies are useful in the identification and description of the basic color terms and their categorical information (e.g., the availability of the macrocategory of GRUE via the use of a grue-like morpheme). Nevertheless, as the semantics of the actual GRUE-related morpheme in a particular language is neither universally identical nor absolutely predictable in spite of the widely observed or accepted tendency toward further diversification or subcategorization into green and blue, it is important to scrutinize the specific meanings of the actual GRUE-related morphemes and the (meta-) semiotic traits of the pertinent referents in a linguistically, semiotically, culturally, and translationally interesting language (for example, PUREUDA-based morphemes used in the color-related names for entities, states, and phenomena in Korean).

In this chapter, therefore, this research aims to devise and utilize an

alternative approach that can shed new light on the chromaticity-related characteristics of the PUREUDA-based morphemes and the metasemiotic motivations for the semiosis and uses of PUREUDA in Korean. The alternatively systematic and reliable approach is to examine the entity-specific and state-specific complex noun[9] (복합명사 *bokhapmyeongsa* in Korean) examples that take a basic color morpheme for "grue" or PUREUDA (e.g., {푸르다} (*pureuda*), {파랗다} (*parata*), {청} (*cheong*), and {녹} (*nok*) as the candidates) as the main modifier in non-figurative manners (i.e., '푸른' (*pureun*), '파란' (*paran*), '파랑' (*parang*), '청' (*cheong*), and '녹' (*nok*) as the actual modifiers). Therefore, 4 chromaticity-specific candidates for the GRUE-based morphemes in contemporary standard Korean are going to be examined, especially, by looking into the GRUE-related complex nouns that function as the names of the referent-specific objects and states (e.g., the names of the natural and cultural things that people can physically or visually refer to). For the sake of an objective and systematic investigation, the

9) The issues and problems on the morphological status of each example (e.g., classification of a given word as a compound word or derived word, determination of a given word as a simple word or complex word, distinction between a word and a phrase, etc.) are not going to be discussed in this research, especially, when it comes to the bisyllabic/ trisyllabic Hanja-based words (e.g., 녹차 (*nokcha* "green tea"), 녹두 (*nokdu* "green gram or mung bean"), 청자 (*cheongja* "green/ blue celadon"), 청신호 (*cheongsinho* "green light"), 청사진 (*cheongsajin* "blue print"), etc.). Even when a short Hanja-based word is considered as an example of the simple word (단순어) by lexicographers, there still exists a debate (e.g., a simple word with no division? a compound word with 2 or more free morphemes? a derived word with, at least, 1 prefix?). When a multisyllabic name is considered, a reviewer argues that such examples with a blank space between morphemes should be treated as a phrase. But, there also exists a pro-compound viewpoint which treats the Hanja-based multimorphemic "names" as the compound words (합성어 *hapseongeo* in Korean) irrespective of the use of a blank space (Kim, G.-H., 1994). As this research is concerned with the chromaticity-related semiotic and semantic properties of the specific entities or states, not the grammatical status of each linguistic element, it disregards grammatical controversies and debates.

complex nouns that begin with any of the 4 grue candidates/ modifiers are going to be collected and screened (barring the dialect and metaphor examples). All the examples are taken from the lexical entries of an online Korean-Korean dictionary (https://wordrow.kr). This dictionary is selected because (1) the lexical entries are based on the *Urimalsaem* (우리말샘) Korean dictionary, (2) the initial-syllable-specific or initial-morpheme-specific sorting function is available to any user, and (3) each lexical entry guarantees the researcher the referent-specific (entity/ phenomenon) name value with no need to make his/ her subjective judgment on the grammatical status in each case (e.g., 푸른개고사리 (*pureungaegosari* "green" + "wild" + "bracken" 'Deparia viridifrons') with the labels '어휘' (*eohui* "word"), '명사' (*myeongsa* "noun"), '고유어' (*goyueo* "native word"), and '식물' (*sikmul* "plants") to be accepted as a data example, but not 푸른 성인 (*pureun seongyin* "blue" + "saint") with the label '문학' (*munhak* "literature") due to the figurative phrase). Once the grue-morpheme-specific referent names are collected, the referents' chromaticity-specific properties (thus, the visual-modality-based semiotic contents) are gathered, studied, and recorded solely on the basis of the online photographs and videos of such referents. The visual data are the search results that the researcher selects and examines in terms of chromaticity properties like hues upon googling the respective object or state names (e.g., 푸른거북 (*pureungeobuk* "green turtle"), 푸른똥 (*pureunddong* "green stool"), 파란불 (*paranbul* "green light"), 녹차 (*nokcha* "green tea"), 녹내장 (*noknaejang* "glaucoma"), 청자 (*cheongja* "green/ blue celadon"), 청귤 (*cheonggyul* "green mandarin orange"), etc.). In this chromaticity-sensitive visual classification method, the central information to look for is (1) the availability or popularity of monochromatic blueness or greenness, (2) the clear presence of the fuzzy non-focal greenish blue or bluish green space(s), (3) the

presence of the multichromatic properties of the referents in which a blue/ green/ grue feature is small or zero, and (4) the intervention of interlingual translation (e.g., 청산가리 *cheongsangari* “blue” + “acid” + “kalium” ‘Potassium cyanide’). It is expected that such information will provide clues or insights about the semiotic and/or semantic relationships between the referent’s chromaticity properties and the PUREUDA morpheme’s linguistic meanings/ values (for instance, even low output in such information, too, can yield meaningful scientific implications). Here, the researcher’s perceptual interpretation or intervention should remain minimal in spite of the inevitable individual variability. Also, the situation-specific color appearance examples should be evaluated with no active application of background knowledge, that is, no reliance on “memory color” (Fairchild, 2005, 24) (e.g., the specimens of 파란불 (*paranbul*) to be investigated by the researcher with an anthropologist’s, an archaeologist’s, or a semiotician’s curiosity rather than with a lexical semanticist’s abstract knowledge). With the methods and procedures applied, it is expected that the results will help discover or infer some real clues for the experiential basis, cognitive motivation, or abstract conceptualization (which might have been) used in the initial or basic naming processes. For instance, would the Korean referents’ chromaticity properties be characterized by the distinct focal division as a result of evolutionary shifts backed up by industrialization, education, and globalization (e.g., Yang, 2021)? Or, would they still be characterized by bodily experiences in the everyday natural/ cultural contexts (e.g., ‘tyi’ as the Nyvh language’s “grue” morpheme found to be motivated by the Nyvh people’s experiential basis like the colors of various plants and animals in Eom, S.-C. (2021))? Or, are there any other crosslinguistic factors like translation-induced fossilization of a certain grue morpheme, which must have resulted in the non-external conceptual (color)

representation? In order to be able to answer such questions, this pilot research is going to pay attention to the hue-related analysis of the specific referents' colors available in the visual resources on the Internet.

In order to implement the metasemantic and metasemiotic investigation into the linguistic, cognitive, and contextual motivations for the semiosis and uses of the PUREUDA morphemes in a methodologically adequate manner, the 2 main contexts, that is, the linguistic (i.e., morpho-semantic) context and the non-linguistic (i.e., situational and cultural) context are delimited in such a way that (1) no cherry picking is allowed in the data collection; (2) subjective interpretation (other than linguistic conceptualization or construal) is maximally and optimally prevented; (3) color morphemes are restricted to basic color terms that represent the basic color category of grue, rather than all the grue-color-related derivations that belong to secondary color categories (thus, modifier examples like 시퍼런 (*sipeoreon* "intensive blue"), 새파란 (*saeparan* "deep blue"), and 푸르디푸른 (*pureudipureun* "blue blue" or "green green") to be excluded); (4) each expression's color referent (rather than the generic lexical meaning(s) in mind) is explicitly available and always testable irrespective of the individual traits of the researcher; (5) the grammatical form of every sample word is fixed to express the referent-specific color and the referent-specific noun only (e.g., 1 modifier morpheme for a grue color + another (head[10]) morpheme(s)); (6) no discrimination or predisposition is allowed in the language code (thus, not only the native color terms but also the Hanja color terms are to be considered, yet except for the

10) The head morphemes do not include 색 (*saek* "color") in this research (e.g., 파란색 (X)) as 색 cannot clarify the referent's color(s) when combined with a PUREUDA-related modifier. However, 색 is allowed when there is another head morpheme (e.g., 청색성 (*cheongsaekseong* "blue star")).

recent English borrowings like 블루칩 (*beulruchip* “blue chip”) and 그린라이트[11] (*geurinlayiteu* “green light”)).

For the systematic delimitation of data and the effective implementation of research, the 2 CN forms are going to be employed at the next stage of the procedure. At this stage, the key semantic/ semiotic taxonomy is designed as follows (cf. dichotomy into nature and culture; human and non-human objects/ phenomena; natural entities and artificial objects/ states to examine the possible factors).

(1) 2 Main Forms and the Key Taxonomy

a. The main forms

(i) [1 PUREUDA-morpheme-based Modifier of a native origin (ending with –ㄴ or –ㅇ) + another morpheme(s)]
(e.g., 푸른똥(*pureunddong* “green stool”), 파란불(*paranbul* “green light”), 파랑새(*parangsae* “blue bird”), etc.)

(ii) [1 PUREUDA-morpheme-based Modifier of a Hanja origin + another morpheme(s)]
(e.g., 청개구리(*cheonggaeguri* “tree frog”), 녹두(*nokdu* “green gram” or “mung bean”), etc.)

b. The key semantic/ semiotic taxonomy

(i) Entities or States in Nature

(i-1) human body (parts/ states)
(e.g., 푸른똥(*pureunddong*), 푸른혀병(*pureunhyeobyeong*),

11) It seems that a number of English-based loanwords—those which contain the “green” or “blue” hue as the main modifier—do not possess or exhibit the “grue” feature (e.g., 그린라이트 (*geurinlayiteu* “green light”, 블루칩 (*beulruchip* “blue chip”), etc.). In the natural context, however, vague cases can be found. For example, actual live specimens of 블루길 (*beulrugil* “bluegill” a.k.a. 파랑볼우럭 (*parangbolureok*)) often exhibit a more bluish or more greenish hue on its chin area, especially, depending on their sizes and habitat conditions.

파란눈(*parannun*), 녹내장(*noknaejang*), etc.)

(i-2) living beings (a.k.a. flora and fauna) and organic entities/ states (as natural phenomena)
(e.g., 푸른거북(*pureungeobuk*), 푸른박새2(*pureunbaksae*2), 파랑새1(*parangsae*1), 파랑새2(*parangsae*2), 파랑줄돔(*parangjuldom*), 파랑쥐치(*parangjuichi*), 청개구리(*cheonggaeguri*), 청벌(*cheongbeol*), 청태1(*cheongtae*1), 청태2(*cheongtae*2), 청포도(*cheongpodo*), 청나래고사리(*cheongnaraegosari*),청란(*cheongran*), 녹새치(*noksaechi*), 녹줄돔(*nokjuldom*), 녹2응애(*nok2eungae*), etc.)

(i-3) inorganic entities and states (as natural objects and phenomena)
(e.g., 푸른얼음(*pureuneoleum*), 청강석1(*cheonggangseok*1), 청강석2(*cheonggangseok*2), 녹니(*nokni*), etc.)

(ii) Entities or States in Culture

(ii-1) culture-specific specimens among man-made objects and manipulated states
(e.g., 파랑영사막(*parangyeongsamak*), 파란띠(*paranddi*), 파란불1(*paranbul*1), 푸른먹이(*pureunmeokyi*) (= 청사료(*cheongsaryo*)), 녹차(*nokcha*), 청동(*cheongdong*), 청자(*cheongja*), 청삼승(*cheongsamseung*), 청기와 (*cheonggiwa*), 청녹두(*cheongnokdu*), 청꼭지연(*cheongggokjiyeon*), 청맥치즈(*cheongmaekchijeu*), 청인절미(*choengyinjeolmi*), 녹말(*nokmal*), 녹말이쑤시개(*nokmalyissusigae*), etc.)

(ii-2) other man-made objects and manipulated states for or in human culture
(e.g., 녹변육*(nokbyeonyuk*), 녹2가루(*nok2garu*), 녹조(*nokjo*), etc.)

The specific CN examples are selected from the lexical entries that begin with a PUREUDA-related morpheme available on an online Korean-Korean

dictionary site (https://wordrow.kr). The use of this site is highly effective for the quality control because (1) it provides all the initial-syllable-specific and/or initial-morpheme-specific entry examples in Ganada (i.e., Korean alphabetical) order; (2) it is compatible with other major Korean dictionaries (e.g., Naver's Korean-Korean dictionary information, *The Standard Korean Language Dictionary*, etc.); (3) it provides the pertinent Hanja information inside each entry information (e.g., 綠1 (*nok*1 "green"), 綠2 (*nok*2 "rust")); (4) it distinguishes standard words from dialect examples while containing both of them.

(2) Examples of PUREUDA-morpheme-specific KCNs

a. 푸른: 푸른거북, 푸른콩, 푸른곰팡이, etc.
(*pureun*: *pureungeobuk*, *pureunkong*, *pureungompangyi*, etc.)

b. 파란/ 파랑: 파란불, 파랑새, 파랑벌, etc.
(*paran*/ *parang*: *paranbul*, *parangsae*, *parangbeol*, etc.)

c. 청: 청사, 청자, 청동, 청개구리, 청포도, 청지, 청신호, 청사진, etc.
(*cheong*: *cheongsa*, *cheongja*, *cheongdong*, *cheonggaeguri*, *cheongpodo*, *cheongji*, *cheongsinho*, *cheongsajin*, etc.)
(cf. exceptions: all the metaphorical uses with no chromaticity information for the referents: 청년(*cheongnyeon* "the young"); 청춘(*cheongchun* "youth"); 청과(*cheonggua* "fruit"); 청산(*cheongsan* "blue mountain"))

d. 녹: 녹차, 녹조, 녹두, 녹변, 녹내장, 녹줄돔, 녹2응애, etc.
(*nok*: *nokcha*, *nokjo*, *nokdu*, *nokbyeon*, *noknaejang*, *nokjuldom*, *nok2eungae*, etc.)
(cf. the separate yet inclusive treatment of 녹2 (*nok*2 "rust") due to the vagueness in its homography examples)

Once the sets of PUREUDA-related CN examples are assembled, each of

them is examined, subclassified, and labeled in terms of 2 different aspects or categories: (1) the chromaticity-related property or properties[12] of the color morpheme (e.g., the distinct hue or hues of the referent versus the focal hue in the morphemic meaning, the physical homogeneity versus heterogeneity of the chromatic property of the referent (e.g., monochromatic versus multichromatic hues[13]), etc.) and (2) the nature of the environments involved (e.g., in the contemporary and industrialized culture versus in the natural environment). Subsequently, the newly classified information is concisely described for each color morpheme, especially, with the specific chromaticity information taken into account (if with too many entries collected for a color morpheme, the representative CN examples only are to be exemplified for the

12) The perceptual properties, attributes, parameters, and measures of chromaticity can be used interchangeably as a means to assess the quality of color. The 2 main properties are (1) the hue and (2) the saturation (a.k.a. intensity or purity) (Kumar & Choudhury, 2014). The hues (색상 saeksang) are usually distinguished by color names like 'green' and 'blue'. In the horseshoe-shaped curve of the chromaticity diagram visualized to represent the standard observer's color space perception, the top area represents the green-hue-dominant color spaces. The middle left area represents the gradual distribution of bluish green, greenish blue, and light blue areas. The angular bottom area represents the blue-hue-dominant color spaces, which are juxtaposed with duller navy blue areas and purple-violet hue areas. As there are no clear, straight, and distinct lines or borders, it can be said that the focal color's dominant wavelengths are correlated with the dominant hue (e.g., green, blue). When there are elusive cases, the intermediate areas between green and blue are subdivided into bluish green (below the top green area) and greenish blue (above the bottom blue area) (Bull & Zhang, 2021).

13) In this research, 'monochromatic' green or blue refers to the hue-dominant color areas with stable saturation irrespective of the specific tint/ shade values. The category slash label 'multichromatic' bluish green or greenish blue means that the single dominant hue (e.g., green, blue) cannot be perceived clearly (1) due to the total blending of green and blue in the object color (물체색 *mulchesaek*) (e.g., 청자 *cheongja* "green/ blue celadon") or (2) the naturally radiating (and even changing) greenish-bluish shades in the structural color (구조색 *gujosaek*) (e.g., 청동풍뎅이 *cheongdongpungdengyi* "green rose chafer"). In this pilot research, the object colors and the structural colors are not to be differentiated in the analysis (Seok et al., 2013, 239).

technical efficacy). Although there may be factors like the researcher's age, gender, education, and visual acuity (in perception) as well as the conditions of the visual images and the computer screen (in analysis processes), the variability is thought to be steady (if not minimal) enough to implement the analysis work, particularly, thanks to "color constancy" (Fairchild, 2005, 24).

In the following sections, the analysis results are presented in the order of '푸른' (*pureun*), '파란/ 파랑' (*paran/ parang*), '청' (*cheong*), and '녹' (*nok*).

3.1. Complex Nouns with the '푸른' (*Pureun*) Modifier

It is the '푸른' (*pureun*) modifier (or {푸르다} (*pureuda*) itself) that a majority of grammarians and linguists tend to select as the representative linguistic expression[14] for PUREUDA in Korean. One single predominant reason for the selection of {푸르다} or '푸른' (*pureuda/ pureun*) over {파랗다} or {파랑} (*parata/ parang*) is the derivational nature of {파랗다} (*parata*) in the etymology (Ku, 1998; 2008). The analysis process and result about '푸른' (*pureun*) in this account, however, do not assume or consider the semantically superior and representative status of {푸르다} (*pureuda*) when compared with the other "grue" candidates since this research reckons that the variability or (even) discrepancy among different yet confusingly similar entities[15] may be quite problematic, particularly, when interpreted and

14) Quite often, Hanja color words are excluded (intentionally) in such research. However, this filtering is not justified in a scientifically valid way.

15) There may be variability or discrepancy among the chromatic properties of the GRUE color category (or the PUREUDA color category in the Korean culture), the context-free semantic properties of the representative 'grue-status' color word as a basic color term (기본 색채어) (e.g., '파랗다' (*parata*) in Berlin & Kay (1969), Kim, A. (1985), Kim, J.-I. (2009), etc. versus '파랑/ 파랗다' (*parang/ parata*) in Kim, H.-Y. (2014), etc.

applied non-critically.

Instead of fleshing out a theoretical argumentation for or against such a status of {푸르다} (*pureuda*) morpho-lexically, neurocognitively, or historicoculturally (Ku, 1998; 2008) on the basis of a few representative sentence examples, this section focuses on the actual metasemantic and metasemiotic examination into the dynamics of common '푸른'-based CN examples[16] to see if {푸르다}/ '푸른' (*pureuda*/ *pureun*), its morphological meanings, and the referent colors do exhibit some unique and noteworthy features that the other PUREUDA-related KCNs do not have and, also, if PUREUDA/ GRUE is sensitive or attributed to the specificity of a linguistic form, the context of a referent's form[17], or the intrinsic nature of a specific hue in the chromaticity diagram as a fuzzy spectrum.

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versus '푸르다' (*pureuda*) in Koo (2008), Eom (2000), Shin (2012), Lim, S.-J. (2016), etc.), the context-dependent denotations of an extended set of the grue-related linguistic expressions (색채어 as 색채어휘 as 색채표현: "color terms as color-related vocabulary as color-related expressions") in Korean (e.g., Beon (2015), Yo (2016), Jang, S.-L. (2016), Oh, S. (2020), etc.), and the respective Korean speakers' individual or general perception patterns of the GRUE-related KS A0011 color chips in the linguistic encoding (Lee & Shin, 2012a).

16) In the selection processes, 2 kinds of examples are excluded to prevent the data contamination, distortion, and misinterpretation. They are (1) words in regional dialects (e.g., 푸른장디 (*pureunjangdi*), 푸른둥지 (*pureundungji*), etc.) and (2) words in North Korean (e.g., 푸른감탕 (*pureungamtang*), 푸른지 (*pureunji*), 푸른강옥 (*pureungangok*), 푸른대치 (*pureundaechi*), etc.).

17) The specific and salient hue in a referent's chromaticity is decided on the basis of the picture images and video images available on Google and YouTube. In referring to the picture images of each referent and finding out the approximately corresponding hue or hues on the chromaticity diagram, it is possible to assess, describe, and classify the respective CN examples' chromaticity-specific property information.

(3) Examples of KCNs with ‘푸른’

a. monochromatic “green”

a-1. In the contemporary/ industrialized culture

N/A

a-2. In the natural environment

푸른박새2(*pureunbaksae2*)

b. monochromatic “blue”

b-1. In the contemporary/ industrialized culture

N/A

b-2. In the natural environment

N/A

c. multichromatic “greenish blue”

c-1. In the contemporary/ industrialized culture

N/A

c-2. In the natural environment

N/A

d. multichromatic “bluish green”

d-1. In the contemporary/ industrialized culture

N/A

d-2. In the natural environment

N/A

e. multichromatic “(bluish/ greenish) X” (X: some other colors)

e-1. In the contemporary/ industrialized culture

푸른나물(*pureunnamul*), 푸른먹이(*pureunmeokyi*)(=청사료(*cheongsaryo*)), etc.

e-2. In the natural environment

푸른백로[18](*pureunbaekro*), 푸른똥(*pureunddong*), 푸른박새1

18) The bird called 푸른백로 (*pureunbaekro*) has another name ‘벽로’ (*byeokro*). In the Sino-Korean Hanja, 청(鵧, jīng, goisagi) refers to this 푸른백로 (literally, 백로 “heron”

(*pureunbaksae*1), 푸른거북(*pureungeobuk*), 푸른곰팡이(*pureungom pangyi*), 푸른방구퉁이(*pureunbanggutungyi*), 푸른부전나비(*pureun bujeonnabi*), 푸른서리밤나비(*pureunseoribamnabi*), 푸른얼음(*pu reuneoreum*), 푸른양배추(*pureunyangbaechu*), 푸른잎바닷지렁이(*pureunyipbadatjireongyi*)(cf. 청갯지렁이), 푸른측범잠자리(pureun cheukbeomjamjari), 푸른혀병(*pureunhyeobyeong*), etc.

In the respect of the '푸른-based lexical entries (i.e., 73 examples that begin with '푸른-'), 36 color-specific examples are collected as the color-specific complex noun examples. Among the 36 examples (i.e., 49.32% of the entire entries with '푸른-'), the subcategory of the multichromatic referents with some partial chromatic property of "blueness", "greenness", or "grueness" is found to have the highest number of the pertinent examples (i.e., 30 entries taking up 83.33% of the selected data). In that subcategory, 27 examples are (i.e., 90% of that subcategory is) found to be available in the natural dimension. And 3 examples are (i.e., 10% of that subcategory is) found to be devised and used in the cultural dimension. As the multichromatic referents possess a variety of hues including a small proportion of the green, blue, or grue hue (either locally or globally), the use of the morpheme {푸르다} for a multichromatic referent suggests the attention-induced and sign-process-related metonymy[19]. The selective abstraction in the naming appears to be a cognitively economical strategy. Its predominance in the names of the natural objects and states must be related to the biosemiotically inherent diversity and complexity of chromatic properties in numerous natural beings

with the 푸른 "*pureun*/ *grue*" color). In English, on the other hand, it is called 'black-crowned night heron'.

19) This kind of metonymy is an intersemiotic and metasemiotic device that the first author proposes. It differs from a verbal semantic tool in linguistics.

and states.

Elsewhere, most of the other subcategories turn out to be hardly popular: there is 0 example in the monochromatic “blue” and “green” categories (cf. exception: 1 example, that is, 푸른박새2 (*pureunbaksae*2), a kind of green plant found available in the subcategory of the monochromatic “green” referents). The same is true in the cases of fuzzy bluish-green or greenish-blue referents (that is, 0 example). In the case of {푸르다}, the low number of the monochromatic referents may explain the low motivation for the semantic division into “pure blue” and “pure green” (that is, for the lack of homonymy).

3.2. Complex Nouns with the ‘파란’ / ‘파랑’ (*Paran*/ *Parang*) Modifier

The second color morpheme to examine is {파랑} (*parang*). In this case, ‘파란’ (*paran*) is also studied together because ‘파랑’ (parang) and ‘파란’ (paran) stem from the same morphological and semantic information of {파랗-/ 파라-} (parah-/ para-).

(4) Examples of KCNs with ‘파란/ 파랑’

a. monochromatic “green”

a-1. In the contemporary/ industrialized culture

N/A

a-2. In the natural environment

N/A

b. monochromatic “blue”

b-1. In the contemporary/ industrialized culture

파랑영사막(*parangyeongsamak*), 파란띠(*paranddi*) (cf. Park, J.-G., 2014,93)

b-2. In the natural environment

N/A

c. multichromatic “greenish blue”

c-1. In the contemporary/ industrialized culture

N/A

c-2. In the natural environment

N/A

d. multichromatic “bluish green”

d-1. In the contemporary/ industrialized culture

N/A

d-2. In the natural environment

N/A

e. multichromatic “bluish/ greenish X” (X: some other colors)

e-1. In the contemporary/ industrialized culture

파란불1(*paranbul*1)(=청신호), 파란불2(*paranbul*2), 파랑무지기(*parangmujigi*), etc.

e-2. In the natural environment

파란눈(*parannun*)(=벽안(*byeokan*)≠청안(*cheongan*)), 파랑줄돔(*parangjuldom*)(=청줄돔(*cheongjuldom*)≠녹줄돔(*nokjuldom*)), 파란콩(*parankong*)(=속청(*sokcheong*)≠검은콩(*geomeunkong*), 파란발가락증후군(*paranbalgarakjeunghugun*), 파란여로(*paranyeoro*)(≠푸른여로(*pureunyeoro*)), 파랑돔(*parangdom*), 파랑벌(*parangbeol*), 파랑비늘돔(*parangbineuldom*), 파랑새1(*parangsae*1), 파랑새2(*parangsae*2)(=큰유리새♂(*keunyurisae*♂)), 파랑물잠자리(*parangmuljamjari*), 파랑쥐치(*parangjuichi*), 파랑쐐기나방(*parangsswaeginabang*), 파랑나나니(*parangnanani*), etc.

(Q. 파랑강충이(*paranggangchungyi*)?)

In the 21 CN examples that involve the modifier ‘파란’ (*paran*), the total

number of the color-related words is 5 (i.e., 23.81% of the entire '파란-based entry data). It is in the multichromatic-referents-related word group that the highest number of the chromatic-property-specific word examples are found to be used. Out of the 5 color-specific words, 4 examples (i.e., 80% of the selected data) turn out to belong to that subgroup. And, 2 (i.e., 50% of that subgroup) of those examples are found in the cultural dimension (e.g., 파란불1 (*paranbul*1), 파란불2 (*paranbul*2)) while the other 2 of those examples (i.e., 50% of that subgroup) are used in the natural dimension (e.g., 파란여로 (*paranyeoro*), 파란발가락증후군(*paranbalgarakjeunghugun*)). In all the other subcategories (except for the 1 word that is related to the monochromatic "blue" referents in the cultural dimension), there is no example available. On the other hand, those color-related examples with {파랑} (*parang*) turn out to be 15 (i.e., 34.09% of the entire data) among the 44 words that begin with the modifier {파랑} (*parang*). Out of the 15 chromatic-property-sensitive words with {파랑} (*parang*), 13 examples (i.e., 86.67% of the selected data) are found to be used in the subcategory of the words characterized by the referents that involve multiple chromatic hues (including a partial "blue/ green/ grue" hue). Within the 13 examples, 12 examples (i.e., 92.31% of that subcategory) are found in the natural dimension while there is only 1 example (e.g., 파랑무지기 (*parangmujigi*)) available in the cultural dimension. Knowing that there is only 1 single example in each of the 2 different subcategories (i.e., the word group for the monochromatic "blue" referent like 파랑영사막 (*parangyeongsamak*) and the other word group for the unidentified referents and colors like 파랑강충이 (*paranggangchungyi*))—which takes up 6.67% of the selected data—in the analysis of the 파랑-based examples, it can be said that those words for the multichromatic referents in the natural dimension show the highest number in the lexical statistics and the

most frequent usages in the linguistic referential function.

Although {파랑} (*parang*) is more popular than '파란' (*paran*) in the grammatical combination for CN examples, the grammatical status does not show any direct relevance to the chromaticity-specific information of the referent or to that of the color morpheme. As is observed in the case of '푸른', the use of the selective yet reductive abstraction (that is, the semiotic metonymic representation of a multichromatic referent by means of the monochromatic reference and naming) turns out to be most common. Even in the common use of '파란불1' (*paranbul*1 "green light"), the cognitive device of attention or salience is observed as there are many different color hues (e.g., black) in the physical referent. Some argue that the non-prototypical use of "green" in 파란불1 (*paranbul*1) may have been caused by Japanese-related translation methods (Seok et al., 2013, 292). But, it is not part of the investigation's main problematics.

3.3. Complex Nouns with the '청' (*Cheong*) Modifier

As {청} is the Korean Hanja loanword derived from the ancient Chinese letter 靑, KCNs with {청} (*cheong*) are expected to exhibit (1) a relatively higher number of lexical examples, (2) a greater degree of spatiotemporal-location-specific (thus, situational-context-specific) peculiarity, salience, or differentiality in the referents' color properties, and (3) more likelihood of non-intralingual influences from (meta-) translational factors (e.g., archaism, exoticism, etc.).

(5) Examples of KCNs with ‘청’

a. monochromatic “green”

a-1. In the contemporary/ industrialized culture

청꼴(*cheongggol*), 청맥(*cheongmaek*), 청진(*cheongjin*)

a-2. In the natural environment

청강석1(*cheonggangseok*1), 청나래고사리(*cheongnaraegosari*), 청낭간2(*cheongnanggan*2), 청닭의난초(*cheongdakeuinan cho*), 청답(*cheongdap*), 청마3(*cheongma*3), 청벌레1(*cheongbeolre*1), 청산호2(*cheongsanho*2), 청삼3 (*cheongsam*3), etc.

b. monochromatic “blue”

b-1. In the contemporary/ industrialized culture

청개2(*cheonggae*2), 청건(*cheonggeon*), 청공단(*cheonggongdan*), 청굉(*cheonggwoeng*), 청금2(*cheomggeum*2), 청기1 (*cheonggi*1), 청기2(*cheonggi*2), 청남방(*cheoongnambang*), 청납(*cheongnap*), 청대4(*cheongdae*4), 청등롱[20](*cheongdeungrong*), 청라1(*cheongra*1), 청목1(*cheongmok*1), 청바지(*cheongbaji*), 청방산(*cheongbangsan*), 청보(*cheongbo*), 청삼승(*cheongsamseung*), 청색고름2(*cheongsaekgoreum*2), 청색반송자(*cheongsaekbansongja*), 청소기(*cheongsogi*), 청실(*cheongsil*), 청양산(*cheongyangsan*), 청창옷(*cheongchangot*), 청칠(*cheongchil*), etc.

b-2. In the natural environment

청동3(*cheongdong*3), 청보석(*cheongboseok*), 청시증(*cheongsijeung*), 청옥석(*cheongokseok*)

c. multichromatic “greenish blue”

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20) This second kind of 청사 (*cheongsa*) is often used with the word ‘초롱’ (*chorong*). Another Hanja word ‘등롱’ (*deungrong*) was used in the Joseon period (e.g., 청사등롱 (*cheongsadeungrong*)). In the Joseon period and, now, for the traditional Korean cultural implications, 청사 would refer to the light navy blue part of the bichromatic fabric patch (consisting of 청 (*cheong*) and 적/홍 (*jeok*/ *hong* “red”) that is used to make the lantern panels.

c-1. In the contemporary/ industrialized culture

청자3(*cheongja*3)(cf. 용천 longquan celadon)

c-2. In the natural environment

청란(*cheongran*)

d. multichromatic “bluish green”

d-1. In the contemporary/ industrialized culture

N/A

d-2. In the natural environment

청강석2(*cheongsangseok*2)

e. multichromatic “bluish/ greenish X” (X: some other colors)

e-1. In the contemporary/ industrialized culture

청각채2(*cheonggakchae*2), 청고주(*cheonggoju*), 청고초초(*cheonggo chocho*), 청근반(*cheonggeunban*), 청근생채(*cheonggeunsaengchae*), 청금고(*cheonggeumgo*), 청금석(*cheonggeumseok*), 청꼭지연(*cheong ggokjiyeon*), 청기와(*cheonggiwa*), 청녹(*cheongnok*), 청녹두(*cheong nokdu*), 청단(*cheongdan*), 청단령(*cheongdanryeong*), 청단자2 (*cheongdanja*2), 청담(*cheongdam*), 청대2(*cheongdae*2), 청도 (*cheongdo*), 청동2(*cheongdong*2), 청두건(*cheongdugeon*), 청룡기 1(*cheongryong gi*1), 청매당(*cheongmaedang*), 청루(*cheongru*), 청맥치즈(*cheongmaekchijeu*), 청머리동이(*cheongmeoridongyi*), 청색사진 (*cheongsaeksajin*), 청색성(*cheongsaekseong*), 청색제의(*cheongsaek jeeui*), 청색파장(*cheongsaekpajang*), 청서1(*cheong seo*1), 청서 2(*cheongseo*2), 청석3(*choengseok*3), 청숙(*cheongsuk*), 청약(*cheong yak*), 청약립(*cheongyakrip*), 청육(*cheong yuk*), 청인절미(*cheongyin jeolmi*), 청자(*cheongja*), 청장1(*choengjang*1), 청장2(*cheongjang*2), 청장3(*cheongjang*3), 청장4 (*cheongjang*4), 청저(*cheongjeo*), 청저철릭 (*cheongjeocheolrik*), 청엽(*cheongyeop*), etc.

e-2. In the natural environment

청개구리(*cheonggaeguri*), 청와1(*chwongwa*1)(16 ~17C=청개구리), 청

와2(*cheongwa*2)(=참개구리(*chamgaeguri*) = 흑반와(*heukbanwa*)), 청송(*cheongsong*), 청벌(*cheongbeol*), 청태1(*cheongtae*1), 청태2(*cheongtae*2), etc.

When it comes to the color-indicating complex nouns that begin with {청} (*cheong*: 靑), 401 words are found to be used (out of 2,166 words that begin with {청}: 18.51% of the {청} words). Out of 401 {청}-based complex nouns, 58 words are (that is, 14.46% of the selected data is) found to be related to the referents which possess monochromatic characteristics (whether they are based on blueness or greenness). In the subcategory of the 13 words with the monochromatic green referents (which take up 3.24% of the selected data), 3 examples (i.e., 23.08% of the same subcategory) refer to some culture-related specimens while the other 10 examples are related to certain specific natural objects, states, or phenomena (i.e., 76.92% of that subcategory). In the subcategory of the 45 words with the monochromatic blue referents (i.e., 11.22% of the selected data), 41 examples are (thus, 91.11% of that subcategory is) used to refer to concrete culture-related specimens that are either made of some blue materials or covered with some blue paint for a particular purpose—irrespective of the precise information in the aspects of the hue and/or saturation of the respective referents' blue examples. As for the 4 words (i.e., 8.89% of the subcategory) with the monochromatic blue referents available in the natural environment, there are 3 lexical examples which show the explicit 1-to-1 equivalence relationship between the semantic value of the linguistic expression (청) and the visual value ("blueness") of the corresponding referent (cf. 1 additional word found to share a referent with one of the 3 words). When the green-indicating examples and the blue-indicating examples are compared with each other, it turns out that the number of the

naturally motivated lexical examples is higher than that of the culturally originated lexical examples in the category of monochromatic-green-based word examples (e.g., G3[21] < G10: 23.08% < 76.92%) while the number of the culturally established lexical examples is far higher than that of the naturally based lexical examples in the category of monochromatic-blue-based word examples (e.g., B41 > B4: 91.11% > 8.89%). In the exclusion of the 4 words (i.e., 1% of the selected data) of which the referents' colors are unidentified (e.g., 청반목 (*cheongbanmok*), 청부/파랑강충이 (*cheongbu/ paranggangchungyi*), 청심박이 (*cheongsimbakyi*), and 청심촉 (*cheongsimchok*)) and, also, the 27 words (i.e., 6.73% of the selected data) of which the referents' chromatic properties are not related to the ranges of the "blue/ green/ grue" hues (e.g., 청금1 (*cheonggeum*1), 청산염 (*cheongsanyeom*), 청석자 (*cheongseokja*), 청화동 (*cheonghwadong*), etc. in the 19 culturally established examples that take up 70.37% of that subcategory; 청도요 (*cheongdoyo*), 청떡갈나무 (*cheongddeokgalnamu*), 청총마 (*cheongchongma*), 청피목 (*cheongpimok*), etc. in the 8 naturally motivated examples that comprise 29.63% of the same subcategory). Among all the 401 color-related complex noun examples that begin with the morpheme {청}, the subcateogry that has the lowest number of the pertinent word examples is the very type(s) of the fuzzy multichromatic/ dichromatic "grue" (i.e., either "greenish blue" or "bluish green") range: 0 example in the subcategory with the "greenish blue" referents and 1 (naturally

21) Among the 3 green-referring examples that are culturally established, 2 words are related to the plant-based referents (so, cultural-context-specific objects 청꼴 (*cheongggol*) and 청맥 (*cheongmaek*), not the instrumentally devised or technically transmuted specimens like 청진 (*cheongjin*)). If 청꼴 (*cheongggol*) and 청맥 (*cheongmaek*) are considered as naturally motivated examples (due to their close relationships with the natural produces/ products), there is only 1 word that refers to a cultural specimen which is related to some monochromatic "green" color (i.e., 청진 (*cheongjin*)).

motivated) example (e.g., 청강석2 (*cheonggangseok2*)) in the subcategory with the "bluish green" referents (i.e., 0.25% of the selected data). On the other hand, the subcategory that has the highest number of the pertinent word examples slash referents is the very type or category in which the specific referents of the relevant words are characterized by the multichromatic features and some partial "blue/ green/ grue" hue(s). The total number of the words that belong to this very type or category is 311 (i.e., 77.56% of the 401 word examples; 78.34% of the 397 words in the exclusion of the words with unidentified referent colors; 84.05% of the 370 words in the exclusion of the words with (1) the "non-blue/ non-green/ non-grue" referents and those with (2) the unidentified referent color features). In that particular subcategory, 114 word examples (i.e., 36.66% of that subcategory) have their multichromatic referents in the cultural dimension. And the other 197 examples (i.e., 63.34% of that subcategory) have their multichromatic referents in the natural dimension.

3.4. Complex Nouns with the '녹' (*Nok*) Modifier

The other Hanja-based color morpheme in focus is {녹} (*nok*: 綠). The following information shows some KCN examples that begin with {녹}. Due to the large size of the collected data, some major {녹}-based examples are provided in (6). Here, 녹2 (*nok2*/ 綠2) refers to the general hue or meaning of the rust. Although 녹2 is an example of homonymy (and, also, homography in Hangeul and Hanja), the 녹2-based CN examples are not filtered out to carry out the research in an objective evidence-based manner.

(6) Examples of KCNs with '녹'

a. monochromatic “green”

a-1. In the contemporary/ industrialized culture

녹라1(*nokra*1), 녹말이쑤시개(*nokmalyissusigae*)

a-2. In the natural environment

N/A

b. monochromatic “blue”

b-1. In the contemporary/ industrialized culture

N/A

b-2. In the natural environment

N/A

c. multichromatic “greenish blue”

c-1. In the contemporary/ industrialized culture

N/A

c-2. In the natural environment

N/A

d. multichromatic “bluish green”

d-1. In the contemporary/ industrialized culture

N/A

d-2. In the natural environment

N/A

e. multichromatic “bluish/ greenish X” (X: some other colors)

e-1. In the contemporary/ industrialized culture

녹금당(*nokgeumdang*), 녹기(*nokgi*), 녹낭요(*noknangyo*), 녹다1 (*nokda*1), 녹다2(*nokda*2), 녹담(*nokdam*), 녹대1 (*nokdae*1), 녹등 (*nokdeung*), 녹문(*nokmun*), 녹변육(*nokbyeonyuk*), 녹비(*nokbi*), 녹사료(*noksaryo*), 녹사의(*noksaeui*), 녹삼휘(*noksamhwi*), etc.

e-2. In the natural environment

녹새치(*noksaechi*), 녹내장(*noknaejang* “glaucoma” literally “green-blue”), 녹농균(*noknonggyun*), 녹니1(*nokni*1) = 녹니석

(*nokniseok*)(= chlorite), 녹2응애(*nok2eungae*), 녹수정(*noksujeong*), 녹2가루(*nok2garu*), etc.
(Q. 녹조?)

In the metasemiotically referent-sensitive examination of the {녹}-based complex nouns, 244 words are collected as the chromatically specified words of which the pertinent Chinese Hanja character is 綠[22]. Out of the 241 examples specified by color-related {녹}, 166 examples are used to signify or indicate some kinds of "blue/ green/ grue" (which take up 68.88% of the selected {녹}-specific data). On the other hand, 75 examples turn out to involve some other colors unrelated to "green" and/or "blue" color hues. Among the entire data of the 241 words, those with some "blue/ green/ grue" hues are 166 (i.e., 68.88%) while those with some "non-blue/non-green/non-grue" values are found to be 75 (i.e., 31.12%). What is worth a special mention is the fact that, in the category of the fuzzy dichromatic or multichromatic "grue" uses (whether it is the "greenish blue" referents or "bluish green" referents that are referred to by the respective {녹}-based word examples), the total number of the actual CN examples is 0, particularly, in both of the cultural dimension and the natural dimension. In terms of the monochromatic uses of the {녹}-based word examples, too, the total number of the CN examples that refer to either a color hue in the "green"-oriented color range or a color hue in the "blue"-oriented color range is almost 0 (cf.

22) As 892 words are identified to begin with {녹} (*nok*) (regardless of the semantic values), the proportion of the color-related examples is relatively low (i.e., 27.02% of the entire set of the words that begin with {녹}, to be precise). Yet, when the {녹}-related ratio is compared with the {청}-related ratio (i.e., 18.51%: 401 color-related examples out of 2,166 words that begin with {청} (*cheong*)), the uses of the morpheme {녹} for some chromatic hue(s) or features(s) are more popular than those of the morpheme {청} for some chromatic hue(s) or feature(s).

the "green"-oriented monochromatic cases found in nothing but 2 word examples in the cultural dimension). What takes up the largest proportion in the color-indicating complex noun examples with {녹} is the least prototypical case or type of the multichromatic-referent-centered word examples characterized by the partial use slash involvement of a visually "blue/ green/ grue" property (162 out of 241: 67.22% of the data in focus). Out of all the 166 green/ blue/ grue examples (or 164 examples in the exclusion of the 2 unidentified examples[23]), 162 word examples are found to belong to the multichromatically constructed referents with some partially bluish/ greenish/ gruish color components (i.e., 97.59% in the absence of the non-green/ non-blue/ non-grue referents or 98.78% in the absence of the non-green/ non-blue/ non-grue referents and the unidentified referents). Among the 162 examples in which a "green/ blue/ grue" hue makes a partial contribution for the specific referents' chromatic constructions, 84 examples (i.e., 51.85% of the same subcategory) are related to the particular referents in the cultural dimension while the other 78 examples (i.e., 48.15% of the same subcategory) are based on the specific referents that exist in the natural dimension.

Elsewhere, speaking of the 75 CN examples related to some "non-blue/ non-green/ non-grue" chromatic hues, there appear 2 totally distinct subcategories (which have nothing to do with the culture-nature division): (1) the group of those referents which are simply characterized by the "non-blue/ non-green/ non-grue" color hues (e.g., 녹말1 (*nokmal*1), 녹말2 (*nokmal*2), 녹두앙금 (*nokduanggeum*), 녹두채 (*nokduchae*), 녹말다식 (*nokmaldasik*), 녹말1유 (*nokmal*1*yu*), 녹생토 (*noksaengto*), etc.) and (2) the group of those referents which are based on (or derived from) the rust (녹2) and its color

23) The examples include 녹두박 (*nokdubak*) and 녹두엿 (*nokduyeot*).

spaces or hues (e.g., 녹2물 (*nok2mul*), 녹2내 (*nok2nae*), 녹2시험 (*nok2siheom*), etc.). In the former subcategory in which the referents' color hues are visually deviant or defiant beyond the general expectations, the number of the pertinent word examples is 56 (i.e., 74.67% of the same subcategory). 38 words (i.e., 67.86%) of the 56 examples have their referents in the cultural dimension, whereas the other 18 words (i.e., 32.14%) have their referents in the natural dimension. In the latter subcategory in which the referents' color spaces or hues are simply rust-related or rust-induced (because of the homophony, homonymy, or homography of 녹 (綠)), the number of the relevant word examples is 19 (i.e., 25.33% of the same subcategory). 8 words (i.e., 42.11%) of the 19 examples have their referents in the cultural dimension, whereas 11 words (i.e., 57.89% of the same subcategory) have their referents in the natural dimension.

Ⅳ. Further Discussion

Upon analyzing the 4 different sets of the GRUE-related words in Korean, particularly, by examining the PUREUDA-related word examples in the strategically delimited environment of the color-specific CN form (e.g., '푸른'/ '파란'/ '파랑'/ '청'/ '녹' + some nominal expression which has 1 or more morpheme(s)), some new theoretical implications can be drawn, at least, in the 4 major aspects: (1) the methodological aspect, (2) the morphological or lexical aspect, (3) the semantic or semiotic aspect, and (4) the translational aspect.

4.1. The Methodological Aspect

It is efficient and systematic to rely on the use of the grammatically

delimited and semiotically specified environment (i.e., the complex nouns that begin with a major color-related morpheme (e.g., {푸르-}, {파라(ㅎ)-}, {청}, and {녹}) and have a concrete referent in the natural or cultural dimension of the physical world (including the human phenomena and the natural objects). Unlike the mainstream ways to rely on a very small number of some conceptually abstract and prototypical words or phrases (e.g., "green" in 파란불 (*paranbul*) = 청신호 (*cheongsinho*) = 녹색등 (*noksaekdeung*) signifying pure "green", "green" in 푸른 잎 (*pureun yip*) = 녹엽 (*nokyeop*) ≠ "blue" in 녹파 (*nokpa*) = 푸른 파도 (*pureun pado*) signifying the 2 separate "green" and "blue" hues, etc.), this method allows for the objective systematicity and comprehensiveness as well as empirical validity and reliability (e.g., referents' color information to be examined and confirmed by referring to the online visual resources). Despite the drastic difference in the number of the pertinent KCN examples per color term (e.g., 36 with '푸른', 5 with '파란', 15 with '파랑', 401 with '청', 241 with '녹'), the color-sensitive subclassification yields a new discovery that, regardless of the semantic transparency or falsifiability of the lexical meaning of each color term in use, the (natural/cultural) multichromaticity of a referent itself is the most frequently observed cause for (1) the vague, polysemous, or differential construability of the respective color-related morpheme(s) (that is, the highest number slash largest proportion found to belong to the subcategory 'e' in the 6 major subcategories irrespective of the nature of the morpheme) and (2) the reductive limitation of each color-related morpheme (cf. a short conventional form versus a wide range of chromatic hues or features within 1 referent, which suggests the use of intersemiotic metonymy in the reference and naming processes).

4.2. The Morphological or Lexical Aspect

As it turns out that the number of the KCN examples with the Hanja-based color morphemes (e.g., 401 {청} examples and 241 {녹} examples) is far higher than that of the KCN examples with the native Korean color morphemes (e.g., 36 '푸른' examples, 5 '파란' examples, and 15 {파랑} examples), the small proportion of the non-Hanja data (i.e., 8.72% of the Hanja-related data or 5.61% thereof in the case of '푸른' examples only), it is far more comprehensive, insightful, and objective to consider and explore all the ordinary and technical color-morpheme-based KCN examples available in the actual Korean lexicon or dictionaries (than to exclusively resort to several representative examples with some basic native non-Hanja color term). As Yurn (2019) argues for the acceptable usage-sensitive functions of the Hanja characters, even a monosyllabic morpheme like {청} and {녹} can make positive and constructive contribution for the systematic and full-fledged research on the semantics and semiotics of the color-related KCNs.

4.3. The Semantic or Semiotic Aspect

Unlike the general assumption that the Korean morphemes of GRUE simply fall into the "blue" space or the "green" space due to the "under-"diversified stage of the Korean GRUE concept (with no distinct boundary or focal colors available in the linguistic or semantic concept of each morpheme itself), it becomes clear that one of the significant semiotic factors slash semantic elements for the birth of GRUE in Korean PUREUDA-related CNs is the infinitely dynamic and diverse features of the visual semiotic systems of the natural and/or cultural sign examples, especially, in a Peircean

global sense (which considers and encompasses every sign system in any sign process). So, depending on "when" and "where" the referent or the observer is situated, it is natural that the chromatic properties or features of the relevant referent—or the observer's interpretation thereof—may or must be affected (e.g., on an open-ended scale between light green to dark greenish navy to greenish or bluish black of tree leaves of a forest or mountain). The linguistic form, therefore, comes to contain and show a partial property (e.g., semiotic-metonymy-based extension derived from the cognitive combination of the selective attention, a visually salient feature of a multichromatic referent, and a reductive verbal representation). While the (Chinese/ Hangeul) characters do possess some semiotic clue(s) in themselves (e.g., 靑, 綠, and 푸른), especially, in the respect of their etymology, the chromaticity-related semantic or semiotic properties of these characters may be less or little clear not because of the metasemantic or metasemiotic reason but for the new sociocultural factors[24] in particular.

4.4. The Translational Aspect

Although the number and proportion may not be large, there are some PUREUDA-related referent examples that have nothing to do with "grueness" or even with any explicit "green/ blue" hue (e.g., 청산염 (*cheongsanyeom*), 청도요 (*cheongdoyo*)/ 푸른도요(*pureundoyo*), 청피목 (*cheongpimok*), 녹포자

24) If Korean linguists and teachers decide not to address and explain such metasemiotic and metasemantic dynamics or mechanisms in their description of PUREUDA as the Korean concept of GRUE, the grueness will be interpreted as arbitrary and unreasonable conventions that need to be either accepted or corrected (e.g., 청신호 as a metaphorical idiom or 녹색등/ 그린라이트, instead) (e.g., 푸른 산 & 푸른 하늘 or 푸른 산 & 파란 하늘).

(*nokpoja*), 녹말2(알/질/집) (*nokmal*2(*al*/*jil*/*jip*)), 녹새치 (*noksaechi*), 녹줄돔 (*nokjuldom*), etc.). After the naturally or culturally unique semiotic mechanisms of certain context-specific referents are put aside (e.g., 녹2 “rust” from the rust of bronze to the rust of metallic products; a slightly green-blue glow on the black dorsal surface of a live black marlin that disappears when dead at a market; 녹말2 (*nokmal*2) derived from the name 녹말1 (*nokmal*1) of 녹두 (*nokdu*) for the same whiteness of the processed product called starch, etc.), those exceptional examples remain unanswered (e.g., 청산염 (*cheongsan yeom*), 청산가리 (*cheongsangari*), etc.). According to encyclopedic resources, such examples are the end products (that is, terminologically devised target text examples) caused by some interlingual translation processes and strategies (cf. Seok et al., 2013, 292). More interdisciplinary discussion is required to clear up such issues, inquiries, and factors in future research.

According to the theoretical implications, it seems that further investigation of this kind will be able to provide more insights not only in descriptive linguistics but also in cognitive semiotics and general human sciences. Of course, the limitations of the methods and the inevitable falsifiability of the analysis results do remain as the next tasks.

Ⅴ. Conclusion

In this research, the color-term-related question on the nature of GRUE is examined, especially, in the case of the Korean language. In order to revisit the notion of GRUE and the grue-like linguistic behaviors of the PUREUDA-related word examples in a more valid and reliable way, 4 sets of color-morpheme-specific KCN examples are investigated from a metasemantic,

metamorphologcal, metasemiotic, and metacogntive perspective (thus, [‘푸른’/ ‘파란’/ ‘파랑’/ ‘청’/ ‘녹’ + another morpheme(s)] which has a referent in the physical world). Out of 698 PUREUDA-related KCN examples selected form the online dictionary data (cf. no dialect/ metaphor/ North-Korean variant data included), all of them (i.e., 401 ‘청’ examples (57.45%); 241 ‘녹’ examples (34.53%); 36 ‘푸른’ examples (5.16%); 5 ‘파란’ examples (0.72%); 15 ‘파랑’ examples (2.15%); or, 20 ‘파란’-group examples (2.87%) when the last 2 sets are combined) are found to have the respective referents of multichromaticity in which a partial “green/ blue/ grue” color hue or feature is present. The large proportion of the multichromatic referents (i.e., 83.33% of the ‘푸른’ data; 80% of the ‘파란’ data; 86.67% of the ‘파랑’ data; 77.56% of the ‘청’ data; 67.22% of the ‘녹’ data) is observed in all the 4 groups. And, it suggests (1) the cognitive intervention of relative attention-induced or salience-oriented uses of intersemiotic metonymy, (2) the metasemiotic principle of metonymic extension from complex mechanisms or dynamics of a referent to the linguistic form, and (3) the importance of the nature of the referent’s chromaticity, and (4) the interpreters’ slash observers’ metasemiotic and metacontextual decoding/ encoding patterns (whether in the Hanja usage or not). Unlike the mainstream presumption in favor of the presence of the monochromatic “green”/ “blue” referents and the existence of the dichromatically mixed “grue” referents (with no internal boundary), the proportion(s) of the pure “green/ blue” referents and/or the fuzzy “grue” referents turn(s) out to be extremely small (even 0%) with 1 exception of ‘청’ (yet, not as fuzzy “grue” referents but as monochromatic “green” or “blue” referents in nature or culture: more “green” objects in nature versus more “blue” objects in culture in the name of ‘청’). As there are some examples that are never “blue” or “green” in the referents’ color hues or spaces (cf. exception:

a slight glow on the surface) either due to the visual semiotic mechanisms of the referents in contexts or because of the problems of translation, it becomes clear that referent-oriented and cognitive-semiotics-based approaches and methods are crucial. In addition, because of the drastically larger size of the Hanja-based data and the importance of the etymology-based, history-based, context-oriented, and referent-centered decoding work, the roles of the semiotics of the Hanja characters turn out to need more attention and further research (instead of abstract lexical semantics in the mind).

In conclusion, the Korean PUREUDA/ GRUE examples show semiotically, cognitively, and semantically complex phenomena with a variety of natural, cultural, and cognitive motivations involved. For the specification, further in-depth research is required, and a simple 'form-content' reading must be avoided.

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[Bibliography]

Beon, M. (2015). A Contrastive Study on the PUREUDA-group Color Terms in Korean and Chinese. Master's Thesis, Korea University, Korea.

Berlin, B. & Kay, P. (1969). Basic Color Terms: Their Universality and Evolution. Berkeley: University of California Press.

Biggam, C. (2012). The Semantics of Colour: A Historical Approach. Cambridge: Cambridge University Press.

Bogushevskaya, V. (2015). Chinese GRUE: On the Original Meaning and Evolution of Qing. Retrieved on July 12, 2021 from https://www.researchgate.net/publication/282820307_Chinese_GRUE_On_the_original_meaning_and_evolution_of_qing

Bull, D. & Zhang, F. (2021). Intelligent Image and Video Compression: Communicating Pictures. London: Elsevier.

Chin, S.-L. (2003). A Study on Translating Color Terms: With a Focus on Korean and English. Master's Thesis, Sejong University, Korea.

Cho, Y.-S. (2017). Cross-cultural Associations of Color (색채의 연상). Seoul: Siru.

Choi, H.-Y. (2018). Korean Semantic-Relation-based Morphology (한국어 의미 관계 형태론). Seoul: Yeokrak.

Clifford, A. Davies, I. & Sowden, P. (2014). The Evolution of "Grue": Evidence for a New Colour Term in the Himba Language. In Anderson, W., Biggam, C., Hough, C. & Kay, C. (eds.). Colour Studies: A Broad Spectrum. Amsterdam: Benjamins, pp. 53-66.

Elbourne, P. (2011). Meaning: A Slim Guide to Semantics. Oxford: Oxford University Press.

Eom, H. (2000). About Colour Reresentation System of Korean Colour Terms. Korean Language Education Research 10(1), 429-458.

Eom, S.-C. (2019). A Study on the Meaning of Tungusic Color Words: Focusing on Ebenki Language. Korean Research of Siberia 23(1), 181-215.

Eom, S.-C. (2021). The Characteristics of Nivh and the Meanng of Basic Color Words. The Journal of Humanities and Social Science (Innumsahoe 21) 12(1), 2895-2907.

Fairchild, M. (2005). Color Appearance Models. Chichester: John Wiley and Sons Ltd.

Gladstone, W. (1858). Studies on Homer and the Homeric Age. Oxford: Oxford University Press.

Heo, J. (1613). Dongui Bogam. Seoul: Nae Eui Won.

Hong, J.-I. (2012). A Study on the Color Cognitive System: Focused on the Characteristic of the Linguistic Representation. Doctoral Dissertation, Ehwa Womans University, Korea.

Jakobson, R. (1959). On Linguistic Aspects of Translation. In Brower, R. (Ed.). On Translation. Cambridge, MA: Harvard University Press, pp. 232-239.

Jang, S.-L. (2016). (A) Contrastive Study of 'Green/Blue' Color Words in Korean and Chinese. Master's Thesis, Kongju University, Korea.

Kay, P. (1975). Synchronic Variability and Diachronic Change in Basic Color Terms. Language in Society 4, 257-270.

Kay, P. & Maffi, L. (1999). Color Appearance and the Emergence and Evolution of Basic Color Lexicons. American Anthropologist 101, 743-760.

Kim, A. (1985). Korean Color Terms: An Aspect of Semantic Fields and Related Phenomena. Anthropological Linguistics 27, 425-436.

Kim, D.-H. (2005). Cognitive Linguistics and Meaning (인지언어학과 의미). Seoul: Taehaksa.

Kim, D.-Y. (2020). Changes in Color Attributes by Color Adjectives. Master's Thesis, Ewha Womans University, Korea.

Kim, E.-J. (2020). Perceptual Difference Between Blue and Purple-Blue. Master's Thesis. Ehwa Womans University, Korea.

Kim, G.-H. (1994). Hanja-based Compound Words in Korean. Journal of Korean Linguistics (Gugeohak) 24, 467-484.

Kim, H.-Y. (2014). A Comparative Analysis of the Meanings and Uses of Phalahta and Phwuluta 'Green/ Blue' in a Korean Written Corpus. Korean Semiotics 46, 79-110.

Kim, J.-E. (2015). A Study on the Awareness of Color Words by Young Children and Teachers. Master's Thesis, Hongik University, Korea.

Kim, J.-I. (2009). Semantic Extensions of Basic Color Terms in English and Korean. Doctoral Dissertation, Hankuk University of Foreign Studies, Korea.

Kim, S.-H. (2013). An Analysis of Basic Color Terms in Korean and Japanese. Korean Journal of Japanese Education 27, 31-44.

Kim, S.-J. (2021). Semantic Structures of Nominal Compounds (명사 구성 합성어의 의미 구조). Seoul: KU Research Institute of Korean Studies.

Ku, B.-G. (1998). On ‘Pureuda’ and ‘Parahta’. Hankukmunkwa 22, 15-50.

Ku, B.-G. (2008). Cognitive Study of Korean Color Terms. Morphology 10(2), 261-185.

Kumar, A. & Choudhury, R. (2014). Principles of Colour and Appearance Measurement: Object Appearance, Colour Perception, and Instrumental Measurement. Cambridge: Woodhead.

Kwon, Y.-J. & Lim, D.-H. (trans). (2020). Meaning: A Slim Guide to Semantics (의미란 무엇인가: 의미론 지침서). Seoul: Hankukmunhwasa.

Lee, H.-H. & Shin, H.-C. (2012). The Color Recognition and Color Expression of Co-relationship (1). Korean Language Research 30, 159-191.

Lim, S.-J. (2016). The Cognition of a Grue Color and Its Construal : With Focus on English Korean, and Chinese. Language Science Research 76, 285-304.

Loh, M.-H. (2012). Introduction to Semantics (의미론 개관). Seoul: Hankukmunhwasa.

Magus, H. (1877). On the Historical Evolution of the Color Sense. Kosmos 1, 423-432.

McLaury, R. (1997). Color and Cognition in Mesoamerica. Austin: University of Texas Press.

Oh, S. (2020). A Contrastive Study On 'Pureuda' Category Color Terms Between Korean and Chinese. M.A. Thesis. Hongik University.

Park, H.-S. & Lee, K.-O. (2011). On the Diversification of the Korean Color Categories: Focusing on ‘Parang”. Korea Society of Color Studies Journal 25(2), 5-15.

Park, J.-G. (2014). Korean Semantics for a Discussion-based Course (토론식 강의를 위한 국어의미론). Seoul: Pakyijung.

Park, J.-W. (2021). A Comparative Study of Color Adjectives in Korea and China. Ph.D. Dissertation, Yonsei University, Korea.

Pereltsvaig, A. (2011. 3.18). Grue? Bleen? Rellow?. Retrieved on July 12, 2021 from https://www.languagesoftheworld.info/language-and-mind/grue-bleen-rellow.html

Petrilli, S. (ed.). (2003). Translation Translation. New York: Rodopi.

Rivers, W. (1901). Primitive Colour Vision. Popular Science Monthly 59, 44-58.

Rosch, E. (1972). Probabilities, Sampling, and Ethnographic Method: The Case of Dani Color Names, Man 7, 448-466.

Seok, H.-J., Choi, H.-C., & Park, Y.-G. (2013). Engineering of Colors (빛의 공학). Seoul:

Science Books.

Shin, H.-C. (2012). The Dual System of the Korean Color Expressions. Grammar Education 16, 173-202.

Tao, W. (1996). Colour Terms in Shang Oracle Bone Inscriptions. Bulletin of the School of Oriental and African Studies, University of London 59(1), 63-101.

Yang, S.-H. (2021). The Mixed Use of Traffic Lights Blue and Green: Focused on the Change of Color Category of ‘Puleuda’. Journal of Korean Linguistics Gugeohak 97, 341-372.

Yo, H. (2016). A Contrastive Study on Korean ‘Pureuda’ and Chinese ‘青’. Master’s Thesis, Sungkyunkwan University, Korea.

[국문초록]

본 연구는 한국어에 나타나는 GRUE 관련 형태소와 지시체 색도 간의 의미 관계 및 기호적 상호작용 양상을 조사하는 것을 그 일차적 목표로 둔다. [푸르다] 계열 형태소에 나타나는 GRUE 현상 및 용례를 체계적으로 조사하기 위해서, 색채 형태소로 시작하면서 지시체를 가지는 복합명사 구조의 사물/ 상태/ 현상 명칭에 초점을 두고 [‘푸른’/ ‘파란’/ ‘파랑’/ ‘청’/ ‘녹’ + 형태소(들)] 형식으로 실현된 사전 어휘내항 예들을 의미론적, 형태론적, 기호학적, 인지론적 관점에서 분석하고자 한다. 온라인 사전(https://wordrow.kr)에서 추출된 698개의 [푸르다] 계열 복합명사 예들을 인터넷 사진 및 동영상에 나타난 지시체의 색도 속성에 따라 하위분류한 결과, 색채 형태소들은 각각 다중색도의 특성을 가지는 개별 지시체들에 기반하거나 동기화된 경우가 가장 많은 것으로 나타났다. 따라서, 한자어 기반 또는 고유어 기반 색채 형태소의 차이점에 상관없이, 지시체의 다중색도 속성 소유 및 “녹”, “청”, 또는 “청녹/ 녹청” 색상(hue)의 부분적 관여라는 공통 분모가 관련 기호작용 및 의미 형성에 큰 역할을 한다는 점이 관찰되었다. 이러한 점은 (1) 지시체 해석과정에 나타나는 주의 또는 현저성과 관련된 기호적 환유의 인지적 개입, (2) 복잡성을 가지는 지시체의 색도 메커니즘에서 언어 형식으로 변환하는 과정에서 나타나는 기호 간 환유 및 기본 개념의 추상적 의미 확장이라는 메타기호적 원리의 존재, (3) 실제 지시체의 색도 속성의 중요성, (4) 해석과정에서 관찰자의 메타기호적 및 메타맥락적 탈부호화와 재부호화 과정의 중요성 등과 같은 시사점을 제시한다고 볼 수 있다. 실제 사용 어휘와 대응 지시체에 기반한 용례 조사에 따르면, “청”, “녹”의 언어적 의미를 따르는 색상 하위범주들에 속하는 [푸르다] 계열 복합명사의 예들은 그 비중이 극히 적었다. 더불어, “청색” 또는 “녹색” 색채 값이 전혀 나타나지 않는 색도 속성을 가지는 지시체를 가리키는 색채관련 복합명사의 예들도 존재하였는데, 이러한 특수 하위범주에 속하는 예들은 구조적 색상의 시각기호적 메커니즘(예. 녹새치, 녹줄돔)에 기인하거나 개별언어 간 번역 과정 및 전략의 특수성에 기인하는 경우(예. 청산가리)가 많았다. 이러한 사실은 맥락자유적이고 축자적인 어휘 해석뿐만이 아니라 지시체 중심, 인지적 기호과정 중심의 접근법 및 방법론 또한 과학적, 이론적

맥락에서 중요하다는 점을 시사한다. 한편으로는, 한자어에 기반한 관련 예들이 많았기 때문에, 심층적 (재)해석과정이 의미 분석에 필수적이라는 점을 시사한다. 결과적으로, [푸르다] 개념에 기반한 사물 및 현상 명칭의 색도 중심 분석은 한국어의 GRUE 현상이 다양한 동기와 특성을 가지는 복잡한 의미 현상이며 유형임을 보여 준다.

[Abstract]

Morphemes of PUREUDA in Korean Complex Nouns:
Traits and Motivations of GRUE in Use

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This research aims to examine the semantic and semiotic relationships between the GRUE morphemes and the referents' chromaticity properties in the Korean language. To scrutinize the grue-like mechanisms of the PUREUDA-related examples, four sets of color-morpheme-specific Korean complex noun examples are investigated from a metalinguistic, metasemiotic, and metacogntive perspective. With the form ['푸른'/ '파란'/ '파랑'/ '청'/ '녹' (*pureun*/ *paran*/ *parang*/ *cheong*/ *nok*) + another morpheme(s)] and the referent-specific object/ state/ phenomenon names used in the data selection, 698 KCN examples are collected and analyzed in comparison with the relevant online picture/ video images, especially, in terms of the chromaticity properties. In the analysis, it turns out that most examples have the respective referents of multichromaticity in which a partial "green/ blue/ grue" hue or feature is present. The prevalence of the multichromatic referents is observed in all the four groups, which suggests (1) the cognitive intervention of semiotic metonymy (cf. attention or salience), (2) the metonymic extension from complex mechanisms of a referent to the linguistic form, and (3) the importance of the referent's chromaticity, and (4) the observer's intersemiotic translation as a factor. Unlike the mainstream presumption, the proportions of the pure "green/ blue" referents and/or the fuzzy "grue" referents turn out to be small (even 0%) with 1 exception of '청' (*cheong*). Also, in the presence of the non-blue and non-green referents (cf. structural color, translation, etc.), it becomes clear that referent-oriented and cognitive-semiotics-based

approaches are important. Elsewhere, the roles of Hanja turn out to need more attention and research.

In conclusion, the Korean PUREUDA examples show semiotically, cognitively, and semantically complex phenomena with diverse traits and motivations involved. For the specification, further in-depth research is required, and a simple 'form-content' reading must be avoided.

【Keywords】 PUREUDA concept, GRUE concept, (native/ Hanja) color morphemes, Korean complex nouns, referents' chromaticity

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