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Folk Definitions of Korean Ideophones

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1 Introduction

Ideophones are a class of sound symbolic words that have been defined cross-linguistically as "marked words that depict sensory imagery" (Dingemanse 2012: 655). While various languages have greater or lesser use and variety of these words, as a phenomenon they are ubiquitous.

This paper makes two main contributions. First, it investigates the descriptive semantics and semantic typology of Korean ideophones, an understudied aspect of Korean ideophones. Second, it makes an empirical contribution by examining primary data obtained through a novel methodology, Folk Definitions, recently employed in Dingemanse (2015). The thesis examines data from a corpus of multimodal data on ideophones collected by the author with native speakers of the Seoul dialect of Korean.

Research in ideophones cross-linguistically has been devoted to their unique phonological and phonotactic properties, and to the structural aspects of these words that render them depictively iconic. Research has also been done classifying the broad types of sensory imagery attested cross-linguistically, and ordering them by prevalence in the interest of creating a semantic typology. In recent years a new methodology has been used for the investigation of ideophones. This methodology, called Folk Definitions, is designed to record multi-modal data in informal settings to give the language consultant a greater degree of freedom and an environment that lends itself to eliciting more natural expression. The researchers are able to make use not only of written and transcribed data or audio recordings, but video footage, which contributes an additional dimension of articulation by means of gesture, reference to nearby objects, props, etc. that help illuminate the meanings of these often tricky words. The full semantic space of each word and the correlations of the semantics to iconic structural components are best captured by a method of exhaustively detailed and contextualized data of a multi-modal nature.

Previous studies have largely ignored gestural information, which is an essential definitional component as will be demonstrated in the scope of this paper. Rather, most researchers have focused solely on the verbal content of their language consultants' definitions. They have also on occasion found themselves frustratingly constrained by the artificiality of their task to interact with ideophones without allowing speakers free range to articulate through other available modes (Dingemanse 2015: 227) With the technique of Folk Definitions, this study aims to explore the question of descriptive semantics of Korean ideophones, an area which, until recently, has not received much attention in the literature. In the case of Korean this has largely been because the existing scholarly inquiries have been done with the purpose of describing the phonological and morphophonological properties of the words and the structurally iconic functions of particular properties and sub-syllabic constituents. The results of the study may help to understand the limits of variation of semantic classes and their interrelationships in the interest of creating cross-linguistic typologies or generating predictive theories about what is possible for the semantic spaces of these words.

Additionally I look at the phenomenon of ideophonic forms that depict more than one sensory modality simultaneously. I discuss asymmetry in semantic nuances between minimal pair and triplet forms of a single ideophonic base word in this thesis that differ by single structurally iconic properties. I show there is evidence to support one variant that is basic (unmarked) rather than a series of equally marked forms of the same ideophone.

2 Background

2.1 Cross-linguistic study of ideophones

It was mentioned above that ideophones are "marked words depictive of sensory imagery" (Dingemanse 2012: 655). This description encompasses issues in the cross-linguistic study of ideophones concerning the nature of markedness, depiction, and the kinds of sensory imagery encoded in ideophones.

Ideophones are widely acknowledged to be idiosyncratic in their phonology, phonotactics, and morphosyntax. That is, compared to the "prosaic" items of the lexicon which function according to the "basic" or "unmarked" schema of phonological rules etc., ideophones reserve to themselves distinctive operations and functions that make them structurally marked. (Dingemanse 2012: 656)

The markedness of ideophones has been explained in the literature in different ways. In one proposal, the phonological markedness of ideophones (as well as proper names and swear words) results from a relationship between semantically complex meanings of ideophones and structural complexity; specifically, complexity is located in the meaning, giving rise to complex phonological form (Klamer 1999, 2001, 2002; cited in Dingemanse 2012: 657). In a second proposal, the iconic nature of the expression gives rise causally to iconic structural features; that is, iconicity, as a property, selects for structural features that function iconically. Thus, the surface features of ideophones must all have iconic status. This means that to test the theory one would have to see whether every structural feature found in ideophones can be justifiably said to be iconic (Diffloth 1980; cited in Dingemanse 2012:657).

There is no disagreement in the literature about the fact that there is iconicity to at least some extent in ideophones. As "depictive" words, ideophones rely on "iconic mappings of form and meaning" (Dingemanse 2012: 658) in which structural features may communicate iteration by repetition of form, augmentative meanings by way of sonority, etc. The precise means may be closer to or farther from definite resemblance. As Dingemanse states, "depictions…may vary in the degree to which they are lifelike, but that does not stop them from being depictions. Compare Van Gogh's *Almond Blossom*, Marchel Duchamp's *Nu descendant un escalier*, and Mondrian's *Victory Boogie Woogie*. These paintings show different degrees of perceived resemblance to reality, but they are all presented and interpreted as depictions" (2012: 658)

Dingemanse also notes that "gradient perceptual experiences" have been related generally to "gradient linguistic forms" (2012: 659). This may be realized in each different language by different phonological featural schemas. Some minimal change in the form must correspond to some minimal change in the degree of perceptual experience communicated by the ideophone. For instance, change from one phonological segment to another and then to another within an ideophonic word may correspond to a progressive increase or decrease in the intensity communicated. Korean does this through reduplication, ablauting, and consonant mutation, and other languages also exhibit similar processes.

The sensory imagery in ideophones falls under a variety of categories such as visual, auditory, tactile, and includes more abstract extensions such as inner states and feelings. From a large body of data of many typologically diverse languages, there is reserach that attempts to establish an

implicational hierarchy between the categories, where a language that has ideophones belonging to any given category is predicted to also have ideophones encoding the categories to the left of the attested category on the hierarchy. This implicational hierarchy is illustrated in (1):

(1) SOUND < MOVEMENT < VISUAL PATTERNS < OTHER SENSORY PERCEPTIONS < INNER FEELINGS AND COGNITIVE STATES

(Akita 2009a and Kilian-Hatz 1999; cited in Dingemanse 2012: 663)

The hypothesis set forth by Dingemanse (2012: 663), discussing and interpreting this work by Akita (2009) and Kilian-Hatz (1999) is that sound is naturally best described by auditory iconic resemblances in spoken speech.[1] Thus, auditory iconic forms comprise the most basic category, while forms further up in the hierarchy are predicted to be increasingly less frequently attested, a generalization borne out in a survey of ideophone-employing languages from Navaho, which attests only sound-depicting forms, to Siwu, which includes "visual patterns, shapes, tastes, textures, inner feelings, and so on." (Dingemanse 2012: 662-663).

However, much work remains to be done to develop a comprehensive semantic typology of ideophones; there has not been enough work dedicated to this aspect (Dingemanse 2012: 662). In order to accomplish this typology then, it is necessary to gather more data on the variation of meanings and phenomena pertaining to the descriptive semantics of ideophones in many typologically diverse languages. In order to achieve this goal, one of the things that needs to be addressed is identifying the class of systematic inter-relationships between semantic categories and how these function language-internally as well as cross-linguistically. Since ideophones depict sensory imagery and the human sensory apparatus is universal to speakers of different spoken languages, one would expect certain consistencies in the co-occurrence and linking of categories.

One crucial concern within this line of research is methodological: in many cases, the analysis of ideophones relies on data obtained through field research or other methodologies that rely on non-speakers eliciting data from native speakers. This brings along the risk that in these cases the semantic spaces and salient categories of a meta-language or different culture may lead to interference in a description of a language under study (see Dingemanse 2012: 662). Thus, methods must be used to eliminate impositions onto the semantic spaces encoded in another language. Based on his field-based study of Siwu ideophones, Dingemanse implements object-language definition and multimodal explanation (such as those involving gestures), methodologies that have been important tools of ethnoscience but disregarded in recent research. Based on the Siwu case study, Dingemanse argues for the need to re-introduce speakers' folk definitions and documentation of multimodal information as methodologies in the study of ideophones (Dingemanse 2015: 216). Having introduced the state of the cross-linguistic study, the next section focuses on the language-specific status of the research into Korean ideophones.

2.2 The linguistic study of Korean ideophones

Korean ideophones have been extensively studied. Most of these studies have explored the phonological and morphological properties that are used for Korean-specific encodings of iconic

[1] This raises implications about gesture and iconic resemblances to motion and visual patterns; this is addressed below in this paper (section 5).

resemblance (Martin 1992, Lee 1992, Sien 1997, Sohn 1994). The main phonological features which serve to "mark" Korean ideophonic words as opposed to prosaic lexical items fall into two main strategies: vowel ablaut and consonant mutation. The main morphological features that mark this word class are types of reduplication, either full or partial. Work on the descriptive semantics of Korean ideophones, on the other hand, is less well developed: meaning patterns are not studied in themselves, but mainly for the purposes of illuminating the structural features that are iconic. In this section, I will delve into each one of these features and what various authors have said about them.

2.2.1 Vowel ablaut

The full (monophthong) vowel inventory of Korean is: [i], [e], [ɛ], [a], [ɨ], [u], [o], and [ə].[2] Some authors (including Cho 1967) recognize a [Ø] phoneme, however I have not observed a rounded front phoneme in any of the Seoul Korean spoken currently. In Korean, nucleic vowels of ideophones may take on one of two values (sometimes referred to as isotopes). These are known as "light" and "dark", a featural distinction partially based on the distinction between low and non-low vowels. "Light" and "dark" isotopes tend to have diminutive and augmentative meanings respectively. The light isotope may have to do with lightweight, delicate things, while the dark isotope has to do with the heavy, ponderous, and often negative aspects such as coarseness or excess. In the literature, the semantic effects of vowel ablaut light isotopes of ideophones are associated with "brightness, lightness, sharpness, thinness, slowness, smallness etc., as opposed to dark vowels which tend to give the feeling of darkness, heaviness, dullness, thickness, quickness, bigness, etc." (Sohn 1994: 500). Lee quotes Martin 1962, noting that these words can carry "pejorative" connotations, such as "unsubstantial" or "silly" in the case of light isotopes, and "gloomy" or "clumsy" for the heavy isotope. (Lee 1992: 105-106) If these were represented as features, they could be classified [+light] or [+ dark] according to their vowel quality. This is not to say that the identity of any single vowel is ambiguous as to whether it has a light or dark value, but that there is not a perfect correspondence between low and non-low phonological featural values, on the one hand, and "light" and "dark" categorizations, on the other. That is, the light-dark distinction is an abstract, system-internal categorization that does not completely match any phonological natural class. Lee (1992) reports that the vowels [e], [ə], and [u] are dark, whereas [ɛ], [a], and [o] are light (1992: 103). The low-non-low distinction works here defining "light" vowels as low and "dark" vowels as non-low, except in the case of [o], which is non-low but light. This is illustrated in Table 1:

	Front	Central	Back
High	i (neutral)	ɨ (neutral)	u (dark)
High Mid	e (dark)	ə (dark)	o (light)
Low Mid	ɛ (light)		
Low		a (light)	

Table 1: An illustration of the light and dark featural contrast and how this correlates to the vowel space in Korean, based off the assigned values in Lee 1992: 103.

[2] Lee (1993: 60) notes that [ɛ] is a more accurate transcription than [æ] which many authors adopt. Cho (1967: 79) notes: "the proponents of the 'articulatory view' tend to compare the vowel to the Russian [ɨ] …the tongue position for it is is higher and slightly more backward than the position for the other central vowels." Given that the vowel is still classified as central and the retractedness is only "slight" I have chosen to retain [ɨ] in transcription

There are some disagreements in the literature as to whether a third, neutral vocalic category exists in Korean. Specifically, Lee proposes that high front and high central vowels have a neutral status with respect to light/ dark semantics (1992: 103), while, Sien (1997), citing McCarthy (1983), proposes that light and dark values correspond to [+low] and [-low] featural values, respectively (1997:131). Martin (1992), on the other hand, postulates that: "the vowels u and i are either heavy [dark] or neutral. The isotopic difference of meaning is not always strongly present, and sometimes one isotope is felt to be 'neutral' or 'basic' (i.e. connotationally unmarked) – frequently the one with the heavy vowel…" (Martin 1992: 343). Lee (1993: 215) notes: "Neutral vowels can co-occur either with dark or light vowels. However an ideophonic expression may not have both light and dark vowels." In short, there are phonological reasons for considering these neutral, as they can co-occur with either category. However, the semantics of the ideophonic isotope is determined by the "light" or "dark" vowels with which they co-occur."

The description of Korean ideophones often implies that light and dark isotopes are two halves of a symmetry in which neither is really more marked than the other. Lee, discussing Martin 1992, notes that pejorative meanings can be attached to dark isotopes, yet: "[Martin says] the pejorative connotation invoked from light vowels is a secondary one developed from the primary connotation 'smallness'. Although Martin's remark is true to some extent it is interesting to note this secondary connotation is almost never imposed on the primary source of ideophones…" (Lee 1992: 106). Thus, she seems to recognize an asymmetry qualitatively, but does not develop this idea in her thesis.

2.2.2 Consonant mutation

Korean stops have a three-way phonemic contrast between fortis, lenis, and aspirated. In terms of their production, these categories are distinguished by both F0 and VOT without overlapping (Kim, Midam 2004: 1). A minimal triplet will serve to illustrate this three-way distinction (fortis stops are marked with a length diacritic hereafter in this paper):

(2) t:a˩ "daughter" (fortis) ta˩ "moon" (lenis) tʰa˩ "mask" (aspirated)

(Kim& Duanmu 2004: 59)

This contrast between stops can be used in ideophonic words to create a graded scale of semantic degrees. Lee notes that fortis consonants (which she calls "tense") have to do with the idea of "something dense, compact, solid, tough, heavy, slow etc." (Lee 1992: 99). Aspirated consonants, on the other hand, have to do with things that are "airy, crisp, sparse, light, swift" (Lee 1992: 99). The lenis stops are basic. This three-way contrast, which seems to compliment the vowel ablaut as a mechanism of communicating intensity and degree (Lee 1992: 98) is exemplified in (2):

(3) taltal < t:alt:al ~ tʰaltʰal rattling

(Lee 1992: 98)

According to Lee, the sense of intensity increases depending on which onset it used. She does not give the exact gloss for each individual word, but it seems that she is implying a rattle with increasing loudness with each degree of emphasis: "the forms with plain [lenis] stops represent the unmarked simple connotation, whereas the tense [fortis] stops and aspirated stops represent more intensive connotations." (1992: 98) Therefore "taltal" is "rattling" and "t:alt:al" or "tʰaltʰal" is "rattling hard."

Sien (1997) proposes a full theory of a gradient range of phonological segmental modifications corresponding to slight semantic differences in Korean ideophones. Taking any ideophonic form, slightly different senses of intensity, degree, etc. can be achieved through consonant or vowel mutations, partial and full reduplications, etc. He provides distinctions of meaning that are extremely fine and precise. For example, consider this passage from Sien on infixes (he analyzes occurrence of non-initial syllable onset infixes):

"Relative connotational differences among them [infixes] can be generally stated as follows:

-t-: intensity, hard sound, abruptness
-c-: strong resonance, sharp sound
-s-: resonance, fragility, low-tone sound
-l-: diminution, continuity, light-tone sound"

(Sien 1997: 112)

As an example, he gives the following:

(4) a. /əlk-/ [əlk] 'to be pockmarked' /əl+t+k/ [əlt'uk] 'with many big mottles'
/əl+t+t+k/ [əlt'utuk] 'with many big clear mottles'

(Sien 1997: 113)

Infixes are phenomena of onset clusters, while the below mentioned suffix changes are located in syllable codas. Each part of the syllable structure has thus been variously linked to iconic resemblances

These relationships between phonological features and semantic differences can be quite specific and detailed. Here is an example found in the hierarchies developed in Sien's (1997) analysis of diminutive meaning in obstruent suffixes:

(5) Intensity in Suffixes

a. Dorsal Suffixes	b. Alveolar Suffixes
-k >-ŋ >-l	-s > -n > -l
-<---- intensity	-<----- intensity

(Sien 1997: 104)

As examples of the alveolar suffixes, Sien includes:

[nok] 'to melt' [nogɨt] 'slightly soft' [nogɨn] 'very soft' [nogɨl] 'extremely soft'

(Sien 1997: 107)

Note: [nogɨt] is underlyingly /nok +s/ in Sien's paper.

While Sien provides a detailed proposal of the relationship between phonological form and meaning of ideophones, a standing question is whether speakers are in fact aware of the level of the sound symbolism of consonant features on single segments. How salient is this really to

speakers? Is it part of speaker knowledge in a concrete sense? That is, we need to understand its cognitive reality. Also one must consider how extensively this used: is this productive? Do speakers know this form and extend its use productively?

2.2.3 Reduplication

2.2.3.1 Full reduplication

In addition to abalut and consonant mutation, ideophonic words in Korean also exhibit different kinds of reduplicative patterns. The most common one involves full reduplication. One can think of there as being a single "base form" which is a single phonological word that can be reduplicated completely. The reduplicated sequence forms a single syntactic word (generally adverbial or adjectival). As an example, the ideophone pʰodoŋ pʰodoŋ shows full reduplication as all segments are repeated from the two-syllable base. The word is used as an adjective and can be placed in the periphrastic expression "pʰodoŋ pʰodoŋ hada" or "to be chubby in a cute way." Meanwhile an example of an adverbial form would be kotʃʰi kotʃʰi, a word describing persistent, unstopping action usually used with the verb "kemutda" to communicate ceaseless asking of questions. For instance:

(6) gjesək iɾəke mutda dwe-s:ə **kotʃʰi kotʃʰi** **kemutda** iɾəmjən
constantly like that to ask turn out-PAST [IDEOPHONE] to ask like that
'To constantly ask, like that, kotʃʰi hotʃʰi kemutda like that' <KR 26:25>

Full reduplication is the most frequent and general strategy for ideophones. While most ideophones have an unreduplicated base form, there are some "frozen reduplicated forms" that are "inherently reduplicated" as a pair of identical forms (Lee 1992: 123). An example of the latter is the word "tʃoɭtʃoɭ", meaning "in a continuous flow" (Lee 1992: 123), which does not have a base form that occurs alone: *tʃoɭ. As Lee states, this word "does not have independent morphemic status" (1992: 124).

According to Sien, "[t]otally reduplicated forms carry the meaning of continuity of repetition rather than intensity" (Sien 1997: 204). The aspectual concept of iteration is part of the semantics of this particular type of reduplication. It is possible to reduplicate more than once, bearing in mind that since these are performative words more appropriate to certain speech genres, they can be extended for dramatic effect.

2.2.3.2 Non-identical reduplication

Sometimes, the two halves of fully reduplicated forms are not identical. One base form may have a different nucleic vowel, or onset consonant from the other, as seen in (7).[3]

(7) a. aki-caki "lovely in this way and that way"
b. hoNiya-haNiya "debating with all different options"
c. twicuk-pakcuk "total chaos"

(Lee 1992: 127)

[3] Lee uses "N" as notation for [ŋ]

Many kinds of different variations can occur between the base and reduplicant. They may have different consonantal onsets, nucleic vowels, or even an entirely different initial syllable, as we see in (7c). In this case, reduplication carries different semantic nuances. According to Lee, for instance, "[t]he semantic aspect of non-identical reduplication in Korean appears to be 'directionlessness' or 'aimlessness'" (Lee 1992: 127).

2.2.3.3 Prefixal reduplication

There is also a case of prefixal reduplication, which Lee identifies as characterizing "a longer duration of the event described" (1992: 116). The ideophone uses material from the base as a template to construct a prefixed partial element. Sien, following the analysis in McCarthy and Prince (1986) for Ponopaean, notes that moraic units are responsible for the conditioning of the selection of form of the prefixed material. According to Sien, "[i]n Korean, the choice of prefixes for bisyllabic bases also depends upon the quantity of the base-initial syllable. A base whose initial syllable is monomoraic takes the bimoraic prefix, while a base whose initial syllable is bimoraic takes the monomoraic one" (1997: 198). He sums this up concisely in a principle of "moraic complementarity", which he describes as involving "prefixation [that] shows a moraic opposition between the prefix and the base-initial syllable" (1997: 200). As an example of this process:

(8) a. Sien first notes there is a "choice of prefix templates by moraic complementarity" (200)

b. Sien next says there is a "copying and mapping of segmental string onto the template in the left-to-right fashion" (200)

c. Following this there is a "erasure of unassociated material by Stray Erasure Convention (41)" (201)

d. Lastly the resultant structure is (201):

The reduplication process takes as much material from the base as it needs to make a prefix of complimentary moraic weight to the first syllable. In this case, the prefix will be a heavy syllable, so it takes the onset of the second syllable to make the coda of the pre-fixed syllable [kol], which is in moraic complementarity to [ko]. Meanwhile the base [tuŋʃil] begins with a heavy syllable [tuŋ], so based on the principle just mentioned, the prefixed material must be a light syllable, taken from the segments of the base: [tu]. Thus the resultant form is [tutuŋʃil] (Sien 1997: 200-201).

As can be seen from the above, a number of analyses have been developed to account for the structure of ideophonic words, the possible variations of form, and the general meaning correspondence to these changes of form.

2.3 Summary

I have reviewed the work that has been done in ideophones cross-linguistically and in Korean and shown that extensive analysis has been done on the analysis of the form of these words. I have summarized the research carried out so far addressing the iconicity of structural components in Korean ideophones and have remarked that the description of the iconicity of structural components is a basic part of the investigation of the unique properties of these words. In the next section I discuss the methodology I employed and the particular advantages that this methodology confers to the researcher of ideophones.

3 Methodology

3.1 Folk definitions

For this project, I elicited ideophonic data with native Korean speakers using a methodology developed by Dingemanse (2015) called "folk definition". Folk definitions involve a descriptive, explanatory discourse by a native speaker in the object language about the nature of the ideophone, its use in context, and examples such as enacted direct quotations if the speaker decides to use them. The folk definition is "multi-modal" in that it is recorded in a manner that preserves not only the speaker's words, intonation, etc. but also documents associated gestures, facial expressions and other pieces of descriptive performance that the speaker may deploy when defining ideophones. This may involve enactments with their whole bodies or sometimes even props or objects in the environment. It is a holistic methodology, suited especially to ideophones because of their nature as sensory experiences, and often as multi-modal experiences involving sight, hearing, touch, and emotions. For this reason, it is argued to be the best way in which to capture the full expression of ideophones. (Dingemanse 2015: 215) The additional advantage of this methodology is that there is no interference by meta-language interpretation as the folk

definition is preserved in the object language. Data obtained this way can then be used to build a corpus that can be accessible to speakers who may be able to present their critiques of the meta-language interpretation, the annotation, and the gestural notation. It has therefore a greater amount of accountability as a research methodology.

Since ideophones are iconic words, they resemble the things that they index by their structural properties. Gesture is thus a crucial definitional tool, especially in cases of visual modality and movement where gestural iconicity can be used as an economical tool. I show how capturing gesture is a major advantage in the study of ideophones below in my results section devoted to gesture.

3.2.1 Speakers

All speakers were fluent, native speakers of the Seoul dialect of Korean, were college-educated, and spoke English well. My subjects were two female and two male speakers. The two females were ages 21 and 34, and the two males were ages 25 and 24.

3.3 Pilot game methodology

For my first subject (F, 21),. I created a slide show, incorporating images that had particular visual salience (for instance fireworks, vivid fall leaves, etc.) with the Korean equivalent of the depicted noun written beneath each slide. The speaker played a game with a consultant I enlisted in which the subject had to communicate the identity of the object or event to the consultant without using the word written beneath each slide. It is similar to the board game known as "Taboo" in which the word giving a precise denotation of the signified object or event cannot be spoken aloud, and members of one's team must guess its identity through clues given by descriptions, actions, etc. The effect of the game was that the subject was very involved and used a variety of gestures. However very few tokens of ideophones were elicited. I prepared the speaker beforehand with a short written description of the procedure, asking them to use as many descriptive words referencing shape, color, etc. as they could. In this way I was hoping to prime the speaker to pay attention more closely to the visual modality. Given that this method was unsuccessful, I revised my procedure to elicit ideophones more directly. Ideophones belong to narrative speech genres most often, and it may be difficult to reproduce the right context and environment for these very specialized words to be used in a natural way.

3.4 Elicited form methodology

The methodology that was successful in eliciting ideophones and their definitions involved elicitation from a list of ideophones with selections of data cited in Lee (1992), supplemented by some words from Sien (1997) and a few I had encountered on my own previously. I selected all these words on the criteria of whether or not their glosses seemed to be classifiable as primarily visual modality. I focused on a subset of words: a series of ideophones that were glossed in my sources (Lee 1992 and Sien 1997) as having visual modality as a way to both limit my scope in the research and to investigate the particular properties of a given modality "domain" to see what kinds of domain-internal phenomena and sub-categorizations were present.

This of course introduces a measure of artificiality, as the forms in the list were selected using an English gloss, and so the precise nuances of their meanings were obscured. Specifically, the gloss decontextualizes the ideophones, as it is only needed to the extent that contrastive meanings are shown to pattern together with minimal iconic featural changes. So I could not build a list with a precise foreknowledge of their meanings, but attempted to pull together a number of

similar words, and worked to clarify and expand my knowledge of these words through my speaker sessions. As I show in the results section, the contextualization of usage and gesture both helped with the retrieval of these nuances in the meanings of ideophones.

Referring to the definition of ideophones provided in the introduction of this paper, I identified these forms as ideophonic because they all had sensory depictive meanings, most of them manifested alternations in the vowels corresponding to the form-meaning correspondences of light/ dark vowels in Korean. All these forms (with the exception of three) showed reduplication patterning typical of ideophones.

I submitted this list to a Korean teacher at the Korean Language Institute (for foreign students) at Yonsei University, who helped me by taking out a few forms that were either North Korean dialectal variants or unproductive forms.

There were 53 individual ideophones presented. Of these, 16 were pairs differing by a vowel contrast, representing 32 individual ideophones. There was one triplet, which also exhibited a light/ dark vowel contrast in a graded manner. Thus only 18 were individual ideophones, occurring without an alternate variant also presented in the list. The list is included in Appendix A of this paper.

The speakers were presented with the ideophones orally in obvious pairs based on the light/ dark vowel contrast, with the exception of 47 and 49[4]. Numbers 36-38 form the only triple of the data set. These ideophones were written in native Korean orthography, and were typed out on a sheet, which the speakers were able to look at and consult during the session for clarification purposes. With this list, I interviewed the speakers, asking them to explain each word one at a time in Korean. If they didn't know the word, they skipped it. I attempted to converse only to a small extent (mainly to ask for appropriate contexts) in Korean, so as not to introduce my own interpretation and analysis into the speaker's intuitions. The speakers talked about the meanings and inevitably gave examples as well as spontaneous sample sentences expressed as direct quotations, etc. They used a significant amount of explanatory gesture. I recorded these gestures and facial expressions using the camcorder (Canon Vixia HF R400) (the Marantz Professional Solid State Recorder PMD 660 and Audio-Technica Condensor Microphone Lo-Z that I brought were inoperable, so the sound was recorded by the camcorder internal microphone) that I held and moved depending on whether they were using their hands at any given time or indicating off-screen objects.

For the first and second interviews, a research assistant who is a fluent heritage speaker of Korean engaged with the consultants on camera. For the last two interviews, I read the forms myself (with second-language skills in Korean) and engaged the speaker in dialogue (my own questions being very short).

4 Results and analysis

The elicitation by the folk definition methodology has yielded a video corpus of valuable data (which can be found in Appendix B with IPA transcriptions and semantic classifications). In this section I discuss the main findings of this study, give analyses of prominent phenomena in the data and outline the implications for the study of Korean ideophones. My results from this study are summarized as follows:

[4] These numbers correlate to the numbered ideophones in Appendix B. Please see the appendix for these forms and the contrastive triple.

1. There is a significant amount of simultaneous encoding of different modalities onto single ideophonic forms.
2. Visual Modality should be subdivided into four sub-categories in the description of Korean ideophones.
3. Tactile Modality is a robust category in Korean ideophones.
4. Modalities are not always sensory
5. The light ideophonic istope has a wider semantic valence in terms of evaluative negative/ positive polarity, and is therefore more basic, while the dark isotope is marked for distinctly negative polarity.

4.1 Multiple modalities encoded on one form

There are references across the literature on ideophones that point to the fact that any given ideophone cannot always be assigned to one modality category or another on the implicational hierarchy described in Dingemanse 2012, but rather that each ideophonic form is either ambiguous or it conveys meanings that can be simultaneously placed within different categories on the hierarchy. For instance, for Korean ideophones Lee notes that: "words such as p^halakp^halak 'the way a flag is flapping in the wind' and t^hapakt^hapak 'the way a tired person walks slowly and heavily' depict sound and manner at the same time" (Lee 1992: 90). Dingemanse also notes that the reason motion follows sound immediately in the hierarchy is that "MOVEMENT comes frequently packaged with sound in sensory input" (Dingemanse 2012: 663 [capitals in original]). However, to the best of my knowedge, not much attention has been devoted in the literature to identifying what kinds of interactions are attested between modality categories in ideophones, how many meanings can be encoded on a single form, and how extensive this phenomenon of simultaneous meanings is in the ideophonic lexicon. I address this gap in my study and show that a significant percentage of these cases have multiple encodings (as many as 20% for two speakers in this paper).

All three speakers produced ideophones with simultaneous encoding of modalities. If the speaker evidenced either by verbal definition or by gesture that the word was connected to a given modality (often by describing the word in an example), the categorization was noted in the data. If more than one modality was indicated within the same definition (a single form and definition, not two homophonous forms with separable definitions), the ideophone was considered to encode multiple modalities. The justifications for each classification can be found in Appendix B. Two speakers each had the same proportions of multiply encoded forms to the total number of forms they knew. For speaker F34: out of 45 forms the speaker knew (the total number of forms speakers were asked about was 53), 9 encoded more than a single modality simultaneously (that is, without having separable meanings as a consequence of being homophonous) representing 20% of the total forms. It is also important to note that 3 of these forms had a meaning of internal state. It makes sense that the more abstract experiences are partially dependent on linked sensory perceptions and thus would group together with other modalities. Dingemanse 2012:656, alluding to the class of internal states calls them "kinaesthetic sensations…and other feelings and sensations." For speaker M25: out of 44 forms the speaker knew there were again 9 tokens in which more than a single modality was simultaneously encoded, that is 20% approximately. It is worth noting that 4 of these forms, were tactile and shape joint classifications. Shape was represented in six multiply encoding forms. The third speaker M24, however, was noticeably different both in the proportion of multiply encoded forms and number of forms overall that he knew. The speaker seemed generally to give a very concise definition of the words, perhaps leaving out some nuances. Out of the 36 forms he knew, 4 forms,

or 11% encoded more than one modality. This speaker had a less expressive and verbose character, so perhaps he had a less rich vocabulary of words used for narrative and illustrational purposes.

As an example of multiple encoding in which the speaker indicated all modalities verbally F34 gives:

(9) botoŋ giok dʒuŋ-esə-do ke ʃĩgakdʒogi-n giok
usually memory middle-LOC-also like that visual-ADJ memory
'Usually in the middle of remembering as well, like that, a **visual memory**.' <KR 17:23>

Here a memory, an internal state, is explicitly verbally connected with the visual modality. As an example of two modalities given as part of the same definition, this would be considered a multiply-encoded form. In some cases however, one of the encoded modalities is given gesturally rather than verbally (see section 5 for a discussion of gesture and how gesture is used to indicate modality).

4.2 Subdivision of visual modality

I propose that a single modality "Visual" can, and should be subdivided for descriptive purposes into different categories. Four categories seem to best fit the data: Shape, Surface Pattern, Spatial Orientation, and Light/ Color. Shape has to do with the overall distribution of volume, boundaries, outlines etc. delimiting an object. A surface pattern has to do with an appearance connected to the exterior, but not necessarily the whole volume of an object. Spatial orientation has to do with how something is situated in space with regards to some axis such as up and down. Light/ Color is a category dealing with spectral properties such as luminosity, vibrance, dimness, hue, etc. These have potential to each be differently linked to other modalities.

As an example of Shape, the speaker gives the definition:

(10) toŋguɭ hada muɭgən-i toŋguɭ ha-mjən toŋguɭ toŋguɭ hada
circular AUX object-SUBJ circular AUX-TEMP [IDEOPHONE]
'It is circular, when it is circular it is toŋguɭ toŋguɭ.' <KR 4:58>

A few seconds later she defines it explicitly as a "shape" in reply to my question asking if it could be characterized as a shape (<KR 5:08>). Surface Patterns are also quite common:

(11) uduɭ tuduɭ mə iɾən padak gat-ɨn
[IDEOPHONE] what this floor seems like-COMP
'uduɭ tuduɭ, something like this floor…'
(Makes undulating gestures with hand up and down over table top) <KR 8:54>

In this instance, modality had to be inferred from the gesture of the speaker making an imitative motion of the bumps on an uneven floor. Spatial Orientation has to do with what axis of alignment an object is on:

(12) bitiɬ bitiɾin iɾəke saɾam-i kəɾəga-ɬte ki mojaŋ-i
[IDEOPHONE] like that person-SUBJ go walking-TEMP DEM shape-SUBJ
'bitiɬ bitiɬ is like this when a person goes walking… that shape.'
(Makes rocking movements with torso back and forth) <KR 6:46>

This is classified as Spatial Orientation rather than Shape, even though the Korean word the speaker used is often translated "shape". This word does not have the same semantic space, and rather than a static shape, what is emphasized is the leaning of the walking person's body relative to an axis perpendicular to the ground. The precariousness of the orientation is emphasized. Lastly, there are some words that can only be described as Color/ Light:

(13) san-e tanp^{h}uŋ-i iɾəke ʧa noɾansek ʧuwaŋsek baɭgansek
mountain-LOC fall foliage-SUBJ like this DEM yellow orange red
'On the mountain, the fall leaves there are like this: yellow, orange, red.' <T-R 25:52>

In trying to describe the ideophone ulgit puɭgit, the speaker here uses words for color, indicating vibrance. These four subcategories are sufficient for classifying the data on Visual Modality.

4.3 Tactile modality

It is clear that Tactile modality is a recognizable modality in Korean ideophones (this would fall under the "Other Sensory Perceptions" in the implicational hierarchy). This categorization occurs 20 times in the data for all speakers. The speaker F34 makes clear references to how texture is integral in the perceived positive or negative definition of the ideophone (<KR 10:35>)[5]:

(14) botoŋ saɾam-diɾ-i mekiɾəu-n gə-ɭ
Usually people-PL-SUBJ smooth-ADJ thing-DO
'Usually people like smooth things,' (speaker strokes table surface)

ʧoaha-nənde k:əkiɬ k:əkiɬ kiɾəmjə-nən
like-CONJ [IDEOPHONE] like that-TOP
'In the case of something being k:əkiɬ k:əkiɬ [the dark isotope of the previously discussed word]'

jakan ʧiɭ-do ʧom an ʧə-g:o iɾəke
slightly quality-also a bit not good-CONJ like that
'the quality is also slightly not good, like that.' (Speaker rubs fingers together in one hand).

<KR: 10:29>

[5] Please refer to Appendix C for a key to abbreviations used in these glosses.

Speakers stroked items, used props, and made gestures to indicate tactile modality. For instance, M25:

(15) iɾən gə aka pjəmjən-i kətʃìl̩dʒi an-ko
this thing like this surface-SUBJ rough NEG-CONJ
'This thing, like this, the surface is not rough'
(Grabs metal water bottle and strokes the side) <T-R 26:49>

As is evident, the speaker wanted to enact the touching of a surface for illustrative purposes, highlighting the tactile experience.

4.4 Non-sensory modality classification

Some words present difficulty in classification and do not appear to encode sensory information or clear inner feelings. For example, there was some trouble in the analysis of the word kotʃʰi kotʃʰi. I noted in the data from speaker F34 that the word seemed to be evaluative of a behavior. In this context no emotion, thought, or cognitive state may be portrayed, no explicit modality evoked, but a person's behavior is evaluated from the speaker's perspective. kotʃʰi kotʃʰi, to "ask repeatedly" is not explicitly sound, visual, or tactile based. Neither is it really an emotion or cognitive state. It is an externally evaluated social behavior. It shares the aspectual feature of iterativity with many ideophones, and may be abstractly linked with some concepts of space (my consultant gestured to show the repetitive nature of the asking) and can therefore still be depictive, but there is no explicit sensory encoding. The question is: how explicit does the sensory encoding need to be for something to be considered ideophonic, not just sound symbolic? There may be a clue that it is linked to motion metaphorically. The speaker said that it was like "digging" for an answer, accompanying this explanation with an action of digging:

(16) ke pʰadɨʃì iɾəke kemutda hana muɾəbo-nən ge ani-ja
like that digging-ADV like that to ask one asking-COMP thing.SUBJ NEG-COPULA
Digging like that, to ask like that (with hands curled downward towards self, **makes kneading, digging gestures**).

joɾo ge mankɨm ne gə-nde kɨnde kotʃʰi kotʃʰi
all kinds of thing.SUBJ that much my thing-CONJ but [IDEOPHONE]
'It isn't asking once, but lots of times like that, but kotʃʰi kotʃʰI'

kɨɾəmjən-en gə-ɾ-e hana hana
that way-TOP thing-DO-LOC one by one
'like that, it is one by one.'
<KR: 26:16>

If it is linked to a motion in some way, then it could be argued to be an ideophone since it is depictive of an image evocative of this modality. The same descriptive problem for this word occurred for M24. This may be due to simplification on the part of the speaker and there is in fact

some kind of sound or other modality implicit here, but it also may reflect the synchronic usage of the word. Perhaps the word originally had an identification with some sensory input, but it seems that based on this subject's description, and that of F34, who defines the word as a behavior of repetitive questioning devoid of explicit sensory character (there may be implicit encoding as mentioned), perhaps abstracted patterns, aspectual features such as semelfactive aspect, etc. are the only synchronic feature encoded sound symbolically. In that case they are not be ideophones proper, since ideophones have been cross-linguistically defined as having to do with "sensory" depiction (Dingemanse 2012: 654).

The speaker F34's classification of wagɨl̩ wagɨl̩, the last word in the list I presented, is a bit ambiguous. In agreement with the other speakers she first classifies it as a sound, particularly the kind of noise of many voices that arises from an environment filled with too many people <KR2 0:08>. This concurs with what other speakers said. However, she afterward contradicted herself by saying it wasn't a sound, the word simply referred to the gathering of people <KR2 0:35>:

(17) ke soɾi-ga wawawa iɾəke maɾ-əl̩ makʰhan
like this sound-SUBJ [noises] like that speech-DO a lot
'The sound is like this "wawawa…" (makes gestures with wiggling fingers in front of mouth imitating indistinct noise), like that, a lot of talking.'

saɾam-diɾ-i mani mojə-sə mani iɾəke soɾi hesə wagɨl̩ wagɨl̩
person-PL-SUBJ many gathered-CONJ a lot like this sound make-CONJ [IDEOPHONE]
'There are many people gathered together, so they make a lot of sound like this wagɨl̩ wagɨl̩.'

<KR2: 0:19>

(18) a kɨnde ne-ga tʃal̩mot [inaudible] katgi-ne ke soɾi-ga aniɾa
oh but I-SUBJ mistake [made] it seems-EXCL like this sound-SUBJ NEG
'Oh, it seems I made a mistake. It's not a sound,'

kɨnjaŋ… saɾam-i manɨ-n gə-ja
just person-SUBJ many-ADJ thing-COPULA
'just something with many people.'

<KR2: 0:35>

Cross-comparing this with the other subjects, it seems likely that the word generally is regarded as a sound, but this represents the state of the individual speaker's knowledge.

The next section discusses the argument for a basic light isotope.

4.5 Basic forms and evaluative functions of isotopes

I now address the fact that ideophones seem to be fundamentally evaluative in nature. Many of the examples have negative or positive connotations based on the aesthetics, usefulness, or appropriateness of something described by the ideophones. It is useful to examine to what degree these connotations are part of the meaning of each ideophone. It seems that they are not merely "possible" in the valence of available meanings, but it is typical to find some kind of negative or positive evaluative nature on ideophones. Furthermore, the negative connotations are almost exclusively for dark isotopes while the positive connotations, when they occur, are more in the domain of light isotopes. Light isotopes seem to be more basic (or unmarked) in the sense that

they can have more neutral meanings. I examine the exact number of attestations for each category below. However, even though light isotopes are often more neutral, there are many positive tokens. Dark isotopes seemed to be more marked as decidedly pejorative. As a contrast of light and dark connotations (in that order), speaker M25 notes along with F34 about the meaning of tʰoʃi̥ tʰoʃi̥/ tʰuʃi̥ tʰuʃi̥:

(19)

a. irəke kwiəp-ge sa̠ɭ dʒjə-s-i̠ɭte
like this cute-ADV flesh gain-PAST-TEMP
'Like this, when one is chubby in a cute way.' <T-R 24:24>

b. tʰuʃi̥ tʰuʃi̥ s:i-mjən … saɾam-i an tʃoa-ɭ gə-n
[IDEOPHONE] use-TEMP person-SUBJ not like-FUT thing-COMP
'tʰuʃi̥ tʰuʃi̥ is used when you don't like a person.' <KR 28:33>

The chart in Appendix C examines the data for positive/ negative connotations and the tokens of explicit labeling by the speakers (when the item was known). I have also included the number of gaps of speaker knowledge for the form of the given isotope.

Let us now analyze the correspondences between forms that are of a given isotope and their positive/ negative connotation. For each number on Table 2, I am not counting each speaker response separately as different tokens for the positive/ negative meanings unless there is a case of contradiction or other notable feature. The gaps are counted as a token if two speakers or more fail to recognize the same word. The word is then considered a less well registered/ used form.

Positive Meanings with Light Isotope	Negative Meanings with Light Isotope	Positive Meanings with Dark Isotope	Negative Meanings with Dark Isotope	Number of Speaker Knowledge Gaps for Light Isotope	Number of Speaker Knowledge Gaps for Dark Isotope
5	1	0	11	5	2

Table 2: The table details the negative and positive polar connotations speakers identified and to which isotopic variants they correspond giving the token number of identifications in the data set for all speakers.

From this data there is clearly an association of negative meanings with the dark isotope. There is never a dark isotope with a positive meaning. Light isotopes seem to be more neutral, or even a bit bivalent, as we see one token of a negative meaning and five positive tokens connected with the light form. The number of speaker knowledge gaps compared with attested forms may be such that it is difficult to really advance a hypothesis about whether or not the other form is basic on this basis alone, but it appears that the light isotope is basic on the strength of its wider valence. One can better predict the sense of the dark isotope. Overall, out of 45 known forms, 22 are evaluated as having positive or negative meanings. This is a representation of 49%, almost half. The fact that positive and negative meanings can be identified and contrasted for half the data justifies the proposal that Korean ideophones carry a heavily evaluative function.

With a larger set of data, it might be possible to test whether there are more gaps of knowledge for "marked" forms (dark forms with a general negative evaluative function) and "unmarked"

forms (the evaluative nature of the light forms may be neutral or go either way). This would reveal how speaker knowledge relates to markedness of this semantic polarity.

5 On the importance of gesture

I turn now to the role of gesture as a centrally important part in the investigation of ideophones. As I have already described, the recording of the video footage of the native speaker gestures as part of their overall definitions of ideophonic words is integral to the folk definition methodology. The way that gesture is used together with verbal definition often falls into distinctive patterns. In this section, I focus on these speaker definitional strategies and how they incorporate gesture as a central feature.

Firstly, speakers sometimes employed a strategy of using negative and positive definitions together. They would verbally say "not X, but this…" then visually demonstrate with a gesture. The salience of the gesture made it the locus of the positive, selective definition, while verbal input was used as the locus of the negative, contrastive definition. In (4) I provide an example from speaker F34:

(20) əsɨt əsɨsɨn ɪɾəke ke dokbaɾo ʧaɾə-nən ge ani-go
[IDEOPHONE] like this straight cut-COMP thing.SUBJ NEG-CONJ
'əsɨt əsɨt is like this… not a thing cut directly…' (Vertical motions with hand blade)

jakan ɪɾəke pisɨtɨm ha-ge ʧatəndago hetna
slightly like this slanted AUX-ADV it is cut
'slightly **like this**, it is cut slanted.' (**Slanted cutting movements** with hand blade)

<KR 12:36>

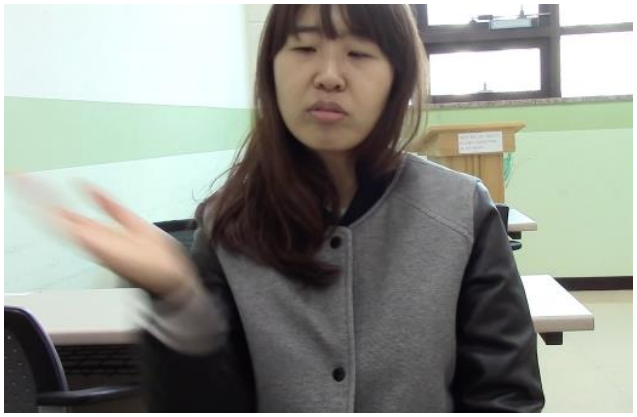

Figure 1. Speaker performing slanted cutting motions for əsɨt əsɨt

In this segment, the speaker verbally gives an explicit negative direction: "not a thing cut directly", then shows what precisely the word means by repeating a gesture of up and down hand movements with one contrastive difference: she makes the motion along a slanted path. This is a minimal pair in gestural form as the speaker has only changed the orientation of the path along which the motion is done. The gesture decomposes the action into discrete elements and shows at

what point the action qualifies as being described by the ideophone, which constitutes the crucial difference. For this reason gesture can be a descriptive tool with both precision and economy, especially for ideophones dealing with visual modality in which space, boundaries, and surfaces are definitionally very important. In almost every definition, speakers relied heavily on gestures, accompanied by a verbal "like this" or "like that". It is a show-and-tell process.

As another example of using gesture for greater specificity and verbal definitions merely as auxiliaries, consider this segment from the same speaker:

(21) kiɾi iɾəke dokbaɾo na it:-nən ge aniɾa
road like this straight come out EX-COMP thing.SUBJ it is not
'The road doesn't go straight.' (Makes long straight gesture with arm)

iɾəke toɾasə na is:ɨ-l̩te k:ubul̩ k:ubul̩ hada
like this turns come out EX-TEMP [IDEOPHONE]
'when it comes out, it is like this k:ubul̩ k:ubul̩.' (Uses two hands to indicate winding motion of bounded path)

<KR 3:32>

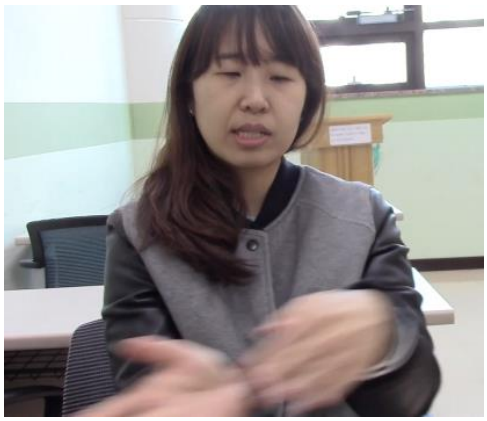

Figure 2: Speaker performs winding movement for k:ubul̩ k:ubul̩

The Korean gloss references "turning", but the periodic gesture, the curving trail, and the bounded space of the road are all captured in one movement.

When gesture is not acting as the primary locus of definition, it is also reinforcing nuances of definition. For example, the same speaker as the above example also says:

(22) kɨ daɨm-e giok-do do kiɾəke s:ɨ-go
DET next-LOC memory-also also like that use-CONJ
'Next, one also uses it about a memory' (Points to head)

ga botoŋ giok dʒuŋ-esɔ-do
usually memory middle-LOC-also
'usually in the middle of thinking' (Points to head)

ke **ʃigakdʒogi-n giok**
visual-ADJ memory
'a **visual memory'** (Points to **eye** then to **head**)

<KR 17:21>

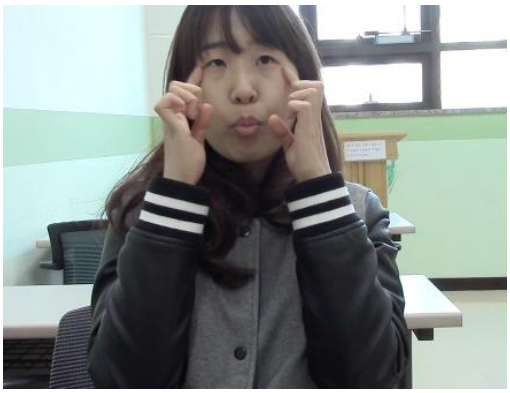

Figure 3. Speaker indicate visual modality by means of gesture

In this example, the speaker links both verbally and gesturally the two modalities: visual and internal state. By pointing to the head, the eye, by touching and stroking surfaces, speakers constantly reinforce the explanation of the experiential locus. In this case there is a link between what one sees and remembers, as the speaker shows by spatially linking head to eye and back again.

Sometimes there is a piece of information present in the gesture that is unclear in the verbal definition. From M25 I have this example:

(23) tʃəndʒaŋ-e iɾɔke ʃìl gat-ən gos-e…
ceiling-LOC like this thread like-ADJ thing-LOC
'On the ceiling this thread… yeah…' (Traces line in air) (Holds fist curled below other hand)

ə… kiɾəke medaɭi-n gə… teɾəŋ teɾəŋ medaɭjueda
like that cling-COMP thing [IDEOPHONE] to cling
'something clinging like that… it clings on teɾəŋ teɾəŋ' (**Swings fist back and forth**)

<T-R 0:34>

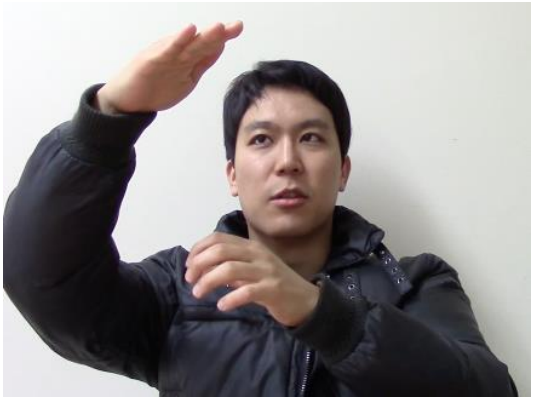

Figure 4. Speaker makes "swinging" motion, although no explicit reference to motion was made in the verbal definition

The word that he used is translated as "cling" in my Korean dictionary. However, the metalanguage definition, or possibly the word itself obscures the fact that rather than the fixedness/ tethering of the object to the ceiling, what is being emphasized is its free motion, the dangling aspect, the fact that the object is capable of swinging. Using a gesture that imitates swinging shows that this word can be linked to motion as well, to a concept of free movement back and forth of a suspended object. It happens that the visual data can be a check against errors introduced by a meta-data interpretation.

Ideas such as spatial distribution are better communicated in gesture than in speech. Speaker F34 relies on gesture to show the distribution of "pieces of paper" stuck all over a wall surface in the definition for tədək tədək:

(24) kɨ ge hana man but^{h}ə it:-nən ge ani-go
DET thing.SUBJ one only stuck on EX-COMP thing.SUBJ NEG-CONJ
'It's not just one stuck on' (Makes single gesture as is slapping palm against surface)

jərə ge-ga ɪrəke ɪrəke ɪrəke
all kinds thing.SUBJ-SUBJ like that (X3)
'but many like that, and that, and that' (Gestures repeatedly with palms striking each other as if **spatially overlapping**)

<KR 3:10>

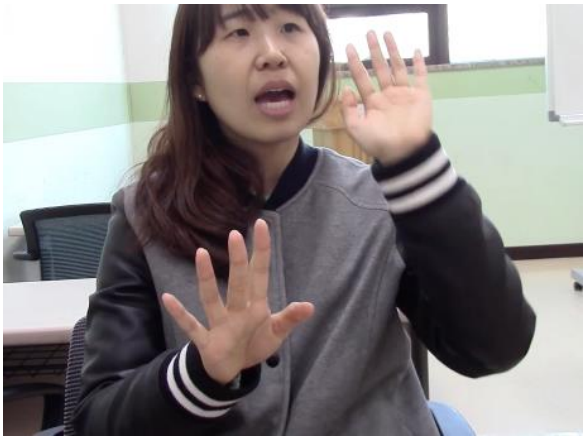

Figure 5. Speaker demonstrates the pattern of a surface

Without the demonstration, there would not be any information that the pieces of paper can be overlapping or layered, or just generally how dense they are, but the density is well captured through the gesture. In short: gesture is good at preserving information, especially in ideophonic words where experience is so nuanced and the impressions of the words is so strongly evoked on the senses.

Some things are virtually impossible to describe more succinctly by means of verbal definition because gesture best articulates movement (being the same modality). For example:

(25) ne sonkaɾak ogɨl̩ ogɨl̩ ha-n i gə-nən
my finger [IDEOPHONE] AUX-ADJ DET thing-TOP
'My fingers go ogɨl̩ ogɨl̩' (With fingers curled upward for display, makes wiggling, twitching gestures)

jodʒɨm tʃol̩mɨn saɾam-i sːɨ-nən maɾ-ija
nowadays young people-SUBJ use-COMP word-COPULA
'this is an expression used nowadays by young people'
<KR 24:07>

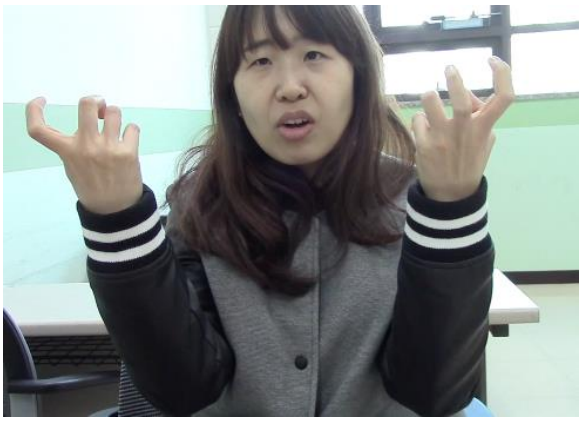

Figure 6: Speaker demonstrates the movement for ogɨl̩ ogɨl̩

It would be impossible for the hearer to understand what this motion involves without seeing it. Even the long glosses I make to describe the gestures are very poor at capturing them, as they are single integrated events with many aspects.

Descriptively how would one do justice to an iconic descriptor of motion without enacting that motion themselves? For the definition of bitiɬ bitiɬ, F34 describes a drunken walk and sways her torso back and forth to capture the motion.

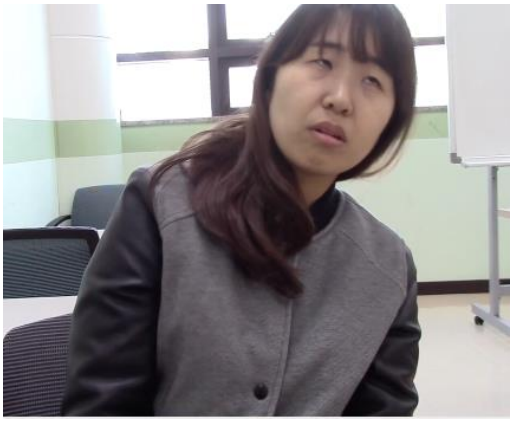

Figure 7: Speaker demonstrates a swaying, drunken walk as an illustration of an ideophone.

Similarly for this word speaker M25 says:

(26) məngəga irəke iɬtʃik səni ani-go **irəke** bitiɬ bitiɬ
something like this regular line NEG-CONJ like this [IDEOPHONE]
'Like this: it's not a regular line, but **like this** bitiɬ bitiɬ'
(Uses two hands to delineate long, straight path) (With two hands shifts back and forth in an undulating track)

<T-R 0:20>

Figure 8. Speaker shows the contours of a path by means of a gesture

Since gesture is an iconic descriptor it makes sense that it would be used together with iconic words. The word class as a whole defines a word by resemblance and is an enactment by way of speech, so it is naturally accompanied by gesture that defines by way of resemblance. Gesture might in fact go as far as to enact the motion itself that is being described by the ideophone. However in the history of elicitation researchers have aimed to inhibit rather than encourage accompanying gesture. Dingemanse (2015) quotes William Samarin in making this point: "[i]t turned out that some of the meanings I isolated were based almost exclusively on gestures. On the assumption that the informants were leaning too heavily on their gestures to convey the meanings, I have tried, unsuccessfully, to get them to verbalize without gestures." (Dingemanse 2015:227)

6 Conclusion

I have shown in this paper that the study of Korean ideophone semantics can profit greatly by a multi-modal methodology such as folk definitions. Those considering research into ideophone semantics in other languages should adopt such approaches as these techniques are illuminating of aspects of the semantic space that may go unnoted if only limited and selective data recording is taken. I have given evidence that there is a prevalent phenomenon of multiple encodings of modalities onto single ideophonic forms. As a further direction of research a more extensive study should be devoted to this question alone to see if this encoding varies by type of modality, to test the number of modalities that can be indexed by a single form, and to compare this phenomenon across ideophone-rich languages. I have given reason for considering that the light isotopic form of Korean ideophonic vowel ablaut is basic. Further I have shown that there is descriptive and typological reason to divide Visual Modality into subcategories. Research should be done to determine whether greater specificity in sub-categorization can be extended to cross-linguistic typologies.

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Appendix A

Below I show the particular ideophones I used and the sources they came from. The transcription is not the original from the dissertations, but is my own into IPA. I represented fortis by a lengthened diacritic, although this is inaccurate. Fortis is in fact mostly perceived based on a high tone that comes on the following vowel. Fortis contrasts in Korean have a longer closure time due to a stronger build-up of pressure in the glottis (it is somewhat egressive), but this is not significant for the perception of the contrast. Because of this closure time I have chosen to use a lengthening diacritic. However, the IPA gives no way to represent the Korean fortis yet. The rest of the segments were in standard IPA. I list the forms as found in the sources. Many were un-reduplicated in the sources, but I presented them in reduplicated form (except for the triple) by the recommendation of the Korean Language teacher I consulted[6]. Here is the list:

From my own previous conversational notes

1. pit:uɭ pit:uɭ squiggly
2. teɾoŋ teɾoŋ hanging, dangling
3. timsəŋ timsəŋ sparse like backyard grass, spread out
4. p:ak p:ak tightly compacted
5. tətək tətək like stickers plastered all over
6. kubuɭ kubuɭ winding
7. hikɨt hikɨt salt-and-pepper hair

From Lee 1992

1. toŋgɨɭ round (99)
2. pʰodoŋ/ pʰudɨŋ chubby (107)
3. pitʃ:ək/ petʃ:ak bony pitʃ:ək-pitʃ:ək very bony (113)
4. pitʰɨl/ pɛtʰil twisted (127)
5. odoɭ todoɭ/ uduɭ tuduɭ having different sizes of bumps (133)
6. k:ampak-k:ampak flickering (134)
7. k:ak:ɨɭ/ k:ək:ɨɭ of rough surface (147)
8. sobok/ subuk in a mound (147)
9. pupʰuɭ-pupʰuɭ in a protruding surface (148)
10. kiɭtʃ:uk narrow and long (149)

[6] I was told by this instructor that number 24 from Lee (the ugɨl variant) had a different meaning than what Lee glossed it as. Some candidates that did not make it into the list were rejected because they were not recognized and could not be found by dictionary search (presumably Naver, the most popular search engine in South Korea, equivalent to Google, offering many of the same services). For instance "jatɨm jətɨm" which Lee glosses as "more or less colorless" on page 356 of his dissertation, caused great consternation. A few others, such as "c:on c:on" or "tightly woven" (Lee, 100) could not appear apart from adverbial morphology (and are pronounced somewhat differently) "c:om c:omhi" (in a tightly woven manner, adv.) and in periphrastic expression of adjective constructions (or verbs; the copular construction with adjectives as it appears in English is identical with the periphrastic expression for verbs in Korean) "c:om c:om hada" (to be tightly woven). These differences may be due to the fact of language change over the course of a few decades, and also perhaps some over-simplification of ideophones (not presented in the context of a sentence) in Lee's thesis for demonstrative purposes of some of their phonological properties.

11. əsɨt-əsɨt nearly similar, tilted (160)
12. moŋge/ muŋge forming an indefinite shape (cloud, smoke) (170)
13. taboɾok/ təbuɾuk moderately piled (172)
14. uɭtʰuŋ-pultʰuŋ uneven surface (318)
15. kamuɭ flickering (272)
16. aɾɨn/ əɾɨn flickering (350)
17. kamut/ kəmut speckled with black (352)
18. naptʃak/ nəptʃək/ nəptʃuk (353)
19. ogɨt/ ugɨt dented (353)
20. kːotʃʰi kːotʃʰi very thin (358)
21. taboɾok/ təbuɾuk bulky (358) (repeat of form above)
22. həbun sparse texture; juicy (351)
23. tʰoʃɨl/ tʰuʃɨl plump, chubby (355)
24. ogɨl/ ugɨl shrunken (353)

From Sien 1997

1. aɭːok spotted (214)
2. uɭgɨt-puɭgɨt in colorful dots (220)
3. əɭːɨk big spots of one or two colors (141)
4. mɛkːɨn/ mikːɨn smooth over an area (141)
5. wagɨl in dense swarms (156)
6. kiɭʧːuk separately very longish (164)
7. pəndɨl a very smooth state (141)

Appendix B

The following are data tables listing the relevant data for categorization of the ideophones by their modality. The first chart is for speaker F34 followed by M25 and M24 in that order. F34 is the first speaker discussed in section 4.1.

Ideophone (Korean Orthography)	Ideophone (IPA)	Attested Semantic Type	Evidence for Classification
1. 비뚤비뚤	pit:uɭ pi:t:uɭ	Movement Shape	"You walk or…"<KR 00:29> "When you make a line…it doesn't turn out straight." <KR 00:35>
2. 대롱대롱	teɾoŋ teɾoŋ	Spatial Orientation Movement	"[An object] is dangling like this" <KR 1:11> Pivots lower hand to show free swinging motion <KR 1:11>
3. 듬성듬성	tɨmsəŋ tɨmsəŋ	Surface Pattern	"You pluck out [corn kernels from cob], when you see that" <KR 1:41>
4. 빡빡	p:ak p:ak	Internal State	"Tight" <KR 2:32> "When something turns out very difficult it is p:ak p:ak" <KR 2:48>
5. 더덕더덕	tədək tədək	Surface Pattern	"On the wall there are many bits of paper stuck on. It's not just one but many like that and that and that (accompanied by gesture: open palms make continual movement of slapping surface, often overlapping each other) <KR 3:04>
6. 구불구불	kubuɭ kubuɭ	Shape	"The road doesn't go straight when it turns like this: kubuɭ kubuɭ" <KR 3:32> "It seems usually

			kubuɭ kubuɭ is used for a road. bituɭ bituɭ for people and handwriting.” <KR 3:50>
7. 꼬불꼬불	k:obuɭ k:obuɭ	Shape	“When there are many curls. For example, ramen noodles” <KR 4:11> “Or for hair, when you do a perm it is also k:obuɭ k:obuɭ” <KR 4:20>
8. 희끗희끗	hik:ɨt hik:ɨt	Light/ Color	“Just a little like it’s been mixed with white, the most usual thing is hair.” <KR 4:33>
9. 동글동글	toŋgɨɭ toŋgɨɭ	Shape	“When an object is circular, it is toŋgɨɭ toŋgɨɭ.” <KR 4:59> “A shape” <KR 5:08>
10. 포동포동	pʰodoŋ pʰodoŋ	Shape	“Chubby” <KR 5:49> “pʰodoŋ pʰodoŋ has a more cute meaning [than fat]” <KR 5:46
11. 푸등푸등	pʰudiŋ pʰudiŋ		No Data
12. 비쩍비쩍	pitʃ:ək pitʃ:ək	Shape	“It’s not the normal kind of thin, but too thin, when you don’t look good.” <KR 6:17>
13. 배짝배짝	pɛtʃ:ak pɛtʃ:ak		No Data
14. 비틀비틀	pitʰɨɭ pitʰɨɭ	Spatial Orientation Motion	“When people go walking (rocks torso back and forth) that shape.” <KR 6:46> “Walking like this, this, this (leans torso side to side in abrupt movements) when they walk it seems like they will fall.”

			<KR 6:54>
15. 배틀배틀	pɛtʰɨl pɛtʰɨl̚		No Data
16. 오돌 토돌	odol̚ todol̚	Surface Pattern	"If something breaks out on the face, it comes out odol̚ todol̚ (points to spot on face and taps it repeatedly)." <KR 8:41>
17. 우둘투둘	udul̚ tudul̚	Surface Pattern	"udul̚ tudul̚ is like this floor (indicates flat surface and undulates hand up and down over table top)" <KR 8:54>
18. 깜박깜박	k:ampak-k:ampak	Light/ Color (First Meaning, speaker explicitly disconnects two) Internal State (Second Meaning)	"A light turns on and off, on and off." <KR 9:18> "People's heads as well, heads remember and forget, remember and forget." <KR 9:26>
19. 까끌까끌	k:ak:ɨl̚ k:ak:ɨl̚	Surface Pattern Tactile	"It's not a smooth thing, but a bit like this (makes small tapping motions on table with index finger indicating small bumps)" <KR 9:55> "Laundry detergent like things (rubs thumb and fingers together to emphasize grainy texture)" <KR 10:18>
20. 꺼끌꺼끌	k:ək:ɨl̚ k:ək:ɨl̚	Tactile	"The quality is a bit not good…like that (rubs fingers together on one hand in a lose way." <KR

			10:35> "Normally people like smooth things." <KR 10:29>
21. 소복소복 22. 수북수북	sobok sobok subuk subuk	Shape Shape	"It's a stacking up (of something) sobok sobok…stacked up to here (indicates level height after some iterations of higher and higher levels)." <KR 11:15> "For subuk subuk, something stacks up this much (spreads out hands to indicate larger height)" <KR 11:21>
23. 부풀부풀	pupʰul-pupʰul	Shape	Makes hemispherical gesture <KR 11:50>
24. 길쭉길쭉	kiɭtʃ:uk kiɭtʃ:uk	Spatial Orientation	"When one wants to highlight this (gestures to show length), when people want to say 'Oh, that's far!' It is kiɭtʃ:uk kiɭtʃ:uk," <KR 12:08> "It has the meaning of being long." <KR 12:24>
25. 어슷어슷	əsit-əsit	Shape	"Like this, not cut directly, slightly like this (makes imagined cuts with blade of hand along slanted path)" <KR 12:37>
26. 몽개몽개	moŋge moŋge	Shape	"It's a thing lumped together (brings two hands clasped in a ball). It is one thing, like a block, lumped together like this (uses index fingers

			to show small, contained, circular volume).” <KR 13:25>
27. 뭉게뭉개	muŋge muŋge	Shape	“When you use muŋge muŋge it is an especially large thing (emphasizes large spherical volume with hands).” <KR 13:35>
28. 다보록다보록	taboɾok taboɾok		No Data
29. 더부룩더부룩	təbuɾuk təbuɾuk	Tactile (pain and discomfort) Internal State (discomfort)	“When one has constipation and it is uncomfortable it is tobuɾuk.” <KR 14:14>
30. 울퉁불퉁	uɭtʰuŋ-puɭtʰuŋ	Surface Pattern	“It isn’t the same like this (makes undulating gesture), something like a surface, like this.” <KR 15:15>
31. 가물가물	kamuɭ kamuɭ	Internal State	“A memory is kamuɭ kamuɭ, so you should remember something, but the memory doesn’t come.” <KR 16:03>
32. 아른아른	aɾin aɾin	Light/ Color (First Meaning) Internal State Visual (Second Meaning)	“Visible then obscured, like that, a bit hard to see.” <KR 16:54> “It isn’t something you literally see, the word aɾin aɾin before my eyes, when you miss something the thought comes up. While you are missing it the thought comes but it isn’t all visible.” <KR 17:47>

33. 어른어른	ərɨn ərɨn	Visual (First Meaning, speaker explicitly refers to two meanings) Internal State Visual	"It is used about something visible to the eyes (points to eyes, then outward." <KR 17:16> "One also uses it about a memory, usually in the middle of remembering, a visual memory" <KR 17:21>
34. 가뭇가뭇	kamut kamut	Light/ Color (Speaker doubtful about meaning)	"A bit dark." <KR 18:16>
35. 거뭇거뭇	kəmut kəmut		No Data
36. 납작(납작)	naptʃak	Shape	"The meaning of naptʃak and nəptʃək when it is used is flat" <KR 19:37>
37. 넙적(넙적)	nəptʃək	Shape	"The meaning of naptʃak and nəptʃək when it is used is flat" <KR 19:37>
38. 넙죽(넙죽)	nəptʃuk	Behavior Shape Motion	"Nəptʃuk behavior" <KR 20:29> "A naptʃak shape results when one gets down nəptʃuk (makes bowing gesture with hands and torso forward), usually one says nəptʃuk." <KR 20:37> "nəptʃuk…that flat shape results, it is talking about behavior." <KR 20:46>
39. 오긋오긋	ogɨt ogɨt		No Data
40. 우긋우긋	ugɨt ugɨt		No Data
41. 오글오글	ogɨl̩ ogɨl̩	Shape (1st Meaning)	"Ogɨl̩ ogɨl̩ is a bit of a small shape and

		Motion (2nd Meaning) Internal State (3rd Meaning)	ugɨl ugɨl has a bit bigger shape.” <KR 23:50> “My fingers go ogɨl ogɨl, like that (curls fingers, wiggling, with palms upward).” <KR 24:07> “If you see it, it is an especially bad thing…shy and too childish, like that, ‘Ah [that person is] ogɨl ogɨl’ like that.” <KR 24:21>
42. 우글우글	ugɨl ugɨl	Motion Shape	“Bugs go ugɨl ugɨl when there are many of them (makes a downward-oriented wiggling gesture with fingers).” <KR 22:51> “Originally it was about a formation/ shape of insects.” <KR 23:27> “Ugɨl ugɨl like that, when you put something in the fire and it is wrinkled strangely.” <KR 25:15> “The shape of hands, insects, like that…that meaning is ugɨl ugɨl.” <KR 24:35>
43. 꼬치꼬치	k:otʃʰi k:otʃʰi	Behavior See comments section in 4.1	“It isn’t just asking (questions) once, it is asking a lot, so much, so k:otʃʰi k:otʃʰi like that, one by one. To constantly ask, like that.” <KR 26:19> “Digging, like that (makes digging

44. 허분허분	həbun həbun		motions), asking like that.” <KR 26:16> No Data
45. 토실토실	tʰoʃiɭ tʰoʃiɭ	Shape	“It is similar to pʰodoŋ pʰodoŋ.” <KR 26:42> “tʰoʃiɭ tʰoʃiɭ, it seems, is used for people. A person is tʰoʃiɭ tʰoʃiɭ. A baby is especially tʰoʃiɭ tʰoʃiɭ (makes cupped motion with both hands).” <KR 28:19>
46. 투실투실	tʰuʃiɭ tʰuʃiɭ	Shape	“tʰuʃiɭ tʰuʃiɭ has a bit strong meaning compared to tʰoʃiɭ tʰoʃiɭ… if you use tʰuʃiɭ tʰuʃiɭ you don’t like them.” <KR 28:27>
47. 알록알록	aɭ:ok (t)aɭ:ok	Light/ Color	“It’s something with all kinds of colors.” <KR 29:09>
48. 울긋불긋	uɭgɨt puɭgɨt	Light/ Color	“puɭgɨt means dark red color.” <KR 29:48>
49. 얼룩얼룩	əɭ:uk əɭ:uk	Light/ Color	“əɭ:uk təɭ:uk is used like aɭ:ok taɭ:ok but the meaning… isn’t really good, not clean, but a dirty thing.” <KR 31:19> “The original color is lost and a different color is stuck on.” <KR 31:39>
50. 매끈매끈	mek:ɨn mek:ɨn	Tactile	“Something isn’t odoɭ todoɭ, it isn’t uduɭ tuduɭ (rubs back of hand with

			index finger of other hand).” <KR 32:13>
51. 미끈미끈	mik:ɨn mik:ɨn	Tactile	“Mikɨn mikɨn is smooth… you are walking and, woah (pretends to slip) like that, slippery.” <KR 32:28>
52. 번들번들	pəndɨɭ pəndɨɭ	Visual	“One’s face…[has] too much facial oil.” <KR 33:38>
53. 와글와글	wagɨɭ wagɨɭ	See comments in 4.1	

The second speaker described in section 4.1 is speaker M25. Here is the data for M25:

Ideophone (Korean Orthography)	Ideophone (IPA)	Attested Semantic Type	Evidence for Classification
1. 비뚤비뚤	pit:uɭ pi:t:uɭ	Shape	“It’s not a regular line, but like this (shifts two hands back and forth to delineate shifting direction of path).” <T-R 0:20>
2. 대롱대롱	teɾoŋ teɾoŋ	Spatial Orientation Motion	“On the ceiling, this kind of thread…clinging like that (holds a hand in a loose curl below another hand representing a ceiling and swings it back and forth).” <T-R 00:34>
3. 듬성듬성	tɨmsəŋ tɨmsəŋ	Surface Pattern	“When you lose hair, when you lose a lot, there’s [a patch of] hair here and there (touches head with fingertips in different places).” <T-R 00:49>
4. 빡빡	p:ak p:ak	Motion	“An eraser-like thing scrubs b:ak b:ak (places palm downward and pinches fingers together then makes a scrubbing motion).” <T-R 1:06>
5. 더덕더덕	tədək tədək	Surface Pattern	“A ‘postage’ [English,

			trying to say ‘postage note’] is stuck all over.” <T-R 1:36> “Something that is not neatly stuck on (makes circular tapping gestures on the wall to show distribution of attached sticky notes).” <T-R 1:47>
6. 구불구불	kubuɭ kubuɭ	Shape	“The mountain road goes like this: kubuɭ kubuɭ (delineates shifting path with both hands).” <T-R 2:07>
7. 꼬불꼬불	k:obuɭ k:obuɭ	Shape	“Ramen (twisting then curling motion with thumb and forefinger)…and…curly hair.” <T-R 2:25>
8. 희끗희끗	hik:ɨt hik:ɨt	Light/ Color	“It’s not purely white, but now it’s a little between black and white.” <T-R 2:58>
9. 동글동글	toŋgɨɭ toŋgɨɭ	Shape	“Like it says [in Korean this is the word for “circle” repeated twice] (traces a circle with index finger.” <T-R 3:09> “When you use it about people, you’d say their face is toŋgɨɭ toŋgɨɭ.” <T-R 3:13>
10. 포동포동	pʰodoŋ pʰodoŋ	Shape	“When one is a bit chubby (cups hands next to cheeks).” <T-R 3:37> “When it is a bit cute…” <T-R 3:46>
11. 푸등푸등	pʰudɨŋ pʰudɨŋ	Shape	“Plump without the sense of being cute.” <T-R 4:21>
12. 비쩍비쩍	pitʃ:ək pitʃ:ək	Shape	“When you are really emaciated.” <T-R 4:52>
13. 배짝배짝	pɛtʃ:ak pɛtʃ:ak		No Data

14. 비틀비틀	pitʰɨl̚ pitʰɨl̚	Motion	"When one drinks alcohol and is drunk when they go on the road, they do like this pitʰɨl̚ pitʰɨl̚ while they walk." <T-R 5:22>
15. 배틀배틀	pɛtʰɨl pɛtʰɨl̚		No Data
16. 오돌 토돌	odol̚ todol̚	Surface Pattern	"When you look at a tongue () like this, these circular things odol̚ todol̚ are protruding." <T-R 5:47>
17. 우둘투둘	udul̚ tudul̚	Tactile	"A thing that is really big and it is not smooth and has a rough sense to it…it is udul̚ tudul̚ (imitates stroking a surface)." <T-R 6:33>
18. 깜박깜박	k:ampak-k:ampak	Light/ Color (First Meaning) Internal State (Second Meaning)	"A light or stoplight goes k:ampak k:ampak." <T-R 7:05> "Second, my memory…when you forget something." <T-R 7:13>
19. 까끌까끌	k:ak:ɨl̚ k:ak:ɨl̚	Tactile	"When you haven't been shaving (rubs chin with index finger, continues to rub jaw with hand)." <T-R 7:34> "[A] rough sense." <T-R 7:43>
20. 꺼끌꺼끌	k:ək:ɨl̚ k:ək:ɨl̚	Tactile	"A rougher feeling, if you haven't shaved in an even longer time and your mustache/ beard is longer." <T-R 7:59>
21. 소복소복 22. 수북수북	sobok sobok	Shape Tactile	"It snows once, when snow falls that piles up a lot, there is this word sobok sobok piling up." <T-R 8:28> "Sobok sobok is a bit small, smooth, a bit cute?" <T-R 8:49>

	subuk subuk	Sound, Tactile, Shape	"Subuk subuk also you can use in the same way, but this sense…" <T-R 8:43> "There is a very slow and small sound, this sense is subuk subuk, it is a little rougher and bigger." <T-R 8:59>
23. 부풀부풀	pupʰul-pupʰul		No Data
24. 길쭉길쭉	kiɭtʃ:uk kiɭtʃ:uk	Spatial Orientation Shape	"When something is very long." <T-R 9:37> "While one is thin, one is also tall." <T-R 10:12>
25. 어슷어슷	əsɨt-əsɨt		No Data
26. 몽개몽개	moŋge moŋge		No Data
27. 뭉게뭉개	muŋge muŋge	Shape	"A cloud or smoke… smoke billows out (pulls hand apart to show increasing volume)." <T-R 11:07>
28. 다보록다보록	taboɾok taboɾok		No Data
29. 더부룩더부룩	təbuɾuk təbuɾuk	Shape (1st Meaning) Tactile (2nd Meaning)	"I slept and when I got up, my hair was təbuɾuk təbuɾuk." <T-R 11:47> "Not cleanly trimmed." <T-R 11:40> "One's digestion is tobuɾuk (lays hand on abdomen)." <T-R 12:04>
30. 울퉁불퉁	uɭtʰuŋ-puɭtʰuŋ	Shape	"You would say uɭtʰuŋ puɭtʰuŋ about a bent thing." <T-R 12:41> "If you see the street cars drive on, an uɭtʰuŋ puɭtʰuŋ street is hard to ride on." <T-R 12:50>
31. 가물가물	kamuɭ kamuɭ	Light/ Color (1st Meaning)	"At night when you look at the stars…the star's light…when you

		Internal State (2nd Meaning)	don't see it well." <T-R 13:21> "A memory is kamuɭ kamuɭ, a very old memory, it is very far in the past and being recalled, the thought doesn't come well. That is kamuɭ kamuɭ." <T-R 13:45>
32. 아른아른	arɨn arɨn	Internal State	"When a memory doesn't come. This is also an old one, it is a very old memory." <T-R 14:32> "The memory doesn't come, it doesn't return but it is something you want to remember like…my first love I met ten years ago." <T-R 14:40>
33. 어른어른	ərɨn ərɨn	Internal State (1st Meaning) Visual (2nd Meaning)	"You can use it about a memory you recall." <T-R 15:06> "But ərɨn ərɨn is a memory that is not good." <T-R 15:15> "You can also use it when you don't see well, when your eyes don't see well. That far away thing, I don't see it well, my eyes aren't good." <T-R 15:40>
34. 가뭇가뭇	kamut kamut	Light/ Color Surface Pattern	"Black like this dɨmsəŋ dɨmsəŋ (patchy) sense, it isn't purely black." <T-R 16:20>
35. 거뭇거뭇	kəmut kəmut	Light/ Color	"Skin, you would say skin is kəmut kəmut… among my Korean friends my skin is a bit black." <T-R 16:51>
36. 납작(납작)	naptʃak	Surface Pattern	"The sense is level (spreads hands out and in over the same plane)." <T-R 18:42>

37. 넙적(넙적)	nəptʃək	Tactile Shape	"The sense is smooth (with both hands extended makes slow outwards and inwards motions on the same plane in space)." <T-R 18:41> "You can also use it about people's faces." <T-R 18:54> "When the face is wide like this." <T-R 19:33>
38. 넙죽(넙죽)	nəptʃuk	Behavior	"You receive [something] nəptʃuk nəptʃuk." <T-R 20:03> "Directly, just nəptʃuk nəptʃuk directly, given directly to me and directly received." <20:34>
39. 오긋오긋	ogɨt ogɨt		No Data
40. 우긋우긋	ugɨt ugɨt		No Data
41. 오글오글	ogɨɭ ogɨɭ	Internal State	"When you can't deal with something…for example, people compliment me a lot…it is hard to stand." <T-R 21:55>
42. 우글우글	ugɨɭ ugɨɭ	Motion Shape	"When there are lots of ants running all over the place." <T-R 23:09> "This swarm of ants is ugɨɭ ugɨɭ." <T-R 23:17> "The shape of many [ants] together." <T-R 23:20>
43. 꼬치꼬치	k:otʃʰi k:otʃʰi	Behavior	"When one asks a lot of questions about you." <T-R 23:48> "They keep asking and can't take a break <T-R 24:01> "They continually ask questions." <T-R 24:08>

44. 허분허분	həbun həbun		No Data
45. 토실토실	tʰoʃiɭ tʰoʃiɭ	Shape	"Chubby in a cute way." <T-R 24:23> "It's a word used about babies or cute animals." <T-R 24:38>
46. 투실투실	tʰuʃiɭ tʰuʃiɭ	Shape	"It is less cute, it is not cute, but a bit plump." <T-R 24:53>
47. 알록알록	aɭ:ok (t)aɭ:ok	Light/ Color	"aɭ:ok taɭ:ok is when you have many different colors." <T-R 25:16> "Red, yellow, green, blue, they are all together." <T-R 25:29>
48. 울긋불긋	uɭgɨt puɭgɨt	Light/ Color	"Fall leaves, in the fall here in Korea on the mountain, the leaves are yellow, orange, red." <T-R 25:46>
49. 얼룩얼룩	əɭ:uk əɭ:uk	Light/ Color	"It is similar to aɭ:ok taɭ:ok but has a slightly dirty sense." <T-R 26:09> "When the colors are dirty ()." <T-R 26:17>
50. 매끈매끈	mek:ɨn mek:ɨn	Tactile Visual	"This thing (grabs metal water bottle and strokes surface) the surface is not rough." <T-R 26:49> "One uses this about cars, the car's 'design' [English] is like this." <T-R 27:10>
51. 미끈미끈	mik:ɨn mik:ɨn	Tactile Shape	"It seems that mikɨn mikɨn has the same meaning as mekɨn mekɨn." <T-R 27:41> "Also…they use it about a body, a person's body, like that…when speaking, especially a woman's body. As for women's bodies, from

			the waist to the legs that 'line' [English] is mik:ɨnhada…long, not plump….thin and…not too emaciated." <T-R 28:25>
52. 번들번들	pəndɨɭ pəndɨɭ	Visual	"There is oil on your face…that sense." <T-R 29:24>
53. 와글와글	wagɨɭ wagɨɭ	Sound	"Loud and noisy…for example our 'lounge' [English], when you go to…our lounge there are many people, it's noisy." <T-R 29:53>

The last speaker discussed is M24. The data for M24 is presented here:

Ideophone (Korean Orthography)	Ideophone (IPA)	Attested Semantic Type	Evidence for Classification
1. 비뚤비뚤	pit:uɭ pi:t:uɭ	Shape	"This thing…is [about] handwriting…that hand drawn line can't go straight, but comes out a bit slanted." <MR 0:36>
2. 대롱대롱	teɾoŋ teɾoŋ	Spatial Orientation Motion	"When an object is hanging…swinging for a while (clenches one hand in a fist below another one that delineates a flat plane, then oscillates the bottom hand back and forth)." <MR 0:59>
3. 듬성듬성	tɨmsəŋ tɨmsəŋ	Surface Pattern	"Something should be taken out individually…hair…hair strands…when they are a bit plucked out are tɨmsəŋ tɨmsəŋ." <MR 1:24>
4. 빡빡	p:ak p:ak	Visual	"When one's hair is b:ak b:ak, there is absolutely no strands of hair left." <MR 1:45>
5. 더덕더덕	tədək tədək		No Data

6. 구불구불	kubuɭ kubuɭ	Motion	“One cannot go straight, kubuɭ kubuɭ.” <MR 2:16> “For example a river doesn’t go pit:uɭ pit:uɭ, but it flows kubuɭ kubuɭ, handwriting is not written kubuɭ kubuɭ, but it is written pit:uɭ pit:uɭ.” <MR 2:24>
7. 꼬불꼬불	k:obuɭ k:obuɭ	Motion	“It just feels like the same thing [as kubuɭ kubuɭ].” <MR 2:58>
8. 희끗희끗	hik:ɨt hik:ɨt	Motion	“When you look like this, this is to look hikɨt hikɨt (makes sideways glances). You don’t gaze directly, but for a very brief time, a very brief time, like this “glance, have a glance” [English] like that.” <MR 3:06>
9. 동글동글	toŋgɨɭ toŋgɨɭ	Shape	“It has the meaning of a circle, but toŋguɭ toŋguɭ has a cute sense to it.” <MR 3:27> “When you say ‘The spider is toŋguɭ’ it is just round it’s ‘just explanation’ [English] but when you say toŋguɭ toŋguɭ, it is especially ‘emotional’ [English], you dislike it, so ‘It’s toŋguɭ toŋguɭ’, that feeling.” <MR 3:37>
10. 포동포동	pʰodoŋ pʰodoŋ	Shape	“This is fat, but when something is [just] fat, there is a lot of weight, but this one carries a cute meaning.” <MR 3:56> “A cute fatness? Like that.” <MR 4:10>
11. 푸등푸등	pʰudiŋ pʰudiŋ		No Data

12. 비쩍비쩍	pitʃːək pitʃːək	Shape	“pitʃək thin, really thin (places hands parallel to each other and drops them down). It is a word meaning extremely thin when it is used.” <MR 4:28>
13. 배짝배짝	pɛtʃːak pɛtʃːak		No Data
14. 비틀비틀	pitʰɨl̩ pitʰɨl̩	Visual Motion	“One has the appearance of being about to fall…drunk people walk pitʰɨl̩ pitʰɨl̩.” <MR 5:10>
15. 배틀배틀	pɛtʰɨl pɛtʰɨl̩		No Data
16. 오돌 토돌	odol̩ todol̩	Tactile	“This ‘surface’ [English] isn’t smooth but just a bit, slightly, it has a rough feeling almost. Because it isn’t smooth when you feel it, the ‘texture’ [English] you feel is a bit odol̩ todol̩.” <MR 5:31>
17. 우둘투둘	udul̩ tudul̩		No Data
18. 깜박깜박	kːampak-kːampak	Light/ Color	“Turn on, turn off, turn on, turn off. A stoplight goes kːampak kːampak, this (points up at light) goes kːampak kːampak.” <MR 6:04>
19. 까끌까끌	kːakːɨl̩ kːakːɨl̩	Tactile	“Sandpaper.” <MR 6:19> “An especially rough surface, this rough condition.” <MR 6:40>
20. 꺼끌꺼끌	kːəkːɨl̩ kːəkːɨl̩	Tactile	“kːəkːɨl̩ kːəkːɨl̩ is a bit less kːakːɨl̩ kːakːɨl̩ than kːakːɨl̩ kːakːɨl̩…a less ‘rough’ [English] thing.” <MR 6:53>
21. 소복소복 22. 수북수북	sobok sobok	Sound	“This one is really sobok sobok when snow comes down. It is used extremely often with snow…extremely often

	subuk subuk	Shape	[used with] snow, like this () when you walk, the sound is like sobok sobok as you walk." <MR 7:36> "Subuk…it is used often, cut hair, trash subuk (uses two hands to show a hemispherical volume, brings them together and spreads them apart)." <MR 8:01>
23. 부풀부풀	pupʰul-pupʰul		No Data
24. 길쭉길쭉	kiɭtʃ:uk kiɭtʃ:uk	Shape	"It emphasizes people's height." <MR 8:32>
25. 어슷어슷	əsit-əsit	Shape	"Slanted (places two hands next to each other in motions delineating segments of identical length)." <MR 8:55>
26. 몽개몽개	moŋge moŋge		No Data
27. 뭉게뭉개	muŋge muŋge	Shape	"A muŋge cloud, muŋge cloud…like this (pulls hands out and down in 'stepped' motions showing a shape) a cloud formed like that. <MR 9:20>
28. 다보록다보록	taboɾok taboɾok		No Data
29. 더부룩더부룩	təbuɾuk təbuɾuk	Shape	"You use it for when one's stomach is təbuɾuk, they ate and they ate too much, so they are constipated and it looks like they have something here." <MR 10:19>
30. 울퉁불퉁	uɭtʰuŋ-puɭtʰuŋ	Tactile	"This thing, like this surface (undulating gesture with one hand) it's not flat, but 'Rough' [English] like this

			(repeats undulating gesture).” <MR 10:46>
31. 가물가물	kamuɭ kamuɭ	Internal State	“A memory goes kamuɭ kamuɭ, it is used like that often, you can’t remember clearly.” <MR 11:36>
32. 아른아른	arɨn arɨn	Visual	“This is not a memory, it is visual. When something is not visible.” <MR 11:58> “When you don’t see something clearly.” <MR 12:06>
33. 어른어른	ərɨn ərɨn		No Data
34. 가뭇가뭇	kamut kamut		No Data
35. 거뭇거뭇	kəmut kəmut		No Data
36. 납작(납작)	naptʃak	Shape	“It seems like it emphasizes the flatness of the thing (places palms together, one on top of the other).” <MR 12:41>
37. 넙적(넙적)	nəptʃək	Shape Spatial Orientation	“naptʃak is only flat (places one palm down on top), this thing is wide ‘plus’ [English] flat, together (delineates wide, round, bounded area).” <MR 13:01>
38. 넙죽(넙죽)	nəptʃuk	Behavior (1st Meaning) Motion Spatial Orientation (2nd Meaning)	“One receives a greeting nəptʃuk, I receive [something] nəptʃuk, there is that [usage].” <MR 13:17> “Just simply receiving something (scoops in toward self with both hands).” <MR 13:26> “When you bow as a greeting (traditional), you don’t do this, but suddenly….” (lays one palm down, the brings

			other hand down as if it is falling on top of the other hand) <MR 13:29>
39. 오긋오긋	ogɨt ogɨt		No Data
40. 우긋우긋	ugɨt ugɨt		No Data
41. 오글오글	ogɨɭ ogɨɭ	Internal State	"It's a feeling, feeling…for example a man and a woman…can't see each other." <MR 14:16>
42. 우글우글	ugɨɭ ugɨɭ		No Data
43. 꼬치꼬치	k:otʃʰi k:otʃʰi	See Discussion in 4.1	"One by one, seems like the same meaning." <MR 14:47>
44. 허분허분	həbun həbun		No Data
45. 토실토실	tʰoʃiɭ tʰoʃiɭ	Shape	"A baby or a pig, a person…a bit fat, but on the cute side, a word that gives that meaning." <MR 15:04>
46. 투실투실	tʰuʃiɭ tʰuʃiɭ	Shape	"This one is also the same [as above]." <MR 15:19>
47. 알록알록	aɭ:ok (t)aɭ:ok	Light/ Color	"It isn't just one color, but when every color is together it is aɭ:ok taɭ:ok, a rainbow is aɭ:ok taɭ:ok." <MR 15:29>
48. 울긋불긋	uɭgɨt puɭgɨt	Light/ Color	"Fall leaves [the Korean word specifically is about bright autumnal foliage, no direct translation] are uɭgɨt puɭgɨt." <MR 15:47>
49. 얼룩얼룩	əɭ:uk əɭ:uk		No Data
50. 매끈매끈	mek:ɨn mek:ɨn	Tactile	"A surface isn't rough but very smooth (makes stroking motions)." <MR 16:20>

51. 미끈미끈	mik:ɨn mik:ɨn	Tactile	“It seems like the word is used when something is too smooth.” <MR 16:49> “In winter there is ice, so when it is mikɨn mikɨn, it seems a bit like it is not used in a good context.” <MR 17:15>
52. 번들번들	pəndɨl̩ pəndɨl̩		No Data
53. 와글와글	wagɨl̩ wagɨl̩	Sound	“There are many people and a lot of sounds, so you can’t think. That wʰagɨl̩wagɨl̩wagɨl̩wagɨl̩ sound…” <MR 17:42>

Appendix C

The data for section 4.2 on the evaluative nature of ideophones and the basic identity of the light isotope is presented here in table form:

Ideophone (Korean Orthography)	IPA and Isotope	Positive (+), Negaitve (-) Meaning or Form Unknown To Speaker (?)	Evidence for Assignment of Category
1. 비뚤비뚤	pit:uɭ pit:uɭ		
2. 대롱대롱	teɾoŋ teɾoŋ		
3. 듬성듬성	tɨmsəŋ tɨmsəŋ		
4. 빡빡	p:ak p:ak	(-)	"When it turns out difficult it is p:ak p:ak, too p:ak p:ak." <KR 2:48>
5. 더덕더덕	tədək tədək	(?)	
6. 구불구불	kubuɭ kubuɭ (dark)		
7. 꼬불꼬불	k:obuɭ k:obuɭ (light)		
8. 희끗희끗	hikɨt hikɨt		
9. 동글동글	toŋguɭ toŋguɭ	(+) (+)	"When their face is cute it is toŋguɭ toŋguɭ." <T-R 3:21> "It has the meaning of a circle, but toŋguɭ toŋguɭ has a cute sense to it." <MR 3:28>
10. 포동포동	pʰodoŋ pʰodoŋ (light)	(+) (+) (+)	"pʰodoŋ pʰodoŋ has a more cute meaning." <KR 5:45> "When they are a bit cute." <T-R 3:45> "This is fat…but this one carries a cute meaning." <MR 3:57>

11. 푸등푸등	pʰudɨŋ pʰudɨŋ (dark)	(?) (-) (?)	"Plump without the sense of being cute." <T-R 4:21>
12. 비쩍비쩍	pitʃ:ək pitʃ:ək (dark)	(-)	"It is not the normal kind of thin, but too thin, when you don't look good." <KR 6:16>
13. 배짝배짝	pɛtʃ:ak pɛtʃ:ak (light)	(?) (?) (?)	
14. 비틀비틀	pitʰɨl̩ pitʰɨl̩ (dark)		
15. 배틀배틀	pɛtʰɨl̩ pɛtʰɨl̩ (light)	(?) (?) (?)	
16. 오돌 토돌	odol̩ tʰodol̩ (light)		
17. 우둘투둘	udul̩ tʰudul̩ (dark)	(-)	"ɔdoɔl tʰɔdoɔl̩ is small…it has an ok sense in an example, udul̩ tʰudul̩ is a bit noisy/ loud…" <T-R 6:17>
18. 깜박깜박	k:ampak k:ampak		
19. 까끌까끌	k:ak:ɨl̩ k:ak:ɨl̩ (light)		
20. 꺼끌꺼끌	k:ək:ɨl̩ k:ək:ɨl̩ (dark)	(-)	"…but when you say k:ək:ɨl̩ k:ək:ɨl̩, it's not really a good meaning…normally people like smooth things…so the quality is a bit…not good, like that." <KR 10:23>
21. 소복소복	sobok sobok (light)	(+)	"sobok sobok is a bit…small, smooth, a bit cute?" <T-R 8:49>
22. 수북수북	subuk subuk (dark)	(-)	"You say rice is subuk, one also uses this expression, rice is subuk (when) too much has been given." <KR 11:27>
23. 부풀부풀	pupʰul̩ pupʰul̩	(?) (?)	

24. 길쭉길쭉	kiɭtʃ:uk kiɭtʃ:uk		
25. 어슷어슷	əsɨt əsɨt	(?)	
26. 몽개몽개	moŋge moŋge (light)	(?) (?)	
27. 뭉게뭉개	muŋge muŋge (dark)		
28. 다보록다보록	taboɾok taboɾok (light)	(?) (?) (?) (? My Korean Helper for the MR recording also found this form novel)	
29. 더부룩더부룩	təbuɾuk təbuɾuk (dark)	(-) (-) (-)	"When one has indigestion/ is constipated and it is uncomfortable, it is təbuɾuk." <KR 14:14> "When your digestion isn't working." <T-R 12:12> "They ate, and they ate too much, so they are constipated." <MR 10:27>
30. 울퉁불퉁 31. 가물가물	uɭtʰuŋ puɭtʰuŋ kamuɭ kamuɭ		
32. 아른아른	aɾin aɾin (light)	(+)	"A good memory…it doesn't return but it is something you want to remember…my first love." <T-R 14:27>
33. 어른어른	əɾin əɾin (dark)	(-) (-)	"əɾin əɾin is a memory that is not good…[I interject: 'a bad memory?'] you could say a bad memory too." <T-R 15:15>
34. 가뭇가뭇	kamut kamut (light)	(?)	

35. 거뭇거뭇	kəmut kəmut (dark)	(-) (-)	"Also when you aren't well, when one is ill…the skin…turns a bit dark." <T-R 17:22>
36. 납작(납작)	naptʃak (light)	(?)	
37. 넙적(넙적)	nəptʃək (dark)	(-)	"My meaning is that the leg is a bit big, it isn't small and doesn't sound like a cute meaning." <KR 20:10>
38. 넙죽(넙죽)	nəptʃuk (dark)		
39. 오긋오긋	ogɨt ogɨt (light)	(?) (?)	
40. 우긋우긋	ugɨt ugɨt (dark)	(?) (?)	
41. 오글오글	ogɨl̚ ogɨl̚ (light)	(-) (-)	"So the hand was originally like this, and it became like this ogɨl̚ ogɨl̚, so if you see it, it is an especially not good thing...especially. Shy and childish, like that." <KR 24:11> "That won't do [describing a behavior]." <T-R 22:21>
42. 우글우글	ugɨl̚ ugɨl̚ (dark)	(?)	
43. 꼬치꼬치	k:otʃʰi k:otʃʰi		
44. 허분허분	həbun həbun	(?) (?)	
45. 토실토실	tʰoʃil̚ tʰoʃil̚ (light)	(+) (+) (+)	"pʰodoŋ pʰodoŋ and tʰoʃil̚ tʰoʃil̚ have a cute meaning, so…" <KR 26:53> "Chubby in a cute way, like that." <T-

			R 24:23> “A bit fat, but on the cute side.” <MR 15:12>
46. 투실투실	tʰuʃiɭ tʰuʃiɭ (dark)	(-) (-)	“But if you use tʰuʃiɭ tʰuʃiɭ, you don’t like them.” <KR 28:33> “It is less cute, it is not cute, but a bit plump.” <T-R 24:29>
47. 알록알록	aɭ:ok (t)aɭ:ok (light)		
48. 울긋불긋	uɭgɨt puɭgɨt		
49. 얼룩얼룩	əɭ:uk (t)əɭ:uk (dark)	(-) (-) (?)	“But the meaning of əɭ:uk təɭ:uk, the meaning of əɭ:uk isn’t really good, not clean, but a dirty thing.” <KR 31:23> “It is similar to aɭ:ok taɭ:ok, but has a slightly dirty sense, when the colors are dirty.” <T-R 26:09>
50. 매끈매끈	mek:in mek:in (light)	(+) (+) (+)	“It seems usually mekɨn mekɨn has a bit of a good meaning.” <KR 32:07> “The car’s design is like this [I interject: ‘you can heard this in an advertisement?’]. Yeah, in an ad.” <T-R 27:12> “mekɨn mekɨn has an especially () ‘positive’ [English] meaning.” <MR 16:44>
51. 미끈미끈	mik:ɨn mik:ɨn (dark)	(-)	“It is like that. When there is also a good meaning...? It seems like it has the

			meaning of slippery.” <KR 32:28> “It seems like a word used when something is too smooth.. mikɨn mikɨn has a bit of a not good [meaning?].” <MR 16:50>
52. 번들번들	pəndɨl̚ pəndɨl̚	(-) (?)	“There is too much oil, so the face is pəndɨl̚ pəndɨl̚, so the meaning of pəndɨl̚ pəndɨl̚ isn’t really good.” <KR 33:43>
53. 와글와글	wagɨl̚ wagɨl̚	(-) (-)	“Loud and noisy.” <T-R 29:53> “There are many people and a lot of sound, so you can’t think.” <MR 17:42>

Appendix D

For the data examples in sections 4 and 5 I used a number of abbreviations for my glosses. Here is a key to the abbreviations:

ADV- adverb
AUX-auxiliary verb
COMP-complementizer particle
CONJ-conjunction
COPULA-copula
DET-determiner
DO-direct object
EX-existential
EXCL-exclamatory marker
FUT- future
LOC-locative
NEG-negative verb
PAST-past tense
SUBJ-subject
TEMP- temporal marker
TOP-topic