Sounds in Javanese Words: Onomatopoeia, Phonesthemic and Language Logic

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ABSTRACT

The onomatopoeia discussed in this article is specifically those of the Javanese words, such as the words used in Javanese magazines, Djaka Lodang (DJ), Panjebar Semangat (PS), and Jaya Baya (JB). The described Javanese onomatopoeic words were adjusted to the formation process according to Brandstatter’s theory, the onomatopoeic elements can, therefore, be identified. The Javanese onomatopoeic words were analyzed based on qualitative methods, by referring to two techniques of data analysis (Sudaryanto’s method), namely the technique of directly comparing the linguistic elements (which Sudaryanto termed agih), and comparing the elements of language with elements outside the language (‘padan’ equivalent), such as utterances or articulators. The onomatopoeic elements in a number of words can be explained based on the formation of root words derived from sound imitation, the type of sound moving objects and its phonestemic aspects, such as the opposition of the size of the sound, and so forth. In this study there are several types of sound imitation, such as sounds of bursting, friction, rounding, rolling, throwing, falling, slapping, opening-closing sounds, coming out-coming in sounds, absorption sounds, etc. This article provides an evidence for the richness of the Javanese words in terms of the sound imitation. Therefore, not only Japanese and Korean are identical to onomatopoeia, the Javanese language spoken in the Island of Java, Indonesia is quite rich with onomatopoeia, especially the secondary one. In addition, the results of this study will hopefully be beneficial for those doing similar studies.

Keywords:

sounds imitation, Javanese, onomatopoeia, phonesthemics, language logic

Introduction

Javanese is one of the regional languages in Indonesia which has the most speakers, approximately 75.6 million of people (Kisyani, 2009), and has a variety of uniqueness, especially in terms of both phonological and morphological aspects. The uniqueness in terms of the phonemic aspect and word formation, there are found in many words derived from sound imitation or onomatopoeia. Many Javanese words have various ways of forming processes, an initial study as was described by Brandstetter (1957) in his study on word formation of languages in the archipelago. Although Brandstetter has never argued that root word is largely a sound imitation, however, a study undertaken by Sunarya (2017) prove that the successfully identified root words are essentially based on the word formation process, mostly are sound or onomatopoeic imitation.
This far, studies on onomatopoeia has been carried out tends to be in the direct sound imitation form, which is in sound imitation form that remains pure and not associated with the words derivational process. In his dissertation, Sunarya (2017; 2018) studied hundreds of Javanese words derived from sound imitations. His study subsequently proves that Javanese is of highly rich language in terms of the sound imitations or onomatopoeic expressions. The study found that the iconic words to denote the head movements are classifiable into two types of motion. The first, the head movement itself is without involving the other elements; second, the head movement which involves other elements.

The search for sound imitation in Javanese words is greatly facilitated by Brandstetter (1957) results of study, which is about the process of word formation from the root words of languages in Indonesia. The process includes: 1. The root word itself can be formed as a word, 2. The root word is formed by repeating the root word, 3. The word is formed by simultaneously combining two root words, 4. The root word is formed by adding e vowels (protocol vowels) in front of the root word, and 5. The root word is formed by adding performative element before the root word. In Javanese, a study by Sunarya (2018) found typical word formation process that were not found in the formation process as argued in Brandtetter's study above, namely the formation of three-word base words by adding formative element ahead of the repeated root word (e.g.; cethuthuk = ce + thuk-thuk '(being) silent and lazy to do something'), and double formative additions in front of the root words (i.e., besengut = be + se + ngut ‘grim’). Departing from the Brandstetter's theory, Javanese words derived from onomatopoeia are more easily identified.

Studies on onomatopoeia and its phonesthemic aspects has been carried out by Subroto (1981), he addresses the existing words describing small to large quality levels, many of them are exemplified by the words ithir-ithir ‘the sound of small flowing water’, uthur-uthur ‘the sound of a rather large of water flow’, and othor-othor ‘a greater water flow sound. The Subroto’s study proved that the sound i, u, and o has a phonestemic aspect that shows small to large levels. In his study, Subroto analyzed the Javanese onomatopoecic words, in a repeated word form, and did not show the sound imitation form which was the origin of the word formation. Suwatno’s study (2007) identified the onomatopoic roots in Javanese language as many as 142 root words, he unfortunately did not analyze the phonestemic aspects. This paper attempts to formulate the language words formed from sound imitation are described according to the process of their formation. Furthermore, this conceptually elaborates that the sound imitation as the origin of word formers is analyzed according to sound types and their phonestemic aspects. This is to prove that the existing sound imitation in Javanese is quite productive as word-forming, and proves that Javanese is absolutely rich in onomatopoecic words production.

Sasamoto & Jackson (2016) examined onomatopoeia as a communicative phenomenon, its argument refers to the use of onomatopoeia, and how it is communicated. Our main claim is that the onomatopoeia sequence shows something (Wharton, 2009). In their studies, onomatopoeia involves the exploitation of resemblance, and that the non-arbitrary relationship between sound and meaning is the result of speakers’ efforts to
recreate their sensory experiences using sound that provides a fairly faithful representation of their experience. Marie Meinard (2015) distinguishes onomatopoeias from interjection, in her study of metalinguistic discourse, which offers an overview of interjection analysis and explains why onomatopoeias are not interjection. Catherine Laing (2017) mentions that symbolic forms of sound are very common in languages such as Japanese and Korean (cf. Kanero, J., Imai, M., Okuda, J., Okada, H., Matsuda, T., 2014), Laing believed that it is quite rarely onomatopoeic studies are carried out in Indo-European languages such as English. In his research Laing expanded the study of onomatopoeia into a psycholinguistic perspective - words that are considered present in most languages of the world and which are known to be dominant in the baby’s early language dictionary. He performed typologies on infants aged 10 and 11 months who showed processing onomatopoeia acquisition of dog words (e.g., woof woof) rather than general words that referred to the animal (e.g., doggie). However, further analysis shows that input can play a key role in the baby’s experience in acquiring the onomatopoeic words.

This study begins with conceptually identifying the words in Javanese-language magazines found the expressed written sound imitation, i.e., the sound of moving objects. This article, therefore, describes the formation process, and finally the sound imitation as the origin of its formation. After having found the sound imitations of those moving objects, they were then classified according to sound types of the moving objects, and sound imitation is analyzed according to their phonesthemic aspects. This is to explore the uniqueness of the elements of Javanese language that so far have not been revealed by many Indonesian linguists. In addition, this study proves that Javanese is in nature quite productive with the words formation derived from onomatopoeic sounds, an evidence to provide argument that Javanese is literally quite rich with sound imitations, especially the imitation for sound motions.

Research Methods

The research data are in the form of clauses and sentences form taken from three selected Javanese magazines JL, PS, and JB which contain words derived from sound imitation or onomatopoeia. The results of data analysis were further sustained by the Javanese Dictionary written by the Compilation Team of Yogyakarta Language Center (TPBBY). The studies on words derived from onomatopoeia in Javanese designed qualitative method, namely by describing phenomena reflected from the Javanese words, especially those derived from sound imitation. This phenomenon is related to phonemes, word forms, meanings, and forms of icons or symbols. Therefore, this study was theoretically based on the phonological, morphology, semantics, and semiology theories.

The analysis of sound imitation which is the source of word formation, and the resultant word, is used directly in the analysis techniques of elements in the language itself or intralingual (Sudaryanto termed his method with aqih or distributional technique), and techniques that compare elements of language with elements beyond the language or extralingual (padan or identity technique). The direct technique of analysis on linguistic elements itself or intralingual, further exemplified through identifying the onomatopoeia
word formation process, i.e., the word *njeblug* 'explode' (JB. 37.III.5.2010:19.4), morphologically derived from the base word *jeblug* that gets an additional prefix *aN*- (or *N*-); furthermore, the word *jeblug* derived from the sound imitation of *blug* [blug] that gets additional formative *je*, and many more root word formation processes. As for conducting linguistic analysis by comparing the elements of language with extralingual elements, such as word analysis and sound imitation in terms of phonestemics, for example linking certain phonemes in a word or sound imitation with the position or character of place articulation of sounds. In addition, such analytical techniques can be done by comparing words and sound imitations in the frame of the human senses, such as the sense of hearing, sight, smell, touch, tasting, motion, etc.

**Results and Discussion**

Ullmann (1972) has divided onomatopoeia into two parts, the primary and onomatopoeic onomatopoeia. Primary onomatopoeia is a produced sound from imitating other sounds, such as animal sounds, cries of babies or people, etc., The secondary onomatopoeia is the sound produced by the moving objects. Especially with regard to the sound of object motions, in Javanese language many are found in the words that Brandstetter (1957) and Uhlenback (1978) refer as the emotive and expressive nature, or are affective (Sudaryanto, 1989). These words are constructed through deriving the sound imitation from the moving object, to some researchers (Vreede, 1908; Brandstetter, 1957; Uhlenback, 1978; Kets, 1982; Gonda, 1988) refer as root words realized through various derivative processes in root words form. Additionally, sounds of the moving objects are classifiable according to the types of motion, such as bursting, frictive sounds, collisions, throws, absorption, verdicts, faults, incoming sound, outputs, breaking sounds, covers, turns, falls, punches, slaps, etc.

*Sounds of explosion: thek [ṭɛk], bluk [bluk], dhos [ḍͻs]*

The sound of explosion is a sound imitation pronounced by means of the articulator that actively holding the air with pressure on the passive articulator, then the articulator suddenly releases air from the lungs. This explosive sound is characterized by several lethal consonants, such as *b*, *d*, *g*, *j*, *p*, and *t* (Verhaar, 2008). Some examples of Javanese words that are characterized by explosive sounds, such as: *mlethek* ‘sound of a breaking thing’ (PS.23,7/6/14:19.4), *njeblug* ‘sound of explosion’ (JB. 37. Ill.5.2010:19.4), *mblǝdhos* ‘sound of a rather big explosion’ (PS.14.4/4/15:11. 11), etc. The word *mlethek* and the root word *plethek* (*ple* + *thek*), reflect a sound of imitation *thek* [ṭɛk]. The sound *thek* reflects an explosive consonant sound of */t/*, realized through the articulatory tip of the tongue that touches on the hard palate, then suddenly released, giving rise to sounds of explosion. The sound of explosion produces phonestemically from the consonant sustaining the explosive icon on the imitation of the explosion sound. The word *njeblug* ‘a sound of an explosion’ is derived from the word *jeblug* (*je* + *blug*), which expresses a sound of imitation *blug* [blug]. The sound imitation of *blug* usually refers to the sound of a large explosion, such as the sound of a mountain eruption or the sound of a large object falling to the ground. The sound imitation of a large eruption is marked by a sound consonant, namely a consonant */b/
bilabial by pronouncing the upper lip and lower lip meeting closely and getting air pressure from the lungs, then the air is released, causing an explosion. In the word *mbledhos* ‘a sound of an explosion’ is derived from the word *bledhos* (*ble* + *dhos*), which reflects a sound *dhos*. The sound *dhos* is part of the sounds explosion marked by a pheme consonant */d/*, as the sound of the exploding tire of a motorcycle, ball etc. These types of consonants belong to the explosive, because they are pronounced by means of the tongue tip touching the pressure on the hard palate, which suddenly produces air from the lung. The difference between the consonants of */t/*, and */d/* produce from the vocal cords slightly open, while the consonants */t/* with the vocal cords open a rather wide. Thus the consonant phoneme */t/* including voiceless consonants, while the consonant */d/* is a typical voiced consonant. Even though they are both explosive consonants, the two consonants have phonemically different from icons, the consonants */t/* reflects a small sound icon, while the consonant */d/* reflects a greater sound icon.

**The sound of frictions: sreg [srɛg], ret [rɛd], rod [rɔd]**

The sound of friction is a sound produced through the meeting of two objects which coincidently the moving something in opposite directions. The moving of these objects can be produced by moving two objects in opposite directions, however, it can also be produced by one moving object that touches another object that does not move. Some friction sounds in of Javanese words such as the word *disleregake* ‘closing a zipper’ (PS.14.4/4/14: 19.1), in the form of words with affixes *di-* and –*ake*, therefore, the root words are derived *slereg* (*/l-* + *sereg*) that reflects a sound sreg [srɛg] or reg [rɛg]. The sound sreg or reg is a typical friction sound determined by a phoneme of */r/*. Having observed from the way they are articulated, the consonant *r* is a typical vibrating or trill (Verhaar, 2008). The vibration sounds on the consonant are rough or hard typical icons friction, which are usually produced by objects that can be shifted, such as sounds of the opening door, curtains. And then *dieret-eret* ‘being dragged over’ (PS.14.4/4/14: 6.4), in word repetition form (R) by adding an affix *di-* + R (*eret*) that follows the root word *eret* (*e* + *ret*), until the basic sound is found red [rɛd]. As in the aforementioned sound reg, the sound ret also reflects a consonant sound */r/*, they both show a loud friction icon. The sound ret in the word seret, normally set to iconify the heavy moving objects that are forcibly drawn and rub against ground or certain flat objects, such as animals, people, or other heavy objects. The word *keplorod* ‘slip’ (PS.7.13/2/2016: 10.7), is a combination from an affix ke- and the root word *plorod* (plo + *rod*), thus, it is determined a sound word plorod originally derived from rod [rɔd]. The sound rod also reflects a consonant */r/*, which is an icon of friction movement, that usually produced by objects that shift down from the place of origin.

**The sound of collision: prok [prɔk], brag [brag], brok [brɔk], bruk [bruk]**
A collision is a typical movement of the meeting between two objects in the opposite direction of either vertically or horizontally push with high energy, at the meeting point they produce something extraordinary, such as pain in the body, damage to hard objects, loud sounds, and so forth. There are several words designating the sound of clash in Javanese language as found in this object of study (magazine). The word *ndheprok* 'one knocked him/herself down from the floor' (PS.23,7/6/14: 19. 6) is the word with a nasal prefix (N-) which form both active verbs and root words *deprok* (*dhe* + *prok*). The word *deprok* reflects a root sound *prok* [prɔk], and each phoneme supports an object collision icon. The consonant phoneme /p/ is a typical explosion consonant which phonesthemically have small sounds compared to the consonant /b/, and /r/ is a vibrating consonant that has in itself an icon of loud sound, and the vocal phoneme /o/ has a relatively large sound icon compared to vocal phoneme /i/ and /a/, the consonant /k/ as the ending of the sound phonesthemically has a small sound compared to /g/. Thus it can only be said, that the sound *prok* is a typical loud sounds that relatively small when compared with the sound *brog* [brɔg] as its opposition. On the sound *prok* in the word *deprok* is a sound icon produced by foot moving to any direction that collides with the floor or contextually someone drops him/herself on the floor.

The word *ndhobrag* originally derived from the word origin *dhobrag* and the attached prefix N-, on the root word *dhobrag* reflects a sound *brag* [brag] and formative element *dho* (*dho* + *brag*). The sound *brag* is a typical large sound, for it is influenced by voiced consonant phonemes /b/ and /g/, while the consonant /r/ iconifies a loud sound. Thus some consonants sustain the concept of the sound of collision with one other object that is hard. The sound *brag* that formulates the word *dhobrag* is a sound that results from the sound movements of a punch or a hard push against other objects, such as doors and similar objects. Other sounds of collision are the sound variations of the aforementioned *prok* and *brag*, is the sound *bruk* [bruk] on the word *nubruk* ‘catching something with two palms down’ (PS.23,7/6/14: 32. 3), and the sound *brok* [brɔk] on the word *dibroki* ‘getting seated or occupied’ (PS.7.13/2/2016: 2.1), etc.

The sounds of a thrown thing or a fast moving thing: *sat* [sat], *bit* [bit]

Throwing is a hand movement that swings or pushes an object being held with strong force, to be released in a direction where one might want to. The throwing movement is identical to the fast movement that produces particular sounds. There are several words that designate the throwing sounds or fast moving thing sound, as in the word *nyawat* ‘to throw’ (PS.23,7/6/14: 11. 7), *mesat* ‘sped up’ (PS.23,7/6/14: 31. 7), *nyambit* ‘sped up’ ([B. 37.III.5.2010:29.3]), etc. The word *nyawat* is derived from the root word *sawat* that gets an additional prefix N-, and in the root word *sawat* (sa + *wat*) it is found the sound *wat* [wat]. The sound *wat* reflects a sound variation *wet* [wat], *wut* [wut], *bet* [bet], *bit* [bit], *but* [but] etc. The sound *wat* reflects a semi vocal sound /w/, the sound is articulated through the lower lip= that touches the upper teeth (Verhaar, 2008), thus the air circulated from the lung can still come out. Although the air can come out, however, its position might be pressed, the air that comes out is realized from a blow. The blown air is an icon of sound throwing or fast movement. The sound is terminated or stopped by the consonant phoneme /t/, that reflects
a kind of fast movement. The word *mesat* is derived from the word *pesat* (*pe + sat*) that gets a prefix N-, that has a sound *sat* [sat]. The consonant /s/ is a typical fricative consonant, pronounced by means of tip of the tongue bent and slightly attached to the arch of the teeth, so that the air coming out gets pressure (Verhaar, 2008). This pressure produces hissing, this is therefore, can be used to sustain the icon from the fast moving object, especially by terminating the consonant /t/.

*The sounds of absorption or suction: rot [rɛt] or srot [srɛt], sut [sut]*

The sounds of absorption produced from the moving sound when one pulls out something in (generally by mouth) which is generally a liquid or the like. The absorbing mouth or hole is generally relatively small, thus it produces a sound of absorption. A number of words in Javanese language that designate the sounds of absorption are found on the words *nyerot* ‘to suck’ (PS.23, 7/6/14: 36.1), the word *nyusut* ‘to shrink out’ (PS.23,7/6/14: 38.3), etc. The word *nyerot* derived from the root word *serot* and prefix N-. The root word *serot* (*se + rot*) reflects a sound *rot* [rɛt], or it can be the sound *srot* [srɛt], which in forming the root word, it is often articulated by two syllable to become *serot*, moreover if it gets an affix. The sound *srot* reflects a phoneme /r/ is a typical vibrating consonant, it evokes the sense of vibrating sound to the absorbing object. The sound is ended by a phoneme /t/ that evokes a sense of fast. The word *nyusut* ‘to shrink out’ is derived from the root word *susut* with a suffix N-, and the word is a repetition process of the sound *sut* [sut], *sutsut* or *susut*. The phoneme /s/ in such a sound according to its articulation is typical hissing sound. The hissing sound sustains absorbing sound icon as the mentioned sound *srot* above. Thus, the word meaning *nyusut* ‘to shrink out’ has shifted from its basic sound meaning, which is absorption, thus the word meaning is typically associative in nature.

*The sound of things broken off: thel [tɛl], thot [tɔt], dhot [dɔt]*

Broken off (things) is the motion of a separate relationship of an object part(s), such as a string or the like, from one part to two or more parts. This breaking motion generally makes a sound, according to the character of the related object. A rope in Javanese language usually has several sound imitations *thel* [tɛl], *thot* [tɔt], *dhot* [dɔt], etc. The sounds of the breaking off things such as the words *methal* ‘breaking off’ (JB.26.11.2012:15.3), *mbethot* ‘pulling out till break off’ (PS.23,7/6/14: 41.1), *medhot* ‘to break thing off’ (PS.6.6/2/2016: 20.13), etc. The word *methal* derived from the root *pethal* (*pe + thal*), which further reflect a sound *thal* [tɛl]. The sound *thal* is a typical variation of the sound *thel* [tɛl], which each of them has a phoneme /t/ that sustains the sound of breaking motion, since place of articulation is a typical explosive sound. Likewise in words *mbethot* derived from the word sound *bethot*, that reflects a sound *thot* [tɔt], that in itself reflects a phoneme /t/. The sound *thot* has a sound variation *dhot* in the sound word *medhot* ‘to break off’. The two sounds are in opposition, since the phoneme /t/ stays in opposition from /d/, the first is a voiceless consonant that reflects a small nuance, and the second is a voiced consonant that reflects a large nuance. Both large and small meanings sustain the characteristic of a broken object.
**The sound of incoming object: bles [blas], sek [sak], slup [slup]**

The incoming sound that produces from a thing coming from a hole a gap into a part or room of a particular object. Incoming sounds in words like: *blesukan* 'enter roaming into someone else's territory' (DL. 28, 12/12/2015:41), *mblesek* 'get into the mud' (PS.14.4/4/14: 4.2), *ngangslup* 'enter into' (PS.6.6/2/2016: 39.10), etc. The word *blesukan* originated from the root word *blusuk*, which is a combination of between the two sounds *blus* [blus] and *suk* [suk]. Both sounds are typically belong to the incoming sound, where the first sound is the initial sound of the entry process or the opening of a gap in an object, while the second sound is the forwarding process of the first sound. The sound *blus* reflects a consonant phoneme /b/ which reflects a large nuance, it has also a consonant phoneme /s/ which nuances the hissing. The sound *blus* normally resulted by punctures to soft and relatively large objects, such as punctures for vehicle tires, injections for body parts, and others. The sound *suk* in the word *blusuk* is the sound produced by the next process after the sound *blus*, thus in this sense, that the object being inserted which at the beginning of the process produces the sound *blus*, then the pressure process of the stubbing object already inside the stabbed object produces a sound *suk*. For both sounds *blus* and *suk* described earlier, furthermore they are associated with the suffix -an to form the word *blesukan*, which in that sense has shifted from the basic meaning of the two sounds, which designate for "something or someone who likes to go in and out in certain areas or places."

The word *blesek* 'entering of something in the mud or the like', is a combination between the two sounds of *bles* and *sek*. The first and second sounds are sequential processes, as on the word *blesukan* thus the two sounds are of the variations of the sound *bles* and *suk* derived from the word *blusuk*, although the word *blesekan* seems to be rarely found. The word *ngangslup* 'enter or set to designate the sun' is originally derived from the word *angslup* (aN + *slup*) with an additional nasal prefixe N-. The root word reflects sound imitation *slup* [slup], which is the incoming sound for objects that are easily entered into particular objects or places without a hindrance. The concept of easy entry is characterized by the consonant phonemes of /s/ and /l/ that evoke a sense of subtle or slippery meaning. The sound imitation *slup* has a sound variation of *slep* [slap]. The word meaning of *angslup* it has somewhat shifted, since the word is commonly used to designate the sun or the sunset, thus its meaning becomes an association.

**The Sound of out coming object: prot [prɔt], prut [put], brot [brɔt]**

Sounds of out coming things stands in opposition against incoming sound, the sound produced by the movement of objects coming out of a particular place. Some out coming sounds are on the word *nyemprot* ‘to spray out’ (JB. 37. III.5.2010:7), *njaprut* 'showing attitude of grim' (DL. 03, 20-6-2015: 23), *nyebrot* ‘forcefully pull out’ (JB. 37. III.5.2010:27), etc. The word *nyemprot* is derived from the root word *semprot* (aN + *prot*) with additional N-nasal prefixes. The word therefore reflects sound imitation *prot* [prɔt], which is the coming out sound imitation of a a typical floaty liquid, such as water or another liquid. These floaty shades are influenced by consonant phoneme /p/ which is a typical voiceless consonant, and
reflects oppositional sound from the consonant /b/ that nuances heavy, it is therefore, the sound imitation prot stands in opposition from the word brot [brɔt]. The sound of prot this is normally produced by the sound of liquid coming out of a certain place due to the pressure of other elements, such as air or other objects. On the word nyemprot, the sound prot produced by air pressure on water at a certain place, house or mouth. Because the hole where the water comes out is relatively small, it produces the sound prot. The sound brot [brɔt] in the word nyebrot (from the root word sebrot from a combination between two unites se + brot) refers to the sound of moving objects that are different from the aforementioned sounds prot or brot. The difference is on the sound brot on the word nyebrot refers to the moving objects that generally reflect the rope element that forcibly drawn or taken, in that sense it produces a sound like brot.

The sounds of opening or spreading thing: blak [blaʔ], byak [bjaʔ]

The opening sound is the sound produced by the moving objects of being opened. There were found two words that reflect sound of openings, i.e. ngeblak [ŋəblaʔ] (JB.26.IV.2012: 2.1) ‘opening’, and the word ngrembyak [ŋrəmbjaʔ] (JB.37.III.5.2010:29.1) ‘sound of unraveling hairs ‘or’ spreads thickly for plants’. The word ngeblak berasal dari kata dasar eblak [oblaʔ] (e + blak) attaches to the nasal prefix N-, and the word reflects a sound blak [blaʔ], is the sound of a large openings influenced by the use of voiced consonants /b/. The sound blak in the word of imitating the sound of openings of a wide object, such as doors, walls, curtains, etc. As for the word ngrembyak derived from the root word krembyak [krəmbjaʔ] (kreN + byak) with nasal prefix N-, and reflects a sound byak [bjaʔ]. The sound imitation byak to refer to things with heavy or large nuances influenced by the consonant /b/. The sound imitation byak normally used as an interjection by adding the element of mak at the front, mak byak is to describe something widely opened. As for the word ngrembyak, the sound byak is associative meaning, that is something as if open by itself, so that it becomes "wide" or "spread", etc.

The sound of explosion: gem [gəm], kem [kəm], kep [kap]

The sound imitation of explosion is a sound produced by the moving objects that close or close. There are several words that reflects an imitation sounds for closing, such as nggegem [ŋgəgəm] ‘grasping’ (PS.23,7/6/14: 5. 1), mingkem [miŋkəm] ‘ showing a closed mouth’ (PS.23,7/6/14: 6. 1), and ngekep [ŋəkəp] ‘enfolding’ (DL. 30, 26 /12/ 2015 .34). These three words reflect sound imitation gem [gəm], kem [kəm], and kep [kap], and each sound is ended by bilabial consonant phonemes /m/ and /p/. The bilabial consonants are the consonants produced by place of articulations by blocking air in the mouth closing both lips (see Verhaar, 2008). The bilabial consonant phonetically gives a closing icon, according to the process of closing the lips. The word nggegem is derived from the root word gegem + N- by the process of forming a root repetition (gem-gem = gegem). The phoneme consonant /g/ on the sound gem heavy or large nuances, and is in opposite to the sound kem seperti as for the word mingkem, is from the root ingkem (the process of combining formative N- + kem), as for the word nekem ‘grasping’ light or small nuanced. The word
ngekep 'enfolding' is derived from the root word kekep (by engaging the process of repetition on the root kep = kep-kep into kekep), the consonant /k/ on that word is light nuanced.

The sound of falling object: brug [brug], bog [bɔg], gur [gur], plung [plun], tes [tes]

The sound of falling (thing) is the sound imitation produced by the objects of falling into a certain place. This sound of fall is also influenced by both objects and character types of an object, either liquid or solid objects, light or heavy objects, and others. Some words referring falling sounds are like tlebug [tləbuk] (PS.6.6/2/2016: 51.2), jlegur [ʤləgur] (PS.6.6/2/2016: 51.5), cemplung [ʧəmplun] (PS.14. 4/4/2015: 45.5), tetedes [tetoŋ] (PS.23, 7/6/14: 49.7), etc. The words tlebug and jlegur are categorically belonged to the semionomatopoetic words (Sunarya, 2017)\(^1\), since both words can be attached to an additional formative combination with the phoneme /mak, which means a sound imitating a sudden moving object phenomenon, such as mak tlebug ‘suddenly sounded tlebug’ and mak jlegur ‘suddenly sounded jlegur’. The word tlebug ‘imitating the sound of heavy objects falling to the ground’ is derived from a combination with the phoneme te (with an insertion of l) and the sound imitation bug [bug]. Such sounds imitation reflect the phonemes /b/ and /g/ which is a sound consonant and nuanced the heavy or big qualities of the sounds designating things. The word jlegur ‘imitating the sound of a heavy object falling down into water’ derived from the formative combination of je (with an insertion of l) and the sound imitation gur [gur]. The sound imitation produced by a subsequently heavy object falling into the water, and the icon is sustained by the phonemes of /g/ and /ɾ/. The phoneme /g/ is a voiced consonant that illustrates a sound of heavy nuanced, and a phoneme /ɾ/ provides a sense of vibration produced by a heavy object. The word cemplung ‘falling into water’ is derived from a formative combination of ceN to a sound imitation plun [pun]. The sound plung reflects a small nuanced object that can be paired with sound blung which nuanced a heavy sound. This is because the consonant /p/ (is voiceless) which is an opposite of the consonant /b/ (voiced), the sound plung on the word cemplung designates a small object falls into the water. The word netes ‘dripping’ derived from the root tetes and the nasal prefix N-, where the basic word comes from sound repetition tes [tes] into testes or tetedes. The sound tes reflects a lighter or small sound, this is due to the influence of the phoneme /t/, while the phoneme /s/ refers to the hissing sound. The sound imitation tes produced by the fall of a little water (water granules) on top of the other objects, such as soil, rocks, or other objects surface.

The sound of slapping: pluk [pluk], plok [plɔk], plak [plak], bleg [bleg], blog [bɔb]

The sound of slapping produced by the moving hand palm in an opened position and that slaps to another body part, commonly flat, such as cheeks, head, back, thighs, etc. There are several words that reflect sounds of slapping, like nyampluk 'slapping on one's face' (PS.7.13/2/2016: 5), ngoplok 'slapping on one's head' (PS.23,7/6/14: 30), ngeplak 'slapping on flat part of human body' (PS.23,7/6/14: 23), nyambleg 'slapping human's body part' (PS.6.6/2/2016: 41.5), and nggablog 'slapping on one's back of the body' (DL. 30, 26 /12/ 2015.34). The word nyampluk is derived from the root sampluk and a nasal prefix N-. This
root word is derived from a formative combination between saN + pluk, or reflects a sound imitation pluk [pluk]. The sound imitation pluk memiliki variasi bunyi plok [plbk] (on the word ngopllok), and plak [plak] (on the word ngeplak). The difference in vowel phonemes in some of these sound variations shows sound quality, the phoneme /a/ small light quality, phoneme /o/ the quality of small rather heavy, phoneme /u/ to show a small-heavy quality. The sound plok is the opposite of the sound blog and bleg. The opposition is indicated by the phonemic consonants /p/ and /b/, as well as the consonants /k/ and /g/, each shows a mild opposition with weight.

The Language Logic Perspective

Based on the sound aspects analysis on the Javanese words above, it can be seen that most Javanese words are formed from onomatopoeic elements. Words that come from onomatopoeia, from their phonestemic aspects show a strong affective power. Uhlenback (1978) emphasizes the Javanese words tend to be emotive and expressive, especially words that reflect onomatopoeic elements. Gonda (1988) noted that Nusantara language (including Javanese) is seen from the words structure with various formation and development processes that arbitrary, reflect many interjections and show expressive vocal and consonant variations, characterizing the primitive language group. Gonda’s perspective in this case may not be unreasonable, since its classification is based on the expressive language which tends to be dominated by both verbal and non-standard words, such as words made out of the onomatopoeic expressions. The expressive words formed from the onomatopoeia can be explained based on philosophical perspective or language logic.

Language Expressions according to the place of articulation

The place of articulation is a pivotal source for language sounds, this media is absolutely flexible and productive in producing language sounds or phonemes spoken by a speaker to his/her speaking partner(s). Each of the language sounds produced by the utterance reflects certain characteristic in lined with the media characteristic producing it. The lips produce phonemes / b /, / m /, and / p /, according to characters of the closed utterance, the bilabial phoneme placed at the end of the sound expresses something being closed, as found on the phoneme kem [kom] on the word mingkem ‘a closed mouth’, cangkem ‘mouth’, bungkem ‘closing a mouth by hand(s)’, tekem ‘grasping’, etc. the sound keb [kab] on the word ungkeb ‘hot conditions since it [the room] is tightly closed’ or ‘save something by closing’, kekeb or sikeb ‘enfolding’, tangkeb ‘closing tightly’, krekeb ‘instantly closed’, and others. The consonant /p/ is a variation and the opposite of the consonant /b/, and both are homorganic phonemes, the difference is the consonant /p/ produced by positioning the vocal cords slightly vibrating, till it evokes a sense of light or small nuanced, while the consonant /b/ is produced from the vibrating vocal cords which shows heavy or large nuances.

The expression of sounds of vibration, among others like the sound dher [dɛr] on the word jedher ‘suddenly sounded dher, like the sound of kicking against the door and the like; the sound gler [glər] on the word gleger ‘suddenly sounded gler’ such as the mountain
eruption, which tend to use consonant phoneme /r/ at the last of word or sound. The expression of vibration is in accordance with the apico-alveolar tip of the tongue when producing phoneme /r/. Including hissing sounds, like sounds bos [bɔs] on the word nggembos ‘a deflating tire’; the sound tes [tɛs] in the word netes ‘dripping’; the sound pes [pes] on the word kempes ‘deflating’, etc. These words are the hiss expressions of indicated by the phoneme /s/ at the end of the word. The hissing sound is based on the way the articulator produces a sound /s/ that is, the tongue touches the arch of the teeth and created a small gap, it then produces a hiss or fricative sound (Verhaar, 2008).

Among the linguistic expressions adapted to the shape of the mouth are found in the pronunciation of the phonemic vowel, in which the mouth shaped in a round and non-circular. The round mouth shape produces phonemic vowel /o/ and /u/, while the non-circular mouth forms produce phonemic vowel /a/, /i/, /e/, /ɛ/, /ə/. The phonemes /o/ and /u/ to express something holes or circles shaped, such as the sounds long on the word bolong ‘hollow’, jemblong ‘hollow’; the sound pong on the word ompong ‘missing teeth’, mlompong ‘open mouth’; the sound rong on the word gorong ‘hollow’ or ‘ditch’, erong ‘animal dwelling hole’; bung on the word bumbung ‘a piece of bamboo’, kembung ‘stomach filled with wind’ etc.

A non-circular phoneme such as the vowel /a/ is pronounced by the way of the mouth opening wide and as if the right and left sides are pulled back. This mouth position is used to express something wide, large, and open, like the sound blak [bla?] on the word ngeblak ‘opening’, the sound bar on the word jembar ‘large’, the sound plak [plak] on the word njeplak ‘opening’, etc. The vocal /i/ pronounced with a non-circular mouth position and the position of the tongue forward and up (Verhaar, 2008), it produces a small sound or can be paired with a shrill sound. The vocal /i/ can be used to designate something small, like the sound thik [tik] on the word plithik ‘the sound of a little explosion’, sithik ‘a few’, the sound kit [kit] on the word clekit ‘an expression of feeling like being bitten by an ant, etc. The vocal /e/ more specifically is pronounced with [ɛ] can be used to express something thin or flat, like the sound peng [pɛŋ] on the word gepeng ‘thin’, lempeng ‘flat’, the sound yek [yɛk] on the word peyek ‘traditional food in peanut dough and fried flat-shaped flour, etc.

The elaborated description above is comparable with the theory of oral language ‘mouth-gesture theory’. It is stipulated that the the place of articulations tend to move simultaneously with both hands and arms movements referring to sign language or when one uses a tool. In case the movements derived from vocalizations, then the produced sound (identical to sound in an articulated word) that eventually designate meanings identical to the movement. The moving place of articulated is, therefore, recognized by the listener since they are not aware of reproducing the sign in his mind the actual movements that have produced sound (Paget, 1930 and Johannesson, 1949).

Language Expressions inspired by the sense of hearing and developed into symbols
The human senses used to designate sounds of the outside is identical to the sense of hearing. The sense of hearing receives sound from the outside, then being received or digested by the mind to be processed which then produces a meaning. Starting from the hearing process, various sound characters have been recorded in memory, thus it enables listeners to have always identified types of the sound produced by the moving objects or other living things. (With regard to these two types of sound, Ullmann (1972) has classified these sounds into the type of primary and secondary onomatopoeia). In that sense, the sound receivers already have the characters concept of various types of sounds, such as sounds of loud, soft, heavy or large sounds, light or small sounds, etc. In addition to a few examples of those sound characters, the sound receivers may also identify the relationship between the sounds character and the character of objects or living things which produce those sounds. The relationship between objects that produce sounds and the sounds being produced, create the basic concepts developed by both receiver and speaker as icons or symbols in various ways. Additionally, Bühler (1969) emphasized that the concept of "imitating" has initially built a language, then onomatopoeia was a return (from the beginning), for language had developed beyond the primitive needs and means of self-expression.

On the basis of the hearing sense, which develops into a symbol or icon in another case, is related to other parts of human senses, such as the sense of sight, smell, touch, taste, motion, and the sense of feeling, etc. This is in line with Pierce's theory of sign, which stipulates that the existence of three elements in the sign (known as the Peircean Semiotics Model), namely: representament, objects and interpretant as formulated in the triangle sign below.

![Figure 1. Peircean Semiotics Model](image)

Representamen is an element that represents something, an object is something being represented, and an interpretant is a written sign in the mind of a recipient. A representament forms a sign in the recipient's mind, a sign is also equivalent to a sign or it can also be a sign in a developed form (Noth cited in Zaimar, 2008). The following is a developed form of sign, such as sound *byar* [bjar] which is a fraction sound, symbolized in the sense of sight into a word *gebyar* [gəbjar] ‘looks bright ’; the sound *bok* [bok] which is the sound of falling heavy objects, is iconified into the senses of moving hand into the word *tabok* [tabo?] ’slapping on one’s back side’; the sound *yer* [jar] which is sound of a round object, iconified in the senses of feeling into the word *nggliyer* [ŋglijər] ‘Head feels spinning or dizzy ’; the sound *set* [sat] which is the sound of a sudden cessation, iconified in the senses of touching into the words *keset* [kəsat] ‘non-slippery surface’; the sound *dheg* [ðəg] which is a heavy pounding sound, iconified by a sense of smell into the word *badheg* [baðəg] ‘very pungent smell ’; on the sound *plang* [plan] which is a light clink, iconified by the sense of tasting into the word *cemplang* [ʧəmpləŋ] ‘insipidness’, etc.
The research data are in the form of clauses and sentences form taken from three selected Javanese magazines JL, PS, and JB which contain words derived from sound imitation or onomatopoeia. The results of data analysis were further sustained by the Javanese Dictionary written by the Compilation Team of Yogyakarta Language Center (TPBBY). The studies on words derived from onomatopoeia in Javanese designed qualitative method, namely by describing phenomena reflected from the Javanese words, especially those derived from sound imitation. This phenomenon is related to phonemes, word forms, meanings, and forms of icons or symbols. Therefore, this study was theoretically based on the phonological, morphology, semantics, and semiology theories.

The analysis of sound imitation which is the source of word formation, and the resultant word, is used directly in the analysis techniques of elements in the language itself or intralingual (Sudaryanto termed his method with agih or distributional technique), and techniques that compare elements of language with elements beyond the language or extralingual (padan or identity technique). The direct technique of analysis on linguistic elements itself or intralingual, further exemplified through identifying the onomatopoeia word formation process, i.e., the word njeblug ‘explode’ (JB. 37.III.5.2010:19.4), morphologically derived from the base word jeblug that gets an additional prefix aN- (or N-); furthermore, the word jeblug derived from the sound imitation of blug [blug] that gets additional formative je, and many more root word formation processes. As for conducting linguistic analysis by comparing the elements of language with extralingual elements, such as word analysis and sound imitation in terms of phonesthematics, for example linking certain phonemes in a word or sound imitation with the position or character of place articulation of sounds. In addition, such analytical techniques can be done by comparing words and sound imitations in the frame of the human senses, such as the sense of hearing, sight, smell, touch, tasting, motion, etc.

Conclusion

The sounds imitation operated as the sources for onomatopoeic words formation found in Javanese magazines described in the discussion, revealed of how close is the Javanese people to sound imitation, especially sound imitation of the moving objects. By referring to Brandstetter’s theory of Javanese language onomatopoeic formation, sound imitation and sound of the moving objects can easily be identified. Any sound imitation can be explained about the type of imitation of the movement of objects, such as: the sound of falling motion, punches, bursts, friction, rotation, throws, openings, closures, etc. Having identified the phonesthemic aspects of sound imitation in Javanese words, almost every phoneme in those sounds hold an important function to construct quality of the things that produce the sounds, such as heavy, large, light, small, smooth, rough, fast, etc. Various forms of sound onomatopoeia and word formation that construct the onomatopoeia in Javanese words can be explained by logic or language philosophy. First, based on the position of the place of articulation with various pronunciation characters, speakers can visualize and iconify them according to the various sound of moving objects as a reference. Second,
according to the auditory sense experience, speakers can form symbols or icons in various aspects of the other senses, according to the meaning they wish.

ENDNOTES

1 Most theories about the origin of language have been constructed from onomatopoeic phenomena, as elaborated on a number of theories such as bow-wow' (formulated by Herder, 1772) (see Müller, 1861); from the motional assumption, (formulated by Herman Paul, according to Fano, 1962), other theories like divine origin', (formulated by Süssmilch, 1767) or “pooh-pooh theory” (formulated by Rousseau, 1822).

2 Semionomatope is a term formulated to compare between onomatopoeia and nononomatope. Onomatopoeia is a complete sound imitation, while the nononomatope is a sound imitation that has developed into an ordinary word and its onomatopoeic properties have been combined, while the semionomatope is a sound imitation that has become a word but the onomatopoeic nature remains clear (Sunarya, 2017).

Bibliography


