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## ABSTRACT

Reduplication is a significant and conspicuous phenomenon in language studies. Languages around the world, especially in Asian languages, employ reduplication, that a root or stem or part of it is repeated, to express various meanings. For example, in Indonesian, reduplication indicate a plural (*anak* 'child' > *anak-anak* 'children'). In Taiwanese and Japanese, reduplication can convey augmentative degree of the root (Taiwanese: *an* 'red' > *an-an* 'red-red', Japanese: *aka* 'red' > *aka-aka* 'very red') and it can express diminution in Cantonese (*hung4* 'red' > *hung4-hung2 dei2* 'reddish').

Previous studies on Thai full reduplication indicate that reduplication attaches some additional meaning to the root, for example "plural", "not specific", "partitioning", and "emphasis" (Bhandhamedha 1971, Naksakul 1962, Chinachoti 1973). Based on the study on the contemporary corpus, it is found that reduplication serves various functions and conveys several meanings in current Thai language as expressed below. A symbol 'Mai Ya Mok' (๑) is always used to produce a reduplicated sound/word of the preceding word.

- a) Plural/generalize  
เด็กๆ อ่านหนังสืออยู่ในห้อง [เด็ก 'child' > เด็กๆ 'children']  
*Children* are reading books in the room.
- b) Plural/distribution (to express the meaning of plural and divide among several things)  
ก้าวไปช้าๆ อย่างมั่นคง ทุก ๆ ก้าว [ทุก 'every' > ทุก ๆ 'each in every']  
Step slowly with steadiness in *every* step.
- c) Distribution (to express the meaning of distribution, or one by one)  
เดินเข้ามาในห้องเป็นคนๆ [คน 'one' > คนๆ 'one by one']  
Walk into the room *one by one*.
- d) Iterative/continuative (to express the repetition of action)  
แสงไฟติ๊ดๆ ต๋ิบๆ ตามข้างทาง [ติ๊ด 'on' > ติ๊ดๆ 'on on', ต๋ิบ 'off' > ต๋ิบๆ 'off off']  
The light is blinking.
- e) Increase degree  
ฉันเป็นคนที่ชอบถ่ายรูปมากๆ [มาก 'much' > มากๆ 'very much']  
I like taking photos *very much*.
- f) Decrease degree (show the reduction of meaning of the word)  
เขานั่งอยู่กลางๆ ห้อง [กลาง 'in the middle of' > กลางๆ 'quite in the middle']  
He is sitting quite in the middle of the room.

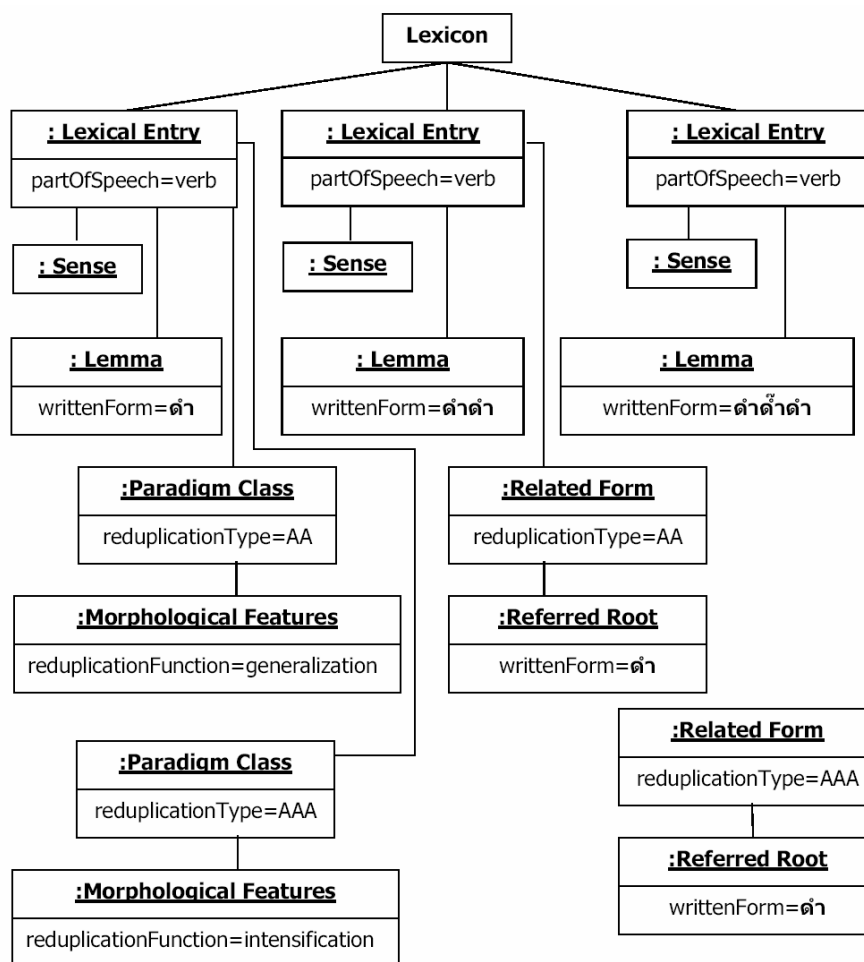
It is also found that some reduplication forms convey definitely different meaning of the base in which they are analysed as different words. In addition, the meaning of Thai Reduplication depends on the meaning of the whole token as shown in the following example. *ดำๆ* (*ดำ* 'black' > *ดำๆ* 'black black') in the declarative utterance, expresses the decrease degree or generalization, while it expresses the increase degree in imperative utterance.

ทาสีกำแพงให้ดำๆ Paint the wall (some more) black.  
เขาซื้อเสื้อตัวสีดำๆ นั้น He bought that blackish shirt.

The representation of the reduplication in the lexical repository is one another focus of our study. We represent the semantics of the term with the Lexical Markup Framework<sup>1</sup>. The study comes up with two ways of representation. 1) Representing as a new term for the reduplication form which has no related meaning to the base. And 2) Indicating the link between a base form and its derived forms for the reduplication which has some related meaning to the base. An operation of deriving a reduplication form and the effect of its reduplication are separating. The former is described as an attribute 'Reduplication\_type' and the latter as an attribute 'Reduplication\_function' in Morphological Feature Class. And the link between a base form and reduplication form are described by the shared attribute 'Reduplication\_type' in Paradigm Class under the base form, and in Related Form class under the reduplication form. The following graph illustrated the reduplication term (*ดำ* 'black' > *ดำๆ* 'blackish').

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<sup>1</sup> Lexical Markup Framework is high level model for representing data in lexical databases used with monolingual and multilingual computer applications, proposed to ISO International Standard.



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### References

- F. Bertagna, A. Lenci, M. Monachini, and N. Calzolari. 2004. The MILE lexical classes: Data categories for content interoperability among lexicons. In T. Declerck et al., editor, A Registry of Linguistic Data Categories within an Integrated Language Resources Repository Area, LREC2004 Satellite Workshop, Lisbon, Portugal.
- ISO2006. Language resource management – Lexical Markup Framework (LMF), ISO/TC 37/SC4N130 Rev. 13, ISO CD24613:2006.
- K. Chinachoti, 1973. "A Comparison on One type of Reduplication in Thai and Cambodian" Master's Thesis, Chulalongkorn University. (in Thai)
- K. Naksakul "A Study of Cognate Words in Thai and Cambodia" Master's Thesis, University of London, London, 1962.
- N. Bhandhumedha, 1971. Thai Usage. Bangkok. pp. 62-67. (in Thai)
- S. F. Chung, K. Hasan, T.J. Jiang, S. Lee, I-L. Su, L. Prevot and C.R. Huang. 2006. Extending an international lexical framework for Asian languages, the case of Mandarin, Taiwanese, Cantonese, Bangla and Malay. Taipei: Academia Sinica. pp. 87-94.
- T. Charoenporn, V. Sornlertlamvanich, and H. Isahara. 1997. Building a Large Tai Text Corpus – Part of Speech Tagged Corpus: ORCHID. In proceedings of the Natural Language Processing Pacific Rim Symposium, pp. 509-512.
- T. Tokunaga, V. Sornlertlamvanich, T. Charoenporn, N. Calzolari, M. Monachini, C. Sonia, C.R. Huang, Y. J. Xia. 2006. Infrastructure for Standardization of Asian Language Resources. Proceedings of the COLING/ACL 2006, pp. 827-834.