

CONSONANT CLUSTERS IN INDONESIAN LOANWORDS

Ekarina

Universitas Katolik Indonesia Atma Jaya, Jakarta, Indonesia
E-mail: ekarina.winarto@atmajaya.ac.id

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Abstract

This paper investigates two types of loanwords in Indonesian from a list published by NUSA in 1997 and the online version of *Kamus Besar Bahasa Indonesia (KBBI, 2019)*: those of Sanskrit origin, and of European origins. When languages borrow words from one another, they may employ various strategies in dealing with unfamiliar sounds and/or sound combinations. Overall, the study is conducted by means of descriptive qualitative method, having a focus on corpus research. Specifically, this research is concerned with the handling of syllable-initial consonant clusters that is not present in native Indonesian words. The two different patterns dealing with consonant clusters in loanwords are 1) The tendency for consonant cluster preservation in European loanwords; and 2) The tendency to insert a vowel sound to break up consonant clusters in Sanskrit loanwords. It happens due to the differences in the time frame and scope of Sanskrit and European language influences in Indonesia. The results show that onset consonant clusters have become a definite marker of loanwords in Indonesian

Keywords: *consonant cluster; language contact; loanword; phonology; phonotactics*

1. Introduction

This paper explores loanword phonology in Indonesian. The loanwords are now listed in *Kamus Besar Bahasa Indonesia (KBBI, 2019)* but they are adapted or taken from foreign languages. The study of loanword is fascinating because different languages have different sound inventories and phonotactic rules. They allow different sound combinations in different positions (Kang, 2011). The voiceless, fricative, dental sound /θ/, for example, is in the sound inventory of English, but not Indonesian. Similarly, English allows more complex consonant clusters – consonant sequences with no interfering vowels - in the syllable final position, as seen in words like *contexts*, *strengths* and *angsts*. This is not as common in Indonesian.

When languages borrow words from one another, they may employ various strategies in dealing with unfamiliar sounds and/or sound combinations. Various studies on many different languages have been conducted to look into these different strategies. See Scherling (2013) for German and Japanese; Nguyen (2017) for Vietnamese; Khan, Rizvi, & Farooq (2020) for Urdu; Beel & Felder (2013) for Turkish and Endarto (2015) for strategy comparisons between Indonesian and Thai. Loanword adaptation studies specifically in Indonesian can be referred to the works by Supeni & Fauziah (2018), Prasetyani (2020), and among others.

When borrowing a word from English, a language like Indonesian might adapt the /θ/ sound and replace it with the closest available sound: the alveolar plosive /d/. To deal with syllable-final complex consonant clusters, Indonesian might reduce the consonant cluster, giving us *konteks*, instead of the English *contexts*. In this paper, another popular strategy is explored and used to deal with consonant clusters in loanwords, namely vowel epenthesis. It is a strategy that utilizes insertion of a reduced vowel in between consonant sounds to break up the consonant sequence. In non-standard Indonesian, for instance, we often get words like *setres*, or even *seteres*, instead of the standard *stres*. This is an alternative strategy used in lieu of consonant cluster reduction to deal with complex consonant clusters that are uncommon in Indonesian. In fact, vowel epenthesis is one of the most popular strategies used by languages that disallow consonant clusters when adopting foreign words. This is also seen, for example, in languages like Japanese (Yazawa et al., 2015) and in Indo-European languages (Blevins, 2017).

The present study looks at the adaptation of syllable-initial (Onset) consonant clusters – as seen in the *stres* example above – in loanwords adopted into standard Indonesian. Specifically, two types of loanwords are interesting to examine: those of Sanskrit origin, and those of European origin. The former borrowings happened mainly at the height of the Srivijaya empire, while the latter happened much later during the Dutch colonization era and continues today as English becomes the world's lingua franca. In section 2, these respective different periods of word borrowing are briefly highlighted, as well as the scope of these borrowings. In sections 4, the findings are discussed based on data from the KBBI (2019) and NUSA's (Jones, 1984) on Sanskrit Loan-Words in Indonesian list. This paper shows that consonant clusters are dealt with differently in these two different groupings of loanwords.

2. Literature Review

2.1 Sanskrit and European Influence on Indonesian

The Sanskrit language was the first language to ever make a big impact on the languages in Indonesia. There are records that the earliest traders from Kalinga (Eastern India) reached Southeast Asia by 200 BC. By the 7th Century, kingdoms around Sumatra and Java in Indonesia were formed as centers of Buddhist expansion. The biggest and most important of such kingdoms was Srivijaya, centered around the area that is today known as Jambi in Sumatra. In Sanskrit, *sri* means fortunate, prosperous or happy. *Vijaya* means victorious or excellence. The existence of *Srivijaya* itself was relatively unknown until Dutch scholars researched for it in the early 20th century. However, this search for *Srivijaya* led to the findings of many old artifacts from as early as the 7th century, several of which were early Malay inscriptions, still in the form of Old Malay that mostly contain information and praise for the Kings of Srivijaya. Most of these inscriptions were written in the Pallava, Nagari or the Indian-influenced Old Sumatran scripts, but most importantly it showed that Old Malay (4th - 14th C) already had a lot of Sanskrit influence, especially in vocabularies connected to religion and government (Jones, 1984). During this early period until the arrival of Islam and the European colonialists, Sanskrit had practically free reign in influencing the languages in Indonesia and loanwords from Sanskrit that survive in the Indonesian language today are mostly perceived as native Indonesian words by native speakers (Maneechukate, 2014; Wuriyanto, 2015).

As contact with Sanskrit, then Arabic and the European languages, grew extensively, especially after the Dutch colonization in the 18th century; more loanwords made their way

into the Indonesian vocabulary. Lev-Ari, San Giacomo, & Peperkamp (2014) state that a necessary condition for interlingual influence is the presence of bilingual individuals and by this it is easily understandable why we have such a strong influence of European languages, especially Dutch in Indonesia. Just like the Indian merchants and religious leaders in the Sanskrit era, the European colonial masters also brought with them new concepts and technologies, for which there were no vocabulary words present in the native tongue. However, the Europeans came in much bigger numbers, settled down and intermarried with locals and systematically governed the whole region. Their influence was so extensive, that there are records of a number of considerable Portuguese-creole speaking communities in Indonesia until well after the colonization period was over. The Dutch also established schools and even though Malay was the language of the government, the modern Latin alphabet used to write Indonesian was introduced by the Dutch. As such, it is not surprising that the Indonesian spelling system is strongly influenced by Dutch phonology.

Today, various European languages – mainly English – continues to assert influence on the vocabulary of Indonesian as we progress towards a global world. Unlike Sanskrit that was mainly present in religious and literary texts, the domain of Dutch influence on Indonesian during the colonialism era extended into governance and everyday life. Similarly, English today has a strong presence in new trends and everyday life. As such, it is to be expected that Indonesian would actively adopt many loanwords from both Dutch and English. Comparable effects of social and power relations on the rate and adoption of loanwords are seen on Turkish Bilinguals (Aktürk-Drake, 2017) and in a laboratory experiment with French speakers (Lev-Ari & Peperkamp, 2014).

2.2 Consonant Cluster in Indonesian

Unlike Sanskrit and European languages, Indonesian is a language that tends to heavily favor simple syllable structures. Consonant clusters, in onset or coda positions are disfavored, but with the adoption of many loanwords from many other languages, the restriction on onset consonant clusters seems to be going away. Gathering data from various resources on the Phonology of Indonesian, it seems that there is a general agreement in the literature. There are 11 kinds of syllable structures allowed in Indonesian: (1) Vowel (V) - as in *a-mal*, (2) VConsonant (C) - as in *ar-ti*, (3) CV - as in *pa-sar*, (4) CVC - as in *pak-sa*, (5) CCV - as in *slo-gan*, (6) CCVC - as in *trak-tor*, (7) CVCC - as in *teks-til*, (8) CCCV - as in *stra-te-gi*, (9) CCCVC - as in *struk-tur*, (10) CCVCC - as in *kom-pleks*, (11) CVCCC - as in *korps*. The syllable structures (6-11) are mostly found in loanwords from other foreign languages and sometimes a schwa /ə/ can be inserted to break up the consonant cluster in the pronunciation. So, *slo-gan* might be pronounced as *selo-gan* in speech, especially by speakers who are less proficient in English.

3. Research Method

In this study, corpus research was conducted by using the online version of the KBBI (2019) and a list of Sanskrit loanwords in Indonesian published by De Casparis (1997) to look for possible consonant clusters in Indonesian, as well as strategies for adapting consonant clusters in Sanskrit loanwords. Overall, the data were analyzed qualitatively to expose the social phenomena (Creswell, 2013) in the use of loan words in Indonesian.

4. Results and Discussion

The following table lists are examples of possible onset consonant clusters in the language, as found in the KBBI (2019).

Consonant cluster	Examples
/pl/	plastik 'plastic'
/bl/	blangko 'empty'
/kl/	klunik 'clinic'
/gl/	global 'global'
/fl/	flamboyan530 'flamboyant'
/sl/	slogan 'slogan'
/pr/	pribadi 'private'
/br/	obral 'sale'
/tr/	tragedi 'tragedy'
/dr/	drama 'drama'
/kr/	kristen 'christian'
/gr/	gram 'gram'
/fr/	fraksi 'fraction'
/sr/	Sriwijaya 'Sriwijaya kingdom'
/ps/	psikologi 'psychology'
/dw/	dwidarma 'double responsibility'
/kw/	kwintal '100 kg'
/sw/	swadaya 'own power'
/sp/	spontan 'spontaneous'
/st/	studio 'studio'
/sk/	skala 'scale'
/sm/	smokel 'smuggling'
/sn/	snobisme 'snobbish'
/spr/	sprei 'bed sheets'

/str/	stres 'stress'
/skr/	skripsi 'thesis'
/skl/	sklerosis 'sclerosis'

Table 1. Possible Consonant Clusters in Indonesian

These consonant clusters exist in the KBBI (2019) online database and are frequently used by native speakers and such vocabulary items are mostly loanwords that originate from the various foreign languages in contact with Indonesian. In fact, such vocabulary items largely come from European languages such as Dutch, and English.

European languages like Portuguese, Spanish, Dutch and English tend to have complex consonant clusters in the syllable (as opposed to Indonesian), yet words borrowed from these languages often (although not always) retain their original complex consonant cluster in the Indonesian language. The followings is an additional small sample of these borrowed words: *brosur* (Du. *brochure*) 'brochure'; *blek* (Du. *blik*) 'tin'; *taplak/tapelak* (Du. *tafelaken*) 'tablecloth'; *aktris* (Du. *actrice*) 'actress' (Jones, 1984). From this we see a clear mix of strategy for dealing with onset consonant clusters for these new set of European vocabulary. In non-standard form, we might get words like *tapelak*.

On the other hand, Sanskrit loanwords show a tendency of schwa /ə/ insertion to break up Onset consonant clusters. Let us now look at a small sampling of Sanskrit loanwords: *sastra/sastera* (Skt. *sastra*) 'literature'; *selesma* (Skt. *slesman*) 'cold'; *cedera* (Skt. *chidra*) 'defect/hurt'; *menteri* (Skt. *mantri*) 'minister'; *tentera* (Skt. *tantra*) 'army'; *anugerah* (Skt. *anugraha*) 'blessing.' (Jones, 1984). We can see from this sampling, that there is schwa-insertion in the onset consonant clusters of the loanwords, even though these consonant clusters are all now acceptable in the Indonesian language, as we can see from the table above. For instance, we get the form *menteri*, instead of *mentri*, even though the "tr" consonant cluster is accepted in European loanwords like *tragedi*. Thus, I have to conclude from this that the acceptance of consonant clusters in Indonesian is a fairly recent phenomenon, not present at the time the Sanskrit words were borrowed into Indonesian.

Even more interesting is the fact that Dutch loanwords like *blek* or *brosur* are never written as *belek* or *berosur*. Thus, not only is schwa-insertion not always adopted, sometimes it is even wrong to adopt this rule to break onset consonant clusters for European loanwords. This is very different from Sanskrit loanwords that have onset consonant clusters like *mantra* or *sastra*, which can (albeit more old-fashioned) be written as *mantera* or *sastera* (Jones, 1984; Batais, 2013). From this, we can see that the acceptance of onset consonant clusters in the Indonesian language must be a fairly new "trend". The trend happened after the arrival of the Europeans in the Dutch East Indies. Considering the widespread nature of the Dutch language and the influence of Dutch phonology on the Indonesian Latin alphabet system, it is not surprising that consonant clusters would slowly enter into the Indonesian phonological system.

We can deduce that with the advent of globalization, European languages like English gained even more prestige and as more people are exposed to it in everyday media, schwa-insertion as a way of breaking up consonant clusters became obsolete; and gave way to the "fancier" consonant clusters of the Western tongue. In the official *Tata Bahasa Baku Bahasa Indonesia* (Alwi, Dardjowidjojo, Lapoliwa, Moeliono, 1993) released by the Indonesian ministry of education and culture, it is just briefly mentioned that the consonant clusters

explained in Table 1 are allowable in the Indonesian language. In the latest spelling reform contained in the *Ejaan Yang Disempurnakan (EYD)*, compiled by the Ministry of Education and Culture, these loanwords are more explicitly addressed; and there is clearer guidance on how to deal with some of the consonant clusters I have listed in Table 1.

Of course, it cannot be forgettable that even with the Dutch loanwords mentioned here, there have been periods of spelling uncertainties. Older texts have written electricity as “*listerik*,” actress as “*akteris*,” and many more. However, since the influence of European words continues today, with the influx of similar sounding English words, we can understand why there is a move towards adopting the spelling convention that is closest to the original borrowed words. With Sanskrit, however, the situation is very different. After its disappearance, the Kingdom of Srivijaya was forgotten for centuries. Then, after the arrival of Islam, Sanskrit influence was weakened to the point of being negligible. There was never any Sanskrit resurgence, so all Sanskrit borrowings can only stem from one specific era, namely before the 10th century (from the era of Srivijaya). Thus, if we assume that all Sanskrit loanwords with consonant clusters were borrowed into the language with the adoption of schwa-epenthesis, then we would expect that no Sanskrit loanword in the language would contain any consonant cluster. However, as alluded briefly above, we can and do have Sanskrit loanwords with the modern consonant cluster spelling: *sastra* “literature,” *cakrawala* “sky”. There are also Sanskrit loanwords that have retained the schwa epenthesis and are likely to be stable in their spelling like “*cidera*,” “*selesma*” and “*tentera*” (see above for meaning and the original Sanskrit). This presents a really odd dichotomy that is not present in the European loanwords, that are all moving away towards adopting proper consonant clusters.

If Sanskrit loanwords systematically adopted schwa-insertion for consonant clusters, there is no way, by the time consonant clusters became regularly acceptable in Indonesian (which is a recent phenomenon that dates even more recent than the Indonesian independence). There can be a repair mechanism that would “reconstruct” the consonant cluster because by that time, there would have been no more indication that these words are loanwords. At this point, it can be concluded that due to the non-standardized spelling convention, some words might have survived as loanwords in both forms, with and without consonant clusters in different texts, depending on the writer (thus allowing for some sort of “correction” when the schwa-epenthesis variant of European loanwords became obsolete). Daland, Oh, & Kim (2015) and Garley (2014) find that orthography does tend to influence loanword Phonology in Korean and German, respectively, supporting this hypothesis. Also, important to note, is the fact that many Sanskrit words came into Indonesian through Old Javanese, which has a much more complete written history compared to Old Malay. As such, the phonology of Javanese might have also played a role in determining the outcome of the Sanskrit loanword in the Indonesian language today (Supriyadi, 2011).

5. Conclusion

From the preliminary finding, it seems that there are two opposing trends in the expansion of onset consonant clusters in the language. One trend obviously shows some tendency of its “spread,” but another trend seems to show some “resistance” to onset consonant clusters. While inconsistencies in loanword adaptation is attested in other languages (Wang, 2022; Mao & Hulden, 2016). Through this work, it is shown that this inconsistency seen in Indonesian can be generally explained by the etymology of the specific loanwords. It would be very interesting to conduct more surveys on this matter to get a

much clearer picture on the issue. It is very interesting to note that from this case of Indonesian onset consonant clusters, we can deduce somehow that the allowable syllable structure in a language can be rather fluid as something foreign; for instance, consonant clusters can make its way into a language by way of loanwords. This research is planned to expand by checking native speaker intuition on these consonant clusters.

As a preliminary, a little test on a friend was performed to check on native speaker's awareness of the different loanwords from different languages. This friend is Indonesian, but she has been studying in the US for a few years and speaks English fluently. Therefore, the test was proceeded to give her a small list consisting of 5 loanwords from English, Dutch and Sanskrit: *infrastruktur* (Eng. infrastructure); *sekring* (Du. *zekering*); *listrik* (Du. *elektrisch*) 'electricity'; *gembira* (Sa. *gembhira*) 'happy'; *pala* (Sa. *phala*) 'nutmeg.' Then, she was asked to identify borrowed words from the list. She immediately pointed out *infrastruktur*, but upon further hint, there is more than one loanword. She proceeded to ponder about the possibility of *sekring* being a borrowed word from Dutch. While we might be tempted to dismiss this as an effect of her familiarity with only English out of the 3 foreign languages. Her reaction of revealing that *gembira* and *pala* were also borrowed words was very interesting. She asked if any Indonesian word is really native if even those two words are borrowed. Despite her unfamiliarity with Dutch, she was ready to accept that *sekring* and *listrik* are both loanwords, but she was unable to reconcile the fact that the other 2 loanwords left from Sanskrit borrowing are actually loanwords. Considering the fact that she knew neither language, the only possible marker that differentiates the two groups of words is the presence of onset consonant clusters in the Dutch loanwords and its absence in the Sanskrit loanwords. This shows that onset consonant clusters are still subconsciously a definite marker of loanwords in Indonesian, and an experiment of this sort in a larger scale might shed some interesting fact on the status of onset consonant clusters in Indonesian.

References

- Aktürk-Drake, M. (2017). Language dominance as a factor in loanword phonology. *International Journal of Bilingualism*, 21(5), 584-599.
- Alwi, H.; Dardjowidjojo, S.; Lapoliwa, H.; Moeliono, A. (1993). *Tata bahasa baku bahasa Indonesia*. Jakarta: Departemen Pendidikan dan Kebudayaan Republik Indonesia.
- Batais, S. S. (2013). *Consonantal and syllabic repairs of Arabic and Dutch loanwords in Indonesian: A phonological account* (doctoral dissertation). Florida: University of Florida.
- Beel, R., & Felder, J. (2013). Phonological adaptations of English loanwords in Turkish. *Proceedings of the Big South Undergraduate Research Symposium*. Retrieved from https://digitalcommons.liberty.edu/eml_undergrad_schol/2Blevins
- Blevins, J. (2017). Between natural and unnatural phonology: the case of cluster-splitting epenthesis. *On Looking into Words (and Beyond)*, 3.
- Creswell W. John. 2013. *Research design: Pendekatan kualitatif, kuantitatif, dan mixed*. Yogyakarta: Pustaka Pelajar.
- Daland, R., Oh, M., & Kim, S. (2015). When in doubt, read the instructions: orthographic effects in loanword adaptation. *Lingua*, 159, 70-92.
- De Casparis, J.G. (Ed.). (1997). *Sanskrit Loan-words in Indonesian*. Jakarta: Badan penyelenggara Seri NUSA.

- Endarto, I. T. (2015). Comparison between English loanwords in Thai and Indonesian: A comparative study in phonology and morphology. In *ASEAN/Asian Academic Society International Conference Proceeding Series*. Bangkok, Thailand.
- EYD V. (n.d.). *Ejaan.Kemdikbud.Go.Id*. Retrieved from <https://ejaan.kemdikbud.go.id/>
- Garley, M. (2014). Seen and not heard: The relationship of orthography, morphology, and phonology in loanword adaptation in the German hip hop community. *Discourse, Context & Media*, 3, 27-36.
- Jones, R. (1984). *Loan-words in contemporary Indonesian. Towards a description of contemporary Indonesian: Preliminary Studies* (pp. 1-38). Jakarta: Badan Penyelenggara Seri NUSA, Universitas Atma Jaya.
- Kang, Y. (2011). Loanword phonology. *The Blackwell companion to phonology*, 1-25.
- KBBI Online. (2019). *KBBI*. Retrieved from [Kemdikbud.go.id](https://kbbi.kemdikbud.go.id/). <https://kbbi.kemdikbud.go.id/>
- Khan, N. W., Rizvi, S. Z., & Farooq, M. (2020). The study of English loan word phonology in urdu. *International Journal of Psychosocial Rehabilitation*, 24(9).
- Lev-Ari, S., & Peperkamp, S. (2014). An experimental study of the role of social factors in language change: The case of loanword adaptations. *Laboratory Phonology*, 5(3), 379-401.
- Lev-Ari, S., San Giacomo, M., & Peperkamp, S. (2014). The effect of domain prestige and interlocutors' bilingualism on loanword adaptations. *Journal of Sociolinguistics*, 18(5), 658-684.
- Maneechukate, S. (2014). Kata serapan bahasa sanskerta dalam bahasa indonesia dan bahasa thai sebagai bahan pengajaran bahasa. *Jurnal Kependidikan: Penelitian Inovasi Pembelajaran*, 44(2).
- Mao, L. J., & Hulden, M. (2016). How regular is Japanese loanword adaptation? A computational study. In *Proceedings of COLING 2016, the 26th International Conference on Computational Linguistics: Technical Papers* (pp. 847-856). Osaka, Japan.
- Nguyen, H. T., & Dutta, H. (2017). The adaptation of French consonant clusters in Vietnamese phonology: An account. *Journal of Universal Language*, 18(1), 69-103.
- Prasetyani, M. A. (2020). *Phonological processes in the pronunciation of English loanwords in Indonesian on the web series "Rewrite"* (doctoral dissertation). Semarang: Universitas Diponegoro.
- Scherling, J. (2013). Holistic loanword integration and loanword acceptance: a comparative study of Anglicisms in German and Japanese. *AAA: Arbeiten aus Anglistik und Amerikanistik*, 37-51.
- Supeni, S., & Fauziah, A. (2018). English loanwords on Indonesian health article in online news pages. *Journal of English Language and literature*, 3(2), 20-34.
- Supriyadi, H. (2011). The meanings of Sanskrit loanwords in Thai and Javanese languages. *Humaniora*, 23(3), 280-289.
- Wang, Q. (2022). Review of phonological adaptation of English-based loanwords in Mandarin Chinese. In *2022 3rd International Conference on Language, Art and Cultural Exchange (ICLACE 2022)* (pp. 164-167). Atlantis Press.
- Wurianto, A. B. (2015). Kata serapan bahasa sanskerta dalam bahasa indonesia. *KEMBARA: Jurnal Keilmuan Bahasa, Sastra, Dan Pengajarannya*, 1(2), 125-134.
- Yazawa, K., Konishi, T., Hanzawa, K., Short, G., & Kondo, M. (2015). Vowel epenthesis in Japanese speakers' L2 English. *ICPhS*.