

## Meronymy in Indonesian and Acehnese: A Lexical-Semantic Analysis of Foot-Part Terminology

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### Abstract

Semantic typology in lexical systems reveals how languages categorise reality through patterned semantic relations, with meronymy (part–whole structuring) providing a productive domain for examining bodily terminology. This study investigates divergences in the meronymic encoding of **kaki** ‘leg/foot’ in Indonesian and Acehnese—two geographically proximate and genealogically related Austronesian languages—by examining the processes shaping meronymized lexis, formulating principles of meronymic relatedness, and identifying distinguishing features of the Acehnese paronym *kaki*. Using a descriptive qualitative design, the study analyses **32** Indonesian and **25** Acehnese foot-related meronyms drawn from **KBBI** and regional dictionaries, applying an inductive semantic-componential procedure to map hierarchical part–whole configurations. Results show that both languages display well-formed branching meronymic hierarchies but do not converge on a single unified model of the human leg. Indonesian exhibits a more fine-grained hierarchy (e.g., *betis* ‘calf’, *telapak kaki* ‘sole’, *tumit* ‘heel’, *punggung kaki* ‘instep’), whereas several of these—especially ‘instep’ and ‘calf’—lack fully lexicalised equivalents in Acehnese and are instead expressed through broader or descriptive forms. These differences align with functional salience and perceptual prominence, whereby experientially significant parts receive denser lexical encoding. The study concludes that Indonesians and Acehnese share universal principles of meronymic organisation yet differ markedly in semantic granularity, reflecting cultural perceptions of bodily segmentation. The findings support typological models of paronymy and underscore the need to expand Acehnese lexicographic documentation with native-speaker validation and future analyses across other body regions, including computational corpus-based extraction of meronymic structures.

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## 1. INTRODUCTION

One of the fundamental types of semantic hierarchy relations in the lexical system of a language is the relation of meronymy or part-whole relation [1]. Meronymy is the semantic relationship between an object that corresponds to a "part" and its corresponding "whole" [2]. In a hierarchy of meronyms (structures), the horizontal relationship is meronymy, and the vertical relationship is co-meronymy. Hierarchical structures are organised into levels or tiers. There are two types of hierarchies: branching and non-branching. The fundamental structural relationship is dominance, a vertical relationship that connects A to B and C, B to D and E, and so on. In addition, branched hierarchies also require a relation of difference, which is a horizontal relationship that connects B to C, D to E, and F to G. In a well-formed hierarchy, both relationships should be constant throughout the structure. The arrangement of lexical units into lexical configurations or meaning fields can be used as a basis for determining meaning components. Conversely, many meaning relations are extracted from meaning components. Meaning components are obtained from component analysis or lexical decomposition. Cruse [3] asserts that meaning components provide a way of formalising meaning relations.

A meronym is not just a single relation but a set of different whole-part relations. For example, "[I]n one context, finger is a proper meronym for hand, and in another case, meat is a proper meronym for hand. However, finger and flesh are not the same meronym of hand, because different relational criteria (functional versus material parts) are applied in each case." [4]. There have been many studies related to meaning relations. However, there has been little research specifically on meronyms, especially in local languages.

According to Cruse [3], meronymy refers to the semantic relationship between a whole and its constituent parts. The formula X can represent this relation: *X is part of Y*, or *Y has X*. For instance, *the foot has toes*, or *a toe is part of the foot*. Because meronymic relations are encoded by lexical items belonging to the basic vocabulary of all languages, they play a crucial role in semantic typology, particularly in examining lexical systems across structurally diverse languages [5]. Semantic frames provide schematic representations of actions or relations, along with the conceptual participants involved, each with a specific role [6]. In this sense, meronymy can be viewed as a specialised frame that captures the part-whole relation between an entity functioning as the part and another functioning as the whole. The events associated with the part-whole roles form the contextual environment that determines, especially in ambiguous cases, whether a given pattern indeed expresses meronymy. The innovation in our method for filtering polysemous meronymic expressions lies in applying semantic selection constraints to the entities occupying the part-whole roles, thereby limiting the range of contexts in which these patterns can legitimately encode part-whole relations.

This research is a development of Basiroh's [7]. The research describes two kinds of hierarchical relations, namely kehiponiman and kameroniman in Indonesian and Malay. In the hyponymy relationship, verbs related to the five senses are analysed, whereas in the kameroniman relationship, the human body is analysed. The two relationships stand alone in their discussion. This differs from the research conducted by this researcher, in which the

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search for the relationship between the meronymy of human body parts serves as the basis for identifying verbal exonyms for feet. In terms of foot meronyms, Basiroh's analysis omits the knee and toe. In addition, the analysis of toe meronymy relationships was not carried out down to the smallest segmental parts. In this study, the Acehnese language is highlighted because, in Acehnese, the names of hand and finger members are the same: *Jaroë*.

This study seeks to identify both the shared and divergent semantic-typological processes found in the lexical systems of different languages. It presents a case analysis of meronymic vocabulary—illustrated through the terminology for parts of the foot—that demonstrates the universal and systematic patterns of semantic change and outlines the core principles underlying meronymic relations. Budiwiyanto [8] provides an account of the Indonesian meronym *kaki*, which is subsequently compared with its Acehnese counterpart to determine points of similarity and difference. The study also aims to uncover the distinctive characteristics of the Acehnese meronym *kaki* in contrast to the Indonesian system.

This paper contributes to the study of semantic hierarchy relations by examining the meronymic structure of human foot terminology in Indonesian and Acehnese. The analysis is carried out through componential analysis and comparative semantic-typological methods to identify both shared and language-specific patterns. The findings indicate that several foot-related meronyms absent in earlier studies—such as knee and toe, including their smallest segmental parts—emerge as significant elements in the hierarchical configuration, and that Acehnese displays distinctive structural features, particularly the use of *jaroë* for both hand and finger constituents. These results advance the understanding of how part-whole relations are encoded across languages and provide new empirical evidence for the typology of meronymy in local Austronesian languages.

## 2. METHODS

The method applied in this study is descriptive, and the data are drawn from both primary and secondary sources. The primary data consist of lexical items taken from the *Kamus Besar Bahasa Indonesia* (KBBI), while secondary data are obtained from additional written materials such as other Indonesian dictionaries and thesauruses, which are consulted whenever questions or ambiguities arise. An Acehnese dictionary—identified by its latest available edition—is likewise used to determine the terminology for foot-related body parts in Acehnese, ensuring replicability and consistency in the data set. For this study, a “foot-part term” is defined as any lexeme referring to a segment of the lower limb, including both simple nouns and systematic multiword expressions, provided that they denote anatomically interpretable components.

The analysis proceeds inductively within the relevant theoretical framework, so that the lexical configurations emerge from the classification and structuring of the meaning components identified in each lexeme. The main unit of analysis is the lexeme associated with the conceptual domain of *kaki*. Two corpora are examined: the first contains Indonesian lexemes and their glosses relating to *kaki* and its meronyms, assembled to determine which human body parts are conceptually classified as belonging to this domain; the second contains the corresponding Acehnese forms. Each corpus is compiled by cataloguing the

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lexical items, examining their semantic properties, and identifying the relations encoded in their definitional patterns.

The determination of meronymic relations follows the standard semantic tests for whole–part structure, including the acceptability of constructions of the type “X is part of Y” or “Y has X,” as well as definitional entailment and dictionary-based relational cues. The hierarchical structure is built through a bottom-up procedure in which the smallest identifiable components are first isolated through lexical decomposition and then organised into increasingly higher levels of abstraction. This approach minimises inconsistent branching and ensures that the resulting hierarchy reflects the lexicon's internal organisation rather than a preconceived anatomical model. Note-taking serves as the principal data-collection technique, and the researcher's role is centred on data selection, cataloguing, interpretation, and representation. Although qualitative judgment remains necessary for interpreting semantic distinctions, the study is lexicographic rather than ethnographic; thus, the description of the researcher as “the research instrument” is used in a limited sense to refer to analytical responsibility rather than field-based data elicitation.

Contrastive analysis and linguistic description are employed to compare the Indonesian and Acehnese data systematically and to generalise the patterns found within each system. The validity of the findings is supported primarily through transparent documentation of the lexical sources and explicit semantic criteria, rather than extensive statistical measurement. Quantitative indicators of semantic productivity are incorporated only where the corpora permit them, and claims of numerical support are limited accordingly. This approach ensures that the analysis remains faithful to the available data while maintaining methodological rigour in identifying the meronymic structure of foot-related terminology in both languages.

### 3. RESULT AND DISCUSSION

#### 3.1. RESULTS

##### Feet and their Meronyms

The KBBI (2008: 605) [9] defines foot as '1 a limb that supports the body and is used for walking (from the groin downwards); 2 the lowest part of the leg (foot)'. From this definition, it is clear that the limit of the foot is from the groin to the tip of the foot. Meanwhile, a member in KBBI (2008: 604) is defined as 'part of the body (especially hands and feet)'. The lexical decomposition of foot shows the following meaning components. *kaki* [ANGGOTA] [BADAN] [PANGKAL PAHA] [HINGGA] [UJUNG JARI] *anggota* [BAGIAN] [TUBUH] [+TANGAN] [+KAKI].

Based on the description above, one of the components of foot meaning is [PANGKAL PAHA] [HINGGA] [UJUNG JARI]. This means that from the groin to the fingertips, there are parts that pertain to the feet. These parts will be discussed one by one in the subsections below.

In addition to the word *kaki*, Indonesians also recognise the word *tungkai*. In the KBBI (2008: 1505), leg is defined as 'the foot (the whole foot from the base to the

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bottom)'. As in the previous definition of the foot, the leg definition also lacks clarity about its boundaries. The information 'downwards' should be replaced with 'toes' as found in the definition of foot1. Therefore, it can be concluded that leg is a propositional synonym of foot.

*Tungkai* [ANGGOTA] [BADAN] [PANGKAL PAHA] [HINGGA] [UJUNG JARI KAKI]

*Kaki* [ANGGOTA] [BADAN] [PANGKAL PAHA] [HINGGA] [UJUNG JARI KAKI]

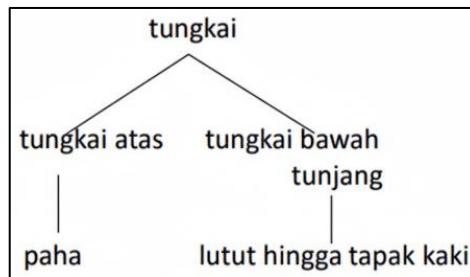


Figure 1a. Indonesian limb meronyms

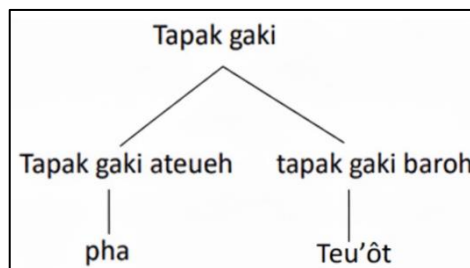


Figure 1b. Acehnese limb meronyms

In accordance with the main focus of this article, the main unit analysed is the lexeme denoting the part "foot" In this study.

There is no other word for lower limbs in Aceh as there is in Indonesian.

**Thighs**

*In KBBI (2008: 998), thigh refers to 'the upper leg (from the knee to the waist)'. This explanation means that the knee and waist are part of the thigh.*

*paha* [BAGIAN] [KAKI] [DI ANTARA] [LUTUT] [PINGGANG]

In accordance with the main focus of this article, the main unit analysed is the lexeme denoting the part "foot" In this study.

The existence of the meaning component [KAKI] embedded in the meaning of thigh shows that, while thigh is a meronym of foot, it is also an exonym of the endonym foot. The thigh has the meronyms groin and the heart of the thigh. Groin is 'the upper part of the thigh'

(KBBI, 2008: 1013). The groin is also called the pelvis (KBBI, 2008: 1012). It can be concluded that what is meant by fleshy is the part of the thigh that contains the most meat, namely, on the back side. The groin has two meronyms: the thigh lock and the hip. According to the General Indonesian Dictionary (KUBI) by Zain and Badudu (1994: 976) [10], 'thigh lock' is 'the front of the thigh'. Hip is 'the groin at the back' (KBBI, 2008: 1077). The lexical decomposition is as follows. *pangkal paha jantung paha kunci paha pinggul*

*pangkal paha* [BAGIAN] [PAHA] [ATAS]

*jantung paha* [BAGIAN] [PAHA] [PALING BERDAGING] [BELAKANG]

*kunci paha* [BAGIAN] [PANGKAL PAHA] [DEPAN]

*pinggul* [BAGIAN] [PANGKAL PAHA] [BELAKANG]

The relationship between the thigh and its parts can be described as follows.

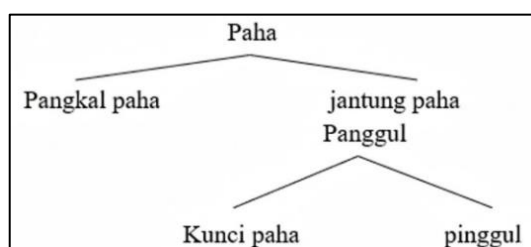


Chart 2a. Indonesian thigh meronyms

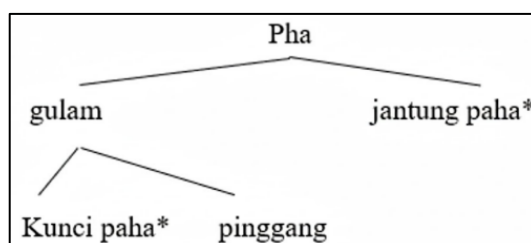


Chart 2b. Acehnese thigh meronyms

The Acehnese language does not have words for 'thigh lock' and 'thigh heart'.

## Knee

In the KBBI (2008: 851), the knee is defined as '(part of the leg) where the thigh and calf meet and where the joint is so that the leg can be bent'. It can be concluded that the knee refers to 'the part of the leg where the bones connect to each other'. In addition to 'knee,' Indonesians also recognise the word 'dengkul,' which is commonly used by Javanese people. The lexical decomposition of knee is as follows.

*lutut*[BAGIAN] [KAKI] [TEMPAT] [PAHA] [BETIS] [BERTEMU]

*dengkul*[LUTUT]

*The knee has two meronyms: the kneecap or knee lock and the knee fold or knee curve. Kneecap is 'the bone behind the knee fold' (KBBI, 2008: 1435).*

*tempurung lutut*[TULANG] [BULAT] [LUTUT] [DEPAN]  
*lipat lutut*[LEKUK] [LUTUT] [BELAKANG]

The relationship between the knee and its parts can be described as follows.

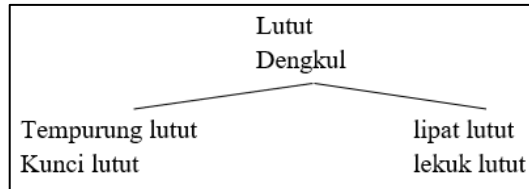


Figure 3a. Indonesian knee meronyms

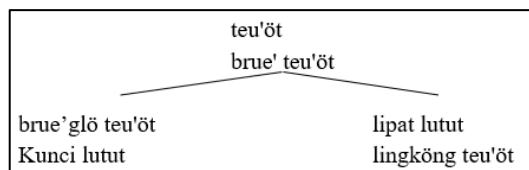


Figure 3b. Acehnese knee meronyms

There are no words for 'knee lock' and 'knee fold' in Aceh.

***Calf, Ankle, and Ankle***

*KBBI (2008: 184) defines calf as 'the part of the leg between the knee and the ankle, behind the shin bone.'* Thus, the components of calf can be seen in the following lexical decomposition.

*betis* [BAGIAN] [KAKI] [ANTARA] [LUTUT] [PERGELANGAN KAKI] [DI BELAKANG] [TULANG KERING]

*A calf has two meronyms: the calf belly and the shin. The calf belly is 'the largest fleshy part of the calf'. The meronymic relationship between calf, calf belly, and shin can be described as follows.*

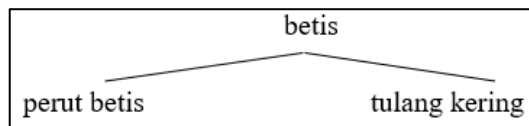


Figure 4. Calf meronyms

*Ankle, referring to KBBI (2008: 886) and KBMN (2003: 1738), is 'the bone that protrudes left and right on the lower leg (ankle)'. Thus, the ankle is a meronym of ankle1. An ankle is also called a lali book. The meaning components of 'ankle' are as follows.*

*mata kaki*[TULANG] [MENONJOL] [KANAN] [KIRI] [PERGELANGAN KAKI]  
*buku lali*[MATA KAKI]

The relationship of the calf, ankle, and ankle joints can be described as follows.

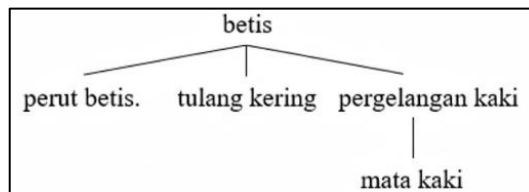


Figure 5a. Indonesian calf meronyms

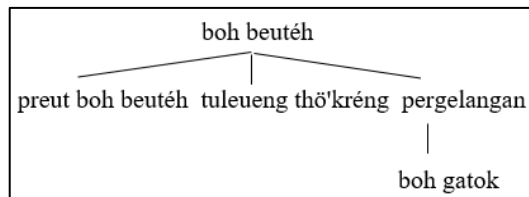


Figure 5b. Acehnese calf meronyms

There is no word for ankle in Aceh.

### ***Footprint and Instep***

*Tread*, according to KBBI (2008: 1402), is 'the lower part of the foot, usually used for walking; the part of the hand used for receiving, etc. 'tread is also called palm (tread + -el). In KBBI (2008: 1425), sole refers to 'the sole of the foot; the palm of the hand'. So, the components of the soles are as follows.

*tapak kaki* [BIDANG] [KAKI] [BAWAH] [MENAPAK]

*The sole of the foot has a meronym, the heel.*

*Tumit* [BAGIAN] [TELAPAK] [KAKI] [BELAKANG] [DI BAWAH] [MATA KAKI]

The relationship between the foot, instep, and heel is shown in the chart below.

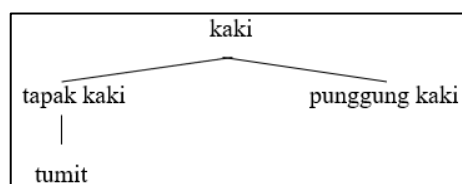


Figure 6a. Meronyms of Indonesian footprint comeronyms

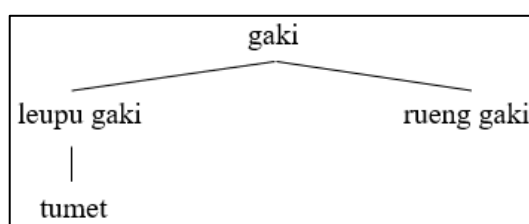


Figure 6b. Meronyms of Acehnese footprint comeronyms

**Toe (Jari Kaki)**

In the meaning component of foot1, there is a meaning component [TOE]. It is divided into two components, namely [TOE] and [FINGER]. According to KBBI (2008: 568), a finger is 'the end of a hand or foot with five fingers'. The meaning components are [TIP] [HAND, FOOT] [FIVE] [FIGURES]. Meanwhile, the tip in KBBI (2008: 1519) means 'the last part of an object (which is long). The meaning components are [PART] [END] [THING] [LONG]. Thus, the meaning component of fingertip can be seen in the following lexical decomposition.

*Jari* [UJUNG] [TANGAN, KAKI] [BERUAS] [LIMA]

*Ujung* [BAGIAN][PENGHABISAN] [BENDA] [PANJANG]

*ujung jari* [BAGIAN] [PENGHABISAN] [KAKI] [BERUAS] [LIMA]

For toes, there are only two toe names: (i) the thumb, which is the largest toe, and (ii) the little toe, which is the smallest toe. The thumb is also called the thumb, master finger, big toe, or foot master, and the little toe is also called the little finger (KBBI, 2008: 568). The lexical decomposition of the two toes is as follows.

*Ibu jari* [JARI] [TANGAN, KAKI] [TERBESAR]

*jempol* [IBU JARI] [TANGAN, KAKI]

*empu jari* [IBU JARI]

The relationship between these radii can be described as follows.

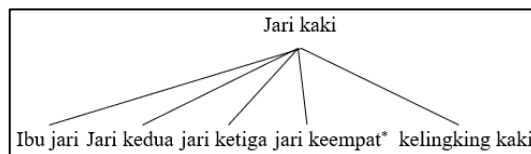


Figure 7a. Indonesian toe meronyms

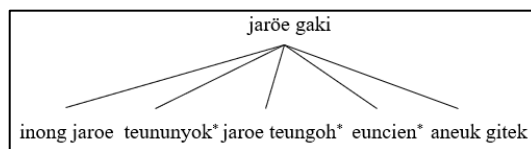


Figure 7b. Acehnese toe meronyms

From the results of the above research, the foot meronyms are found as follows: foot meronyms are different from hand meronyms in terms of naming fingers. On the hand, there are five fingers, but on the foot, there are only the thumb and the little toe. Then some parts of Indonesian foot meronyms do not exist in Acehnese. Here are the foot meronyms in their entirety.

### 3.2. DISCUSSION

Analysis of the Indonesian data shows that the lexical domain associated with *kaki* encompasses a wide range of meronyms, including *paha*, *selangkangan*, *lipat paha*, *kunci paha*, *pinggul*, *lutut*, *lipat lutut*, *tempurung lutut*, *betis*, *mata kaki*, *perut betis*, *tulang kering*, *telapak kaki*, *punggung kaki*, *jari kaki*, *kelingking kaki*, *jempol kaki*, *buku jari*, *ujung jari*, and *kuku*. These items represent the internal segmentation of the lower limb as conceptualised in Indonesian. When these forms are compared with the Acehnese data, it becomes evident that several lexemes lack straightforward equivalents, particularly in segments such as the ankle, the kneecap, and the finer distinctions of toe anatomy. The contrast highlights structural differences in how each language lexicalises the same anatomical region.

The distinction between canonical and facultative meronyms provides a useful lens for interpreting these patterns. Canonical meronyms refer to parts that are conceptually indispensable to the whole, whereas facultative meronyms denote parts that are not required for the entity to be considered complete. When the Indonesian and Acehnese data are examined through this framework, it becomes clear that items such as *lutut* ‘knee’ and *betis* ‘calf’ operate as canonical meronyms in both languages, since the conceptual domain of the lower limb normally presupposes their presence. In contrast, the more fine-grained distinctions found in Indonesian—such as *tempurung lutut* ‘kneecap’ or *buku jari kaki* ‘toe knuckle’—function as facultative meronyms, since the domain of *kaki* in Acehnese does not systematically lexicalise these elements as independent parts. This pattern reflects a difference in lexical granularity rather than a difference in anatomical perception.

By grounding the analysis directly in the corpus, the study demonstrates that Indonesian possesses a more elaborate set of foot-part terms, while Acehnese relies on fewer, more general lexemes. The divergence is most visible in the terminology for toes, where Indonesian produces distinct forms for *kelingking kaki*, *jempol kaki*, and the intermediate toes, whereas Acehnese does not exhibit parallel differentiation. This contrasts with the relative uniformity of finger terms in Acehnese hand-part nomenclature, where all members of the hand are referred to through the general lexeme *jaroë*. The asymmetry between toe and finger terminology in Acehnese thus emerges as a language-specific structural property rather than a universal feature.

The findings support the view that meronymic relations constitute a fundamental organising principle of lexical systems. These relations arise from basic cognitive mechanisms that segment complex entities into interpretable components and integrate these components into coherent conceptual wholes. The foot-part domain illustrates how this structuring manifests in concrete lexical patterns, revealing regularities in how languages categorise bodily experience. While certain parallels between Indonesian and Acehnese suggest broader tendencies in the structuring of part–whole relations, the present study refrains from universalising these observations beyond the two languages investigated. Instead, the analysis underscores that similarities and differences are best understood as outcomes of language-internal semantic organisation shaped by cultural, anatomical, and lexical factors.

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Overall, the study shows that both Indonesian and Acehnese maintain internally coherent meronymic hierarchies, though the degree of lexical specificity differs across languages. The comparison makes clear which Indonesian meronyms correspond to Acehnese forms, which do not, and how the absence of certain lexemes affects the structure of the resulting hierarchy. By linking the theoretical distinctions between canonical and facultative meronymy directly to the empirical data, the discussion provides a more precise account of how each language conceptualises the domain of the lower limb.

#### 4. CONCLUSION

All of the hierarchies examined display well-formed branching structures; however, none conform to a single unified model of the human leg, as they differ in both the number of branches and the vertical levels represented. Each hierarchy reveals its own internal configuration, with distinctive lexical labels assigned to most of its constituent parts. This pattern reflects the highly detailed segmentation of the human body found in both Indonesian and Acehnese holo-meronymic structures. The lexical item *foot* is subdivided into progressively smaller components according to the functional roles these parts perform, indicating that practical utility and perceptual relevance serve as the primary parameters guiding categorisation and naming within this semantic domain. The comparative analysis reveals several specific findings. First, Acehnese lacks lexicalised equivalents for several Indonesian meronyms, particularly those referring to finer anatomical distinctions such as *mata kaki* ‘ankle’ and *tempurung lutut* ‘kneecap.’ Second, the Acehnese lexicon does not differentiate the individual toes to the degree found in Indonesian, even though the language shows a more uniform pattern in naming hand parts. These contrasts illustrate that languages differ not only in lexical elaboration but also in the degree of granularity with which bodily experience is encoded.

Despite these contributions, the analysis is limited by its reliance on dictionary-based data, which may not capture dialectal variation or the full range of naturally occurring forms. The absence of corpus-frequency evidence also constrains the interpretation of semantic productivity, as the study focuses solely on lexical structure rather than usage-based patterns. These limitations underscore the need for supplementary empirical validation. Future work will benefit from incorporating speaker-based elicitation to confirm the acceptability and distribution of foot-part terms in both languages. Extending the analysis to additional body-part domains—such as hand, face, or torso—would allow for a more comprehensive understanding of bodily meronymy and its cross-linguistic variation. Further research may also explore computational methods for extracting meronymic relations from corpora, providing a broader empirical foundation for examining how part–whole structures are encoded across languages.

Overall, the findings indicate a strong correlation between the structural configuration of the hierarchies and the semantic domains they represent: the more functionally significant and perceptually salient a body part is to human experience, the more elaborately it tends to be lexically encoded and meronymically organized.

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