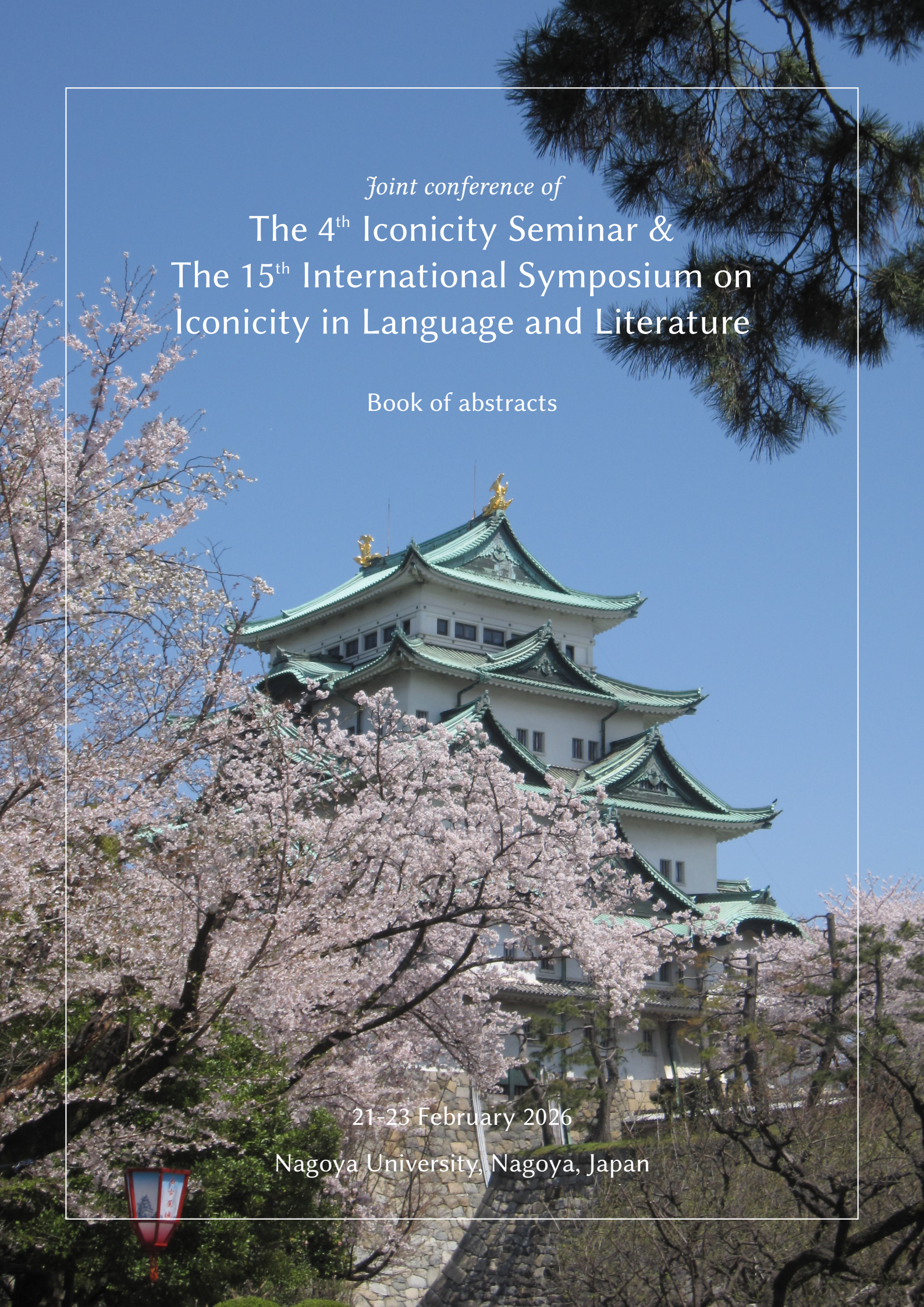

Joint conference of

The 4th Iconicity Seminar & The 15th International Symposium on Iconicity in Language and Literature

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Preface

Iida Hinano[1], Joo Ian[2], and Akita Kimi[1]
1. Nagoya University 2. Otaru University of Commerce

Welcome to the Joint Conference of the 4th Iconicity Seminar (IcoSem) and the 15th International Symposium on Iconicity in Language and Literature (ILL). For the first time, these two international conferences—both dedicated to the study of iconicity (resemblance between the form and the meaning)—are convened as a single joint event in Nagoya.

Iconicity research has expanded rapidly over the past decades, reaching across disciplinary boundaries, and modalities (spoken, written, signed, etc.). Reflecting this development, the theme of the present conference, "Variations and Dynamics in Iconicity," highlights recent shifts in how iconicity is conceptualized: not as a fixed or uniform property of linguistic forms, but as a phenomenon that varies across languages, modalities, communicative contexts, and individuals, and that unfolds dynamically in use, development, and interaction.

The contributions presented at this conference highlight this diversity in a wide range of ways. They cover spoken, written, signed, and multimodal forms of communication, investigating iconicity in sound symbolism, ideophones, grammar, gesture, literature, comics, and visual media and drawing on experimental, corpus-based, computational, and qualitative approaches. The conference brings together work on typologically diverse languages and language families, as well as cross-linguistic and cross-cultural perspectives, highlighting the global and interdisciplinary nature of contemporary iconicity research.

The conference is further enriched by the keynote lectures by Noburo Saji, Mutsumi Imai, Pamela Perniss, and Neil Cohn. Their contributions provide important conceptual foundations for the discussions at this conference, while also pointing toward new theoretical and methodological horizons for future research.

Participants in this joint conference come from over 25 countries. This international participation reflects not only the worldwide interest in iconicity research, but also the collaborative nature of the field, in which many of the researchers work closely together. One prominent example is *The Oxford Handbook of Iconicity in Language*, edited by members of the iconicity research community—Olga Fischer, Kimi Akita, and Pamela Perniss—and published this month (February 2026).

Finally, we cannot resist to point out that the second day of the conference, February 22, coincides with *Neko no Hi* 'Cat Day' in Japan—a date motivated by a playful iconic association between "2-2-2" (ni–ni–ni) and the Japanese onomatopoeia for a cat's meow (nyan). This small cultural coincidence serves as a fun reminder of why iconicity continues to fascinate us: it connects sound, meaning, perception, and culture in ways that are both systematic and deeply rooted in human cognition.

We extend our sincere gratitude to all presenters, reviewers, permanent organizers of ILL (Olga Fischer and Christina Ljungberg), and participants who have made this joint conference possible. We hope that this conference captures not only the current state of the field, but also the sense of intellectual excitement and collaboration that defines iconicity research today.

Plenary talk: A Structural perspective on relational similarity in iconicity

Saji Noburo
Waseda University

This presentation explores the potential of a structural approach to account for the motivation behind iconicity. Previous studies on iconicity have identified two major types of similarity: direct (perceptual) similarity and relational similarity (Dingemanse 2011; Iida and Akita 2024). Direct similarity refers to similarities between distinct entities based on shared features along specific dimensions (e.g., shape or sound). In contrast, relational similarity involves the structural alignment between the relationships among elements (e.g., shape-shape-relationships and sound-sound relationships). Researchers have noted that cross-modal iconicity must be understood from the perspective of relational similarity (Ahlner and Zlatev 2010; Marks 1989). While the psychological basis of relational similarity has been extensively studied, its application to iconicity research remains underdeveloped. In this context, the present study draws attention to a structural approach, which has recently gained prominence in consciousness research. This approach investigates properties of unobservable phenomena —such as subjective experience—by analyzing the relational structure among surrounding elements, rather than attempting to access the target phenomenon directly (Kawakita et al. 2025, e.g.). Using examples of cross-modal iconicity, this presentation examines how structural consistency across modalities can be evaluated, and discusses the implications of this approach for understanding the relational foundations of iconic mappings.

Plenary talk: Iconicity bootstrapping hypothesis for the acquisition and evolution of language

Imai Mutsumi
Keio University & Mutsumi Imai Educational Research Institute

This talk refines Imai and Kita's (2014) "sound symbolism bootstrapping hypothesis" that states that iconic sound–meaning associations help children start acquiring spoken language and may also reside in the origin of human language. Iconicity, not limited to sound symbolism, tells children that linguistic forms are paired with meanings, and they expand and adjust their linguistic knowledge through an abductive reasoning. This self-driven developmental cycle may make humans different from other species.

Plenary talk: Iconicity and visual languages in a multimodal language faculty

Neil Cohn
Tilburg Univeristy

For the past century, language has been considered as an amodal and arbitrary system that is mutable across different modalities. Yet, this view is confounded by multimodality (speech-gesture, text-images) and the full range of signification displayed by communicative systems (iconicity, indexicality, and symbolicity). Here, I first present a model of a multimodal language faculty which intrinsically maintains the vocal, bodily, and graphic modalities in parallel, and inherently embeds Peircean semiotics into its architecture. I will then show how this model not only enables a proliferation of signification in both the vocal and bodily modalities, but also specifies how linguistic structures emerge in pictorial systems, particularly in the rich conventionalization of visual languages of graphic systems across the world. Altogether, this approach heralds a re-understanding of what language is and the basic assumptions held about its properties.

Plenary talk: Harnessing iconicity for language learning

Pamela Perniss
University of Cologne

There is growing evidence that iconicity is an important feature of language and that it plays a role in language learning and processing. The mechanisms by and conditions under which this is the case, however, remain poorly understood. In this talk, I bring together various strands of research from both spoken and signed languages as well as L1 and L2 acquisition to provide an account of how and why iconicity can be harnessed for language learning. I use comparisons of iconicity in sign and gesture, and exploration of the relationship between iconicity and transparency, as well as cross-linguistic comparisons of iconicity in the lexicon of sign languages to help approach an understanding of the role of iconicity in supporting referential mapping and conceptual representation. From a theoretical perspective, I discuss the relationship between iconicity as structure-mapping and as a bridge between language and the world.

1

Magnitude Iconicity of Grammatical Tone in Yorùbá Sarcasm

Samuel Kayode Akinbo
University of Toronto

Properties of expressive words (e.g., ideophones) include affective meaning, foregrounding and iconicity, which is a perceived form-meaning resemblance (Fortin 2011). Expressive words are often morphosyntactically optional, occur at the edge of an utterance and are less embedded into core grammar. As a result, they are considered to have a lower degree of grammatical integration. Studies find that the more grammatically integrated expressive words are, the less expressive they become (Dingemanse and Akita 2017; Dingemanse 2017). This means that there is an inverse relation between grammatical integration and expressiveness. The prediction therefore is that plain words should a lower degree of grammatical integration when they undergo expressive morphology. In this work, I test the prediction through a pattern of tonal alternation in Yorùbá. The language contrasts three tones, namely a high tone (e.g., [bọ́] 'to feed'), a low tone (e.g., [bọ̀] 'to return') and a mid tone (e.g., [bọ] 'venerate'). The morphosyntactic context relevant to the alternation is one of three patterns of contrastive focus marking presented in (1.1). Every pattern involves the negative focus marker [kọ́] and the affirmative focus marker [ni], each immediately following a focused noun (Adebayo 2021).

(1.1) Plain and expressive contrastive focus marking in Yorùbá

a. ***kọ̀nténà*** *kọ́* ***ílé*** *ni*
container FOC.NEG ile FOC.AFF
'it is not a container but a house' (*plain*)

b. ***kọ̀nténà*** *kọ́ọ̀* ***ílé*** *niì*
container FOC.NEG.EMPH house.AUG FOC.AFF.EMPH
'it is not a container but a house' (*emphatic*)

c. ***kọ̀nténà*** *kọ́ọ̀* ***kọ̀nténà*** *niì*
container FOC.NEG.EMPH container.AUG FOC.AFF.EMPH
'it is not a container but something more than a container' (*emphatic*)

(1.2) Tonal alternation of the emphatic contrastive focus marking in Yorùbá

a.	**kpákọ́** kọ́ọ̀ **kpàkọ̀** niì	‘not a plank but something more than a plank’
	kpákọ̀ kọ́ọ̀ **kpàkọ̀** niì	‘not a tooth brush but something more than a tooth brush’
	dára kọ́ọ̀ **dàrà** niì	‘not Dara but someone more than Dara’
b.	**aṣọ** kọ́ọ̀ **àṣọ̀** niì	‘not a cloth but something more than a cloth’
	ẹlẹ́ṣè kọ́ọ̀ **èlèṣè** niì	‘not a sinner but someone more than a sinner’
	ilè kọ́ **ìlè** niì	‘not a land but something more than a land’
c.	**bàtà** kọ́ọ̀ **bàtà** niì	‘not a shoe but something more than a shoe’
	ọ̀bọ kọ́ọ̀ **ọ̀bọ̀** niì	‘not a monkey but something more than a monkey’
	ìdí kọ́ọ̀ **ìdì** niì	‘not buttock but something more than a buttock’

In the first pattern shown in (1.1a), the noun focused by [kọ́] is different from the noun focused by [ni]. As for the second pattern shown in (1.1b), the contrastive focus marking is emphasized by lengthening the vowels of the affirmative and negative focus markers. The emphatic vowel lengthening conveys sarcasm, contemptuously diminishing the meaning of the noun focused by the negative focus marker. The third pattern in (1.1c) is also a sarcastic emphasis but differs from the second pattern in three ways: (i) a noun is focused by the negative focus marker and a copy of the noun is focused by the affirmative focus marker; (ii) the copy focused by the affirmative focus marker surfaces with a low tone on every tone-bearing unit (TBU); (iii) the tonal alternation, which is the main of this work, conveys many meanings roughly interpreted as ‘something or someone more than the focused noun’. For example in (1.1c), to sarcastically express that ‘it is not a container but something more than a container’, the negative marker focuses the word [kọ̀nténà] ‘container’, while the affirmative focus marker focuses a copy of the word [kọ̀nténà], which bears a low tone on every TBU. The tonal alternation applies only to nouns focused by the affirmative focus marker in an emphatic contrastive focus marking, as shown in (1.2).

The tonal alternation of the emphatic contrastive focus is consistent with grammatical tones, which are tonal operations restricted to morphosyntactic contexts (Rolle 2018). The trigger of the tonal alternation is considered an augmentative morpheme with only a low tone as its exponent. Since only words focused by [ni] of emphatic contrastive focus construction undergo the alternation, I propose that the target of the grammatical tone is a noun focused by an emphatic affirmative focus marker. Nouns derived through the tonal alternation do not occur in any other morphosyntactic contexts, except in the emphatic focus construction in which they are derived. The restriction of the derived nouns to only one syntactic environment suggests a low degree of degree of grammatical integration, considering that most derived and underived nouns in the language can occur in many morpho-syntactic environments (Ajíbóyè 2005). I argue that the low degree of grammatical integration is due to expressive properties such as foregrounding, which is the use of linguistic forms in a way that attracts attention (Dingemanse and Akita 2017). The realization of the grammatical tone only on nouns focused by an emphatic focus marker is a form of foregrounding, given that emphatic lengthening and focus marking are strategies of encoding the prominence of some information over others across languages. The sarcasm introduced by the emphatic vowel lengthening suggests that the derived nouns are associated with affective meaning. Notably, a low tone as the exponent of the augmentative morpheme is consistent with magnitude iconicity, which is a probablistic tendency to associate high magnitude (e.g., bigness) with a low tone crosslinguistically (Winter 2025). These properties of derived nouns are expressive, supporting the hypothesis that grammatical integration is inversely with expressiveness. While the derived nouns in this work are less grammatically integrated, more recent studies show that derived expressive words may have the same morphosyntactic distribution as plain words (see Fungwa in Akinbo

2021; Nigerian Pidgin in Akinbo 2025). The tonal alternation of the derived nouns contributes to the growing body of work on (expressive) phonological alternations that are motivated by iconicity.

2

A paradox of silence emerging from unspoken sounds

Onomatopoeia, iconicity, and dynamic contrast in Japanese haiku

Arimitsu Nami
Toyo University

The study explores the paradox of representing silence through sound, focusing on the iconicity and onomatopoeia associated with Matsuo Bashō's haiku:

> An old pond / A frog jumps in / The sound of water.
> *Furuike ya / kawazu tobikomu / mizu no oto*

Japanese onomatopoeia, known for its richness (Akita 2009; Kakehi, Tamori, and Schourup 1996), includes expressions of silence deeply ingrained in the culture. Prior research on sound symbolism and ideophones (Hinton, Nichols, and Ohala 1994b; Voeltz and Kilian-Hatz 2001) has established broader theoretical frameworks for understanding iconic expression. In the context of haiku, Hiraga and Ross (2013) provide a seminal cognitive-poetic analysis of metaphor and diagrammatic structure in Bashō's work, arguing that silence is conceptually framed through sound. Building on this important contribution, the present study shifts the focus from textual structure to readers' shared mental representations of iconic sound in response to silence.

A survey of 71 university students explored their conceptualization of the haiku's sound. In the first question, participants were asked, "What kind of sound do you think it made? Describe freely." Among 71 respondents, 26 wrote the onomatopoeia *pochan*, and 9 wrote *chapon*. Others used imaginative phrases like "the image of a chapon sound resonating in the stillness" or "a sound like *pochan*." These descriptions often included "the image of" or "a sound like," emphasizing imaginative, comparative expressions over direct sound imitation.

In the second question, where respondents were explicitly asked to describe the sound using onomatopoeia, 37 participants used *pochan*, and 12 used *chapon*, along with similar variants. This suggests *pochan* and *chapon* are representative onomatopoeias native Japanese speakers associate with the haiku, reflecting their auditory imagination, cultural familiarity, and the role of iconicity in conveying sensory impressions. In the first question, fewer than half of the respondents spontaneously produced onomatopoeia, suggesting that onomatopoeic labeling is not a default interpretive strategy but one option among others. At the same time, the stronger convergence observed in the second question indicates that such forms function

as readily accessible cultural resources when participants are invited to imagine sound explicitly.

Additional questions probed perceptions. Most participants (65) envisioned a single frog, while 5 imagined two, and 1 opted for "more than three." The majority pictured a small tree frog (38), followed by medium-sized toads (29), with few envisioning large frogs (4) or tiny frogs (2). Despite frogs traditionally symbolizing spring in haiku, 38 participants associated the haiku with summer, 20 with spring, 11 with autumn, and 2 with winter, reflecting diverse modern interpretations. While 60 participants identified "silence" as the primary theme, others chose "the vitality of life" (7), "the changing of the seasons" (3), and "liveliness" (1).

The study revealed that participants internalize onomatopoeia like *pochan* to interpret the sound, creating a dynamic contrast that enhances the perception of silence. Silence here is not an absence of sound but a concept shaped by contrast. The disruption of silence caused by the frog paradoxically amplifies the silence that is conventionally expressed in Japanese as shiin, a well-known onomatopoeic representation of quiet.

These findings invite further reflection on what it means for silence to be collectively imagined through onomatopoeia in Japanese perception, and how such shared iconic resources may shape literary interpretation. Bashō's haiku exemplifies two intriguing paradoxes. First, while participants neither shared a direct auditory experience nor read explicit descriptions of the sound in the text, the study revealed that many imagined similar onomatopoeias, such as *pochan* and *chapon*, showcasing the iconicity of these shared mental associations. This convergence suggests iconicity because the preferred forms share phonological features that plausibly mimic a small, brief splash (e.g., a light plosive onset and a short resonant ending), pointing to a non-arbitrary sound–meaning mapping that is culturally shared rather than purely idiosyncratic.

Second, although the haiku explicitly mentions "the sound of water," it paradoxically conveys "silence" through the dynamic contrast between the brief sound of the frog's leap and the subsequent stillness. These findings highlight how iconicity and onomatopoeia enrich interpretation and evoke shared imagery. Similar to musical composition, in which silence (pause) is structurally essential to the perception of sound, Bashō's haiku employs a brief sonic event to heighten the experience of stillness, masterfully using sound to evoke silence and inviting readers to experience its paradoxical nature.

3

Iconicity and composite utterances in sign language narratives

Modality differences

Choi Youngju
Chosun University

Introduction

This study explores how iconicity operates in Korean Sign Language (KSL) narrative performance, particularly through the framework of composite utterances proposed by Verhagen (Verhagen 2023). Iconicity in sign languages is often associated with transparent mappings between form and meaning, but it goes beyond mere resemblance. In this study, we argue that iconicity in KSL functions as a foundational strategy for constructing layered, multiperspectival discourse, especially in narrative contexts that require simultaneous representation of multiple agents, emotions, and viewpoints.

Background

The core of our analysis rests on Verhagen's notion of composite utterances—communicative acts that simultaneously deploy symbolic description (based on shared linguistic conventions) and iconic depiction (based on embodied simulation). While this model has been developed primarily in the context of spoken language, its principles are even more vividly realized in signed languages. This is due to the visual-gestural modality of sign languages, where the separation of manual and nonmanual articulators allows for the simultaneous orchestration of multiple semiotic functions. Whereas spoken language relies on intonation, rhythm, and gesture to convey similar effects, sign languages structurally encode them within the linguistic system itself.

Methodology

To investigate this dynamic, we conducted a fine-grained analysis of a native KSL retelling of the fable The Lion and the Mouse. The narrative was segmented into meaningful scenes, and still frames were extracted from the video to examine how signers coordinate handshape

classifiers, spatial orientation, body posture, and facial expressions to convey meaning. Each frame was coded according to four parameters:

1. use of symbolic description (e.g., classifier constructions)
2. use of iconic depiction (e.g., facial affect, embodied simulation)
3. perspective orientation (narrator vs. character viewpoint)
4. structural integration (depiction alone, description alone, or composite co-presence)

Results

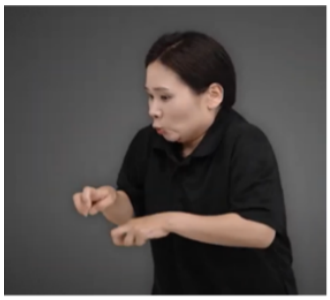
Our findings reveal four major narrative strategies in KSL that exemplify how iconicity and symbolism interact to produce composite utterances. First, we identify cases of pure iconic depiction, where signers rely entirely on facial and bodily enactment without lexical or grammatical signs. These moments are critical for conveying emotion and internal states, as they evoke shared human experiences through direct visual simulation. Second, symbolic description is achieved through conventional classifier constructions, which encode referents, actions, and spatial relations in a more structured and abstract fashion. These signs are linguistically governed, yet they retain a visual motivation that aligns them closely with depictive gestures. Third, in what we term "split-modality perspective blending," the signer's hands represent one character's actions (e.g., the lion's claws), while their facial expression embodies another character's emotional state (e.g., the mouse's fear). This technique allows for simultaneous enactment of multiple perspectives within a single moment, providing a nuanced view of character interaction. Fourth, we describe "fused perspective blending," in which both manual articulators are engaged in encoding the actions of distinct characters, while the signer's nonmanual markers reflect the internal state of one of them—resulting in a multimodal convergence of external and internal viewpoints within a unified performance.

These strategies demonstrate that iconicity in KSL is not simply decorative or supplementary, but integral to how meaning, experience, and perspective are constructed. The result is a richly textured narrative structure that supports rapid viewpoint shifts, character identification, and affective resonance. Crucially, KSL allows the signer not only to describe events but to perform them from the inside out, engaging the audience through simulated embodiment.

Conclusion

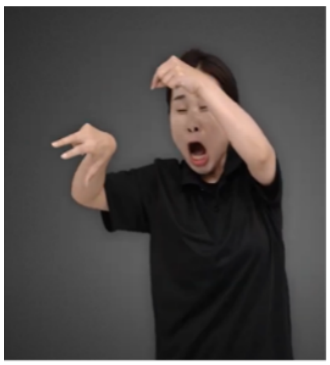
We conclude that Korean Sign Language narratives provide an ideal empirical domain for advancing theories of iconicity, depiction, and embodied meaning. By explicitly separating symbolic and iconic channels across manual and nonmanual articulators, KSL offers insight into the cognitive architecture of language itself. Composite utterances in KSL show that meaning emerges not only from what is said or signed, but from how it is experienced, simulated, and spatially organized within the communicative act. This highlights the broader potential of sign languages to illuminate the embodied and perspectival nature of human linguistic cognition—an aspect often underrepresented in speech-based models. In doing so, this study contributes not only to sign language linguistics but also to general theories of meaning, narrative, and perspective-taking across modalities.

(1) Pure iconic depiction
The signer enacts the mouse's desperate plea for mercy using only facial expression and bodily enactment, without any conventional signs or classifiers. This moment exemplifies pure iconic depiction, where meaning is conveyed entirely through resemblance and embodied performance.



(2) Symbolic description
The signer uses a conventional classifier handshape to represent the cautious movement of a small animal, symbolically describing the mouse's retreat from the lion. While the facial expression may contribute to iconic simulation, the primary communicative strategy here is symbolic, relying on established classifier constructions to convey referential meaning.

(3) Split-modality perspective blending
The signer's facial expression iconically simulates the mouse's fear and desperation, while the hands use classifier constructions to symbolically describe the lion's approaching claws (left) and gaping jaws (right) as viewed by the audience. This co-presence of symbolic description and iconic depiction illustrates perspective blending, in which two distinct viewpoints —external narration and character embodiment—are simultaneously enacted within a single utterance.



(4) Fused perspective blending
The signer's nondominant hand represents the lion gripping the mouse's tail, while the dominant hand shows the mouse's legs flailing—both expressed through classifier constructions. These coordinated movements encode two character perspectives simultaneously within the manual channel. Meanwhile, the facial expression iconically depicts the mouse's fear and desperation, resulting in a fully fused enactment of both viewpoints within a single utterance.

4

Visualizing "Xiang" in Classical Chinese prose

AI-Based Structural Analysis of Shiji Chapters in Zeng Guofan's Guwen Sixiang

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Introduction

Classical Chinese prose theory conceptualizes textual structure in terms of dynamic progression and rhetorical turning points. In *Guwen Sixiang*, Zeng Guofan classified selected canonical essays into four categories–Taiyang, Taiyin, Shaoyang, and Shaoyin–based on aesthetic qualities such as momentum, discernment, emotional resonance, and expressive interest. Although these categories are often treated as symbolic or interpretive, they implicitly presuppose patterned structural motion within the text. This study examines whether the Four Xiang classification corresponds to measurable structural configurations.

Background

The Four Xiang originate as aesthetic judgments rather than formal linguistic categories. In Zeng Guofan's selection of 23 *Shiji* chapters, Taiyang texts are typically associated with forceful narrative momentum, Taiyin with measured evaluation and interwoven commentary, Shaoyin with lyrical expressiveness, and Shaoyang with dialogic and rhetorical vividness. These descriptions suggest differences in textual organization and progression. The present study investigates whether such interpretive distinctions align with observable distributional patterns in linguistic structure.

Methodology

The dataset consists of 23 *Shiji* chapters selected and classified by Zeng Guofan. Rather than directly annotating traditional rhetorical notions such as *qi* (起) or *fu* (伏), structural motion is operationalized through part-of-speech–based linguistic features generated via CKIP word segmentation and tagging. Extracted features include verb density, noun and adjective density, sentence-length variation, and the distribution of transitional markers.

Each text is divided into ten equal segments to model structural fluctuation across textual progression, producing a temporal structural profile. These features are further combined into high-dimensional structural vectors and analyzed through principal component projection and unsupervised clustering. This design enables a comparison between the a priori Four Xiang classification and patterns that emerge from distributional linguistic structure.

Results

The analysis reveals differentiated temporal motion patterns across the Four Xiang categories. Taiyang texts tend to exhibit stronger early structural momentum, whereas Taiyin texts display more gradual accumulation toward later segments. Structural vectors occupy partially distinct regions in feature space, and unsupervised clustering aligns substantially–though not perfectly–with the traditional classification. This partial convergence indicates that the Four Xiang categories correspond, at least in part, to measurable structural tendencies rather than functioning solely as symbolic labels.

Conclusion

The findings support an interpretation of the Four Xiang in terms of structural iconicity: aesthetic classification corresponds to patterned configurations of textual motion. By operationalizing structural progression through computational modeling, this study demonstrates how classical literary taxonomies can be empirically examined. More broadly, it proposes a replicable framework for investigating form–meaning correspondence in premodern prose within a digital humanities paradigm.

5

Cross-modal iconicity in *chenwei* hermeneutics

A digital analysis of astronomical phenomena, political semantics, and written symbols

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Introduction

As a key component of political culture and knowledge production from the Eastern Han dynasty onward, *chenwei* (prophecy-classics) integrates astronomical observation, political interpretation, and symbolic transformation into a highly iconic hermeneutic chain. This interpretive mechanism does not operate as a unidirectional process of symbolization; rather, it unfolds as a multi-layered, cross-modal process of translation. Astronomical phenomena are first perceived as natural signs through formal or dynamic resemblance; these signs are then situated within political discourse, functioning as omens, prophetic indicators, or foundations for constructing political legitimacy; finally, through the fixation and canonization of written symbols, they are transformed into textual resources available for citation, transmission, and reinterpretation.

Adopting the theoretical perspective of cross-modal iconicity, this study examines how celestial phenomena are transformed into textual and political meaning, and how resemblance-based interpretation operates across perceptual, semantic, and symbolic domains.

Background

Within *chenwei* hermeneutics, astronomical imagery, political semantics, and written symbols form an interconnected interpretive system grounded in resemblance rather than arbitrary signification. This study conceptualizes this system through two primary modes of iconic relation observable in *chenwei* texts. The first is **direct resemblance**, such as correspondences between the shapes, colors, or movements of celestial bodies and visual or sensory forms. The second is **relational resemblance**, in which changes in celestial phenomena are metaphorically linked to political instability, dynastic transition, or moral decline.

As *chenwei* learning gradually intersected with debates between Modern Script and Old Script classical traditions, these modes of resemblance were increasingly integrated into composite interpretive strategies, allowing astronomical signs to function simultaneously as observational records, moral indicators, and political arguments.

Methodology

This research employs digital humanities methods to systematically analyze the transformation of astronomical signs into political and textual meaning. Text mining and word frequency analysis are applied to both historical sources and *chenwei* texts, including *Shiji*, *Hanshu*, and *Hou Hanshu*. Special attention is given to lexical items describing celestial forms, symbolic evaluation, and political discourse.

By examining keyword distributions and contextual usage across different texts and periods, this study identifies recurring semantic patterns and traces how specific astronomical terms are embedded within broader political and moral narratives. Association and co-occurrence analysis further reveal how different lexical categories interact to form stable interpretive structures within *chenwei* discourse.

Results

The analysis reveals three highly interrelated lexical clusters structuring the *chenwei* hermeneutic chain.

First, **morphological descriptors**, such as "sun," "king," and "solar eclipse," correspond to observable astronomical phenomena and serve as the perceptual foundation of interpretation.

Second, **symbolic mediation terms**, including "change," "disaster," and "talisman," function as transitional elements that transform natural phenomena into political or moral evaluations.

Third, **political reference terms**, such as "king," "mandate," "virtue," and "governance," anchor astronomical interpretation within discourses of political legitimacy and regime transition.

Co-occurrence analysis demonstrates that these clusters are not randomly associated. Instead, they form a stable cross-modal iconic structure in which morphological descriptors are systematically linked to symbolic terms, which are in turn paired with political vocabulary, generating prophetic and normative sentence patterns characteristic of *chenwei* texts.

Conclusion

Comparative textual analysis further shows that as *chenwei* learning converged with classical exegetical debates, its interpretive logic shifted from simple morphological correspondence toward composite modes integrating relational resemblance and symbolic mediation. In the case of solar and celestial divination, descriptions in Shiji and Hanshu remain largely focused on observation and form, whereas Chunqiu Wei explicitly links celestial signs to dynastic decline and institutional reform, forming an iconic interpretive chain that reinforces political expectation.

The contributions of this study are threefold. First, it proposes a cross-modal iconicity perspective that conceptualizes the transformation of astronomical signs into political discourse and textual form as a dynamic, multi-level system of semiotic translation. Second, it integrates digital humanities techniques—particularly word frequency and association analysis—

to uncover latent patterns of resemblance and symbolism embedded in classical texts. Third, from a historical-comparative perspective, it clarifies the evolving role of *chenwei* hermeneutics within Eastern Han intellectual culture. This research not only deepens our understanding of *chenwei* interpretation but also offers a methodological model for integrating humanistic theory with digital analysis in cross-modal iconicity research.

6

Sound symbolism between perception and abstraction

Investigating sound–distance and sound–personality associations among Czech native speakers

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Although sound symbolism remains a relatively underexplored and only marginally accepted phenomenon in modern linguistics, since the early 2000's (Monneret 2019), interest in this topic has grown significantly, building on early psycholinguistic research from the beginning of the 20th century (Sapir 1929; Köhler 1929, e.g.). New iconic relationships are thus continuously being discovered –or previously established ones re-examined –between speech sounds and various perceptual (e.g., size, shape, action, distance, taste) and, though still rarely, also abstract (e.g., emotions, social dominance, human personality) concepts.

In this paper, we present the results of two experimental studies conducted as part of a Master's thesis, aiming to determine whether native speakers of Czech show sensitivity to two selected types of what we refer to as "perceptual" and "abstract" phono-semantics –namely, sound–distance symbolism and sound–personality symbolism. Building on previous research by Rabaglia et al. (2016) and Sidhu et al. (2019) with native English speakers, the following hypotheses were formulated:

1. Native speakers of Czech would tend to associate front vowels (/i/, /e/) more with the concept of proximity than distance, and back vowels (/o/, /u/) more with the concept of distance than proximity.

2. Native speakers of Czech would tend to associate the sonorants /l/, /m/, /n/ (the voiceless stops /p/, /t/, /k/) with high (low) Agreeableness and Emotionality, and the voiceless stops /p/, /t/, /k/ (the sonorants /l/, /m/, /n/) with high (low) Extraversion.

Study I, sound-distance symbolism

The first study examined the selected phonemes embedded in fictitious words containing either a front vowel (e.g., *bel*, *sil*) or a back vowel (e.g., *bol*, *sul*). The words (32 in total –16 with a front vowel, 16 with a back vowel) appeared within a sentence context, in which they indirectly represented the spatial adverb, and were paired with a visual of two emoticons placed

either close together or far apart. Participants (73 in total) were then asked to rate, on a 5-point Likert scale, how well the sentence-image pairings matched.

In the end, the hypothesis was supported: participants rated the sound-symbolically congruent combinations as more acceptable than the incongruent ones. A χ^2-test and linear model ($p < 0.05$) reveal significant distributional differences and condition effects. Nevertheless, the subsequent post-hoc comparisons (Tukey) indicate that back vowels may carry stronger sound-symbolic value in the domain of spatial distance. Besides, data from 36 out of 73 participants were excluded based on their performance on filler items, resulting in a final sample of 37 participants. While this may limit the conclusiveness of Study I, the pattern remains noteworthy.

Study II, sound-personality symbolism

In the second study, the selected phonemes were tested in foreign first names (Old English, Greek, Swahili, Danish, Finnish, Swedish), categorized into "sonorant" (e.g., *Lalo*, *Maunu*) and "voiceless stop" (e.g., *Tripp*, *Pirkko*) type (72 in total –36 sonorant type, 36 voiceless stop type). Each participant (65 in total) was presented with a combination of one name and one pair of personality traits from the dimensions of Agreeableness (*kind, helpful person*), Emotionality (*sensitive, vulnerable person*) and Extraversion (*sociable, active person*), chosen from the so-called HEXACO psychological model of human personality. They rated the degree of congruence between name and personality traits on a 5-point Likert scale.

As in the previous case, our hypothesis was supported: participants rated sound-symbolically congruent conditions as more acceptable than the incongruent ones. Results of the χ^2-test and linear model ($p < 0.001$) show a highly significant difference in distribution and a strong effect of condition. Post-hoc comparisons (Tukey) have further revealed the most significant effect for Emotionality, whereas no significant differences have been found for Extraversion.

Concluding remarks

As regards the explanation of both phenomena, we follow Sidhu and Pexman (2018) in suggesting that they may stem from shared properties between sound segments and the associated concepts. Firstly, the association between back vowels and spatial distance may arise from a shared notion of "size", reflected both in the articulatory configuration involved in producing back vowels and in the conceptualization of large spatial distances (see also Johansson and Zlatev 2013). Secondly, in the domain of personality, which constitutes a purely mental construct, metaphorical processes are likely to play a role in the formation of sound–meaning associations: in particular, the acoustic smoothness of sonorants may be metaphorically aligned with agreeable and emotional traits. At the same time, it is important to note that multiple factors are likely to interact in shaping these effects, rather than any single mechanism operating in isolation. Another open question concerns the asymmetries observed for front vowels and Extraversion. It is possible that these elements offered fewer salient cues, both at the visual level, where /i/ and /e/ have reduced orthographic salience compared to /o/ and /u/, and at the affective level, where Extraversion is less affectively and conceptually specific.

Taken together, despite certain limitations, the results of both studies indicate that the selected sample of Czech native speakers exhibits sensitivity to congruent phono-semantic cues related to both perceptual and abstract domains. Specifically, this research contributes to a broader understanding of how even the smallest particles of the sound units of language

influence human perception. Moreover, it adds to the ongoing debate on the potential universality versus language- or culture-specificity of sound symbolism, as it presents the first investigation of these two phenomena among Czech native speakers –and, more broadly, within a Slavic language context.

7

Sound symbolism a priori

Why are animal onomatopoeia (in)consistent?

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Introduction

Onomatopoeia are words that imitate sounds they describe. Consequently, works in this field typically either map word-meaning associations in natural languages, or study experiment participants' tendencies to assign particular word forms to objects. However, an outstanding question concerns the a priori emergence of sound symbolic properties. Here, we explore why sound symbolism emerges in onomatopoeia for animal sounds (e.g., meow for cat human-directed calls). We report on corpus and experimental data, and explore explanatory mechanisms by which cross-linguistically consistent onomatopoeia may be derived.

Cats and dogs

Schötz (Schötz 2025, p. 3) notes that cats' "meowing may be phonetically described as a series of typically two to three vowel sounds, often with initial and/or final consonants [w] or [m]. Typical phonetic transcriptions include [miau], [ɛau], or [wɑːʊ̯]." Similarly, a novel database collected by Dahlgren and Kittilä (submitted) revealed several categories of onomatopoeia for dog barks including the "Hau Type", often characterized by apparently diphthongal transitions (e.g., the Finnish hau-hau [hau]). Recent modeling efforts suggest that such apparent changes in the close-to-open phonetic dimension ("auw-wau") are produced through opening and narrowing the mouth passage through jaw movements (Ekström et al. 2024). The transcription of "consonants" in such vocalizations as /m w/ likely similarly reflect jaw dynamics, with impressions of /m/ being achieved through a change from complete oral closure to open oral cavity; and /w/ being achieved through incomplete closure opening wider.

However, the database reveals a number of distinct categories for dog vocalizations, of which the Hau Type is just one. The database also describes an "Approximate type", including descriptions often used for barks, particularly barks by smaller dogs (e.g., English yap-yap, Swahili bwebwebwe). The cat "meow", on the other hand, showcases remarkable consistency across languages. As a telling example, the Wikipedia article on "cross-linguistic onomatopoeias" lists 62 entry words for cat meows,1 of which even exceptional cases (including Korean yaong, and Japanese nyan) abide by the familiar close-to-open-to-close pattern.

This stands in comparison to the data given for dog vocalizations. As such, available data suggest that while onomatopoeia for cat and dog vocalizations may be in partial overlap, there is less consistency between transcriptions of dog barks than cat meows.

What's in a vowel?

Mechanisms by which human listeners may perceive non-human vocalizations as ostensibly "speech-like" are not well known, and likely involve a large number of intersecting acoustic variables, including the harmonics-to-noise ratio (a measurement of the strength of periodic versus non-periodic aspects of the acoustic signal) and fundamental frequency of a call (f_0, perceived as pitch, reflecting the rate of vocal fold oscillation). For example, vocalizations by smaller mammals will on average be characterized by higher fundamental frequencies, as smaller vocal folds oscillate at faster rates (Ohala 1984). Humans' perception of vowels produced at high f_0s (Friedrichs et al. 2025) tend to "cluster" such stimuli around the "corner" vowels /a i u/. As such, a rapid "sweep" in f_0 may be perceived as having an ostensibly diphthong-like quality /iu:/ (for decreasing f_0) or /ui:/ (for increasing f_0). However, if pitch were the lone causal factor, meows would be perceived (and transcribed) as more similar to barks by small, not large, dogs. Cats "make up" for their size though clear harmonic structure (Schötz 2025), and less non-linearity in the signal, allowing for more reliable formant structure changes. In comparison, dog barks are often acoustically "noisy", which decreases interrater reliability in vowel perception.

The role of phonology

A final step from sound to onomatopoetic expression is its structuralization and formalization as a word in a language. Acoustically "speech-like" vocalizations likely straightforwardly facilitate this process, increasing intra-linguistic consistency. In the case of cat meows, most documented spoken languages make use of labial nasals; some ~96% of languages have documented use of /m/, while ~82% have documented use of /w/. Moreover, a close-to-open vowel transition is in theory (100% of languages documented in the PHOIBLE database; Moran and McCloy 2019). As such, cat meows, owing to their distinct acoustic characteristics, may "lean in to" common phonological landmarks, biasing transcription. Where perception is less biased, as in the case of large versus small dogs, the phonological landscapes of speakers may play a larger role, with one potential explanatory variable being the ratio of vowels to consonants (Maddieson, 2013). For example, languages with many vowel qualities may on average favor transcribing dog barks as diphthong-like (hau-hau), whereas consonant-heavy languages (e.g., Arabic, with a high C/V ratio) tend instead toward consonant-final forms (hav, hab) to approximate the perceived sudden tapering off of acoustic energy.

Concluding thoughts

We posit that animal sound onomatopoeia emerges through a two-way interaction. On one hand, acoustic properties of animal vocalizations (in particular harmonic structure) are filtered through the capacity of human listeners to perceive the sounds as vowel-like (i.e., formant structure) or "consonant-like" (e.g., plosive-like "burst" of energy, etc.). Subsequently, an onomatopoetic expression will take the ritualized shape of a word within constraints imposed by

language-specific phonology. We have outlined a tentative model for how onomatopoeia develops. Moving forward, we will seek to apply our two-way framework to available data, and fully explore its potential.

8

Motion-mapped and emotionally trapped

Tonal iconicity in the domains of spatial motion and emotional valence

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A growing body of research have identified the crossmodal correspondences between non-linguistic pitch (like pure tone and musical note) and vertical position (Parise, Knorre, and Ernst 2014; Pratt 1930). For example, high-frequency pitch is often perceived as coming from the higher position in the space, and low-frequency pitch from the lower position. Within the language domain, however, little is known about the non-arbitrariness of linguistic tones in spoken languages, especially those where tones are phonemically used, such as Mandarin and Cantonese. For the languages that use pitch contours to distinguish lexical meanings, audiospatial binding has been commonly identified in the production and perception of lexical tones (Chen and Massaro 2008; Hannah et al. 2017; Morett, Feiler, and Getz 2022). For instance, speaker's head, eyebrows and lips move in tandem with the pitch trajectories of lexical tones during production (Garg et al. 2019); and inversely, visuospatial cues such as the dynamics of facial expressions could enhance lexical tone identification. This distinctive feature provides innovative window into the symbolic potentials of tones, indicating that vertical spatial information may be encoded in pitch contours.

While spatially-related association has been evidenced in tonal perception, it remains questionable whether the vertical mapping of lexical tones could also be leveraged to a more abstract domain—emotional valence, since the notion of which is often grounded in the conceptual metaphors related to vertical space, similar as lexical tones, e.g., "*high* spirit", "cheer *up*", "feeling *down*" (Lakoff and Johnson 1980). The investigation presented in this study involves two types of vertical mappings of lexical tones. One of them probes the correspondence between tones and spatial motions, and the other examines the association with emotional valence. In particular, we focus on the correspondence demonstrated by Hong Kong Cantonese high rising and low falling tones. Unlike mainland Mandarin speakers, the conceptualization of lexical tones for Hong Kong speakers is less likely to be affected by the spatially related metaphors/*pinyin*, due to lack of the explicit spatial labels or the official romanization system in the language (J. Zhang and McBride-Chang 2011).

This study consisted of a binary forced-choice (2AFC) mapping paradigm, conducted in the guise of a vocabulary game on an "alien" language. In the task, participants selected the meaning of an auditory "alien" word (a stimulus carrying rising or falling contour) from one of two visual options ("upward" or "downward" for motion words; "positive" or "negative" for

valence words). For each type of correspondence, seven pairs of words were used as visual stimuli, e.g., spatial motion: 爬山 ('hiking'; upward) vs. 潛水 ('diving'; downward); emotional valence: 開心 ('cheerful'; positive) vs. 害怕 ('terrified'; negative), thus giving us 14 different visual options in total. Seven vowel-only syllables [i y ɛ œ a ɔ u] were used as auditory stimuli, each produced in Cantonese high rising [35] and low falling [21] tones by two Hong Kong native speakers (a male and a female). Each audio was paired with a visual-word pair, counterbalanced across subjects. In line with the vertical conceptual metaphor of tones (Morett et al., 2022), we predict a congruent mapping between pitch trajectories and motion directions and emotional valence, i.e., the rising contour is "upward" and "positive", and the falling contour is "downward" and "negative". A total of 135 native speakers of Hong Kong Cantonese participated in the study, and data from 126 valid subjects were retained for analysis.

A series of logistic regression models were constructed to examine the effects of tone and vowel as well as their interaction on the matching judgements. For **the tone-motion correspondence**, no significant effect of *tone*vowel* interaction was found [$\chi^2(6) = 10.847$, $p = .093$], and the pairwise comparisons showed that the rising contour was 2.42 times more likely to be matched with "upward" motions than the falling contour ($z = -7.009$, $p < 0.001$), and such pattern was not significantly modulated by vowels. For **the tone-valence correspondence**, in contrast, a significant effect of *tone*vowel* interaction was found [$\chi^2(6) = 39.067$, $p < .001$]. Multiple pairwise comparisons revealed that several vowels demonstrated preferences for one type of valence over the other, regardless of the pitch trajectories. Particularly, [ɛ] was better mapped onto positive valence, and [œ] and [y] were better matched with negative valence. These findings can be accounted for by the shared properties between facial expressions and articulatory gestures, such as lip rounding (i.e., [œ] and [y]), which inhibits smiling, would be more likely to associate with negative emotions; whereas facial muscle required for producing the unrounded vowel [ɛ] overlaps with that for smiling, thus leading to better match with positive emotion. The expected mappings, such that the rising tone is "positive" and the falling tone is "negative", were only found for three peripheral vowels—[i], [ɔ] and [u], likely to due to their greater saliency as anchor vowels in perception. Compared with the tone-motion mappings, the tone-valence correspondence was less robust, as the mappings were significantly modulated by vowels.

Taken together, our results showed that native speakers could reliably match lexical tones with spatial motions in the way that pitch and motion trajectories are congruent with each other. Also, we provided novel evidence that the vertical mapping of tones could also be extended to a less concrete domain such as emotional valence, but with a weaker strength. The less consistent tone-valence mappings likely indicate that the correspondence driven by "metaphorical" analogy (rising tone is "positive" and falling tone is "negative") is inherently weaker than the one grounded in iconic perceptuomotor resemblance (rising trajectory is "upward" and falling trajectory is "downward"). These findings provide further insights into the symbolic potentials of tones, showing that the form-meaning correspondence demonstrated by lexical tones is *not* wholly arbitrary. Instead, vertical spatial information is encoded in the pitch contours and can be activated during speech perception.

9

Beyond words

Multimodal iconicity in Judith Gautier's Japonist poetics

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This paper proposes to examine literary iconicity in Judith Gautier's Japonist prose, by focusing on how descriptive form, narrative organization, and visual segmentation resonate with the aesthetic and compositional logic of *ukiyo-e* prints circulating and hugely collected in nineteenth-century France. Drawing on semiotic theories of iconicity (Peirce 1931–1958; Johansen 1996; Nöth 2001) and on intermedial approaches to text–image relations (Louvel 2011), the analysis approaches Gautier's writing not as a purely thematic, exotic engagement with Japan, but as an intermedial practice in which literary discourse is capable to adopt the visual grammar of another culture.

Focusing in particular on Gautier's representations of Japanese femininity, and most notably the figure of the *oiran* in *Les Princesses d'amour: courtisanes japonaises* (1900) – the paper argues that her prose reproduces key features of *bijin-ga* portraiture: pictorial stasis, surface emphasis, bodily segmentation, and the privileging of pose over narrative development. These stylistic choices generate a form of diagrammatic iconicity, in which meaning arises from structural relations and visual organization rather than from mimetic realism or psychological interiority.

Beyond character description, the paper shows that Gautier's Japonist texts also engage Japanese spatial aesthetics: nature and its elements are staged as framed configurations rather than continuous settings, producing a form of literary-topographical iconicity that mirrors the flattened perspective and vignette-like composition of *ukiyo-e* landscapes.

Finally, the analysis foregrounds the intercultural conditions of iconicity: while Gautier's descriptive forms remain perceptually recognizable, their iconic logic presupposes a specific familiarity, perceptual habit with Japanese visual conventions. Following work on mediated and culturally dependent iconicity (Tabakowska 1993), the paper argues that iconicity in an intercultural context is essentially conditional rather than transparent. Gautier's Japonisme thus produces a semiotic form of estrangement: not only an encounter with cultural otherness, but with a pictorial logic that resists full decoding within European literary norms.

10

Preliminary iconicity norms for 6000+ Brazilian Portuguese words

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The renewed interest in iconicity has led to large-scale normative studies correlating subjective measures of iconicity with linguistic and lexico-semantic variables (Winter, Lupyan, Perry, Dingemanse, et al. 2023; Hinojosa et al. 2021). This study presents the initial analysis of an iconicity norming study for Brazilian Portuguese (BP).

Material

We selected 6,593 words from normative studies in Portuguese (Janczura et al. 2007; Soares et al. 2017, *inter alia*) and added function words (pronouns, conjunctions, adverbs, numerals, and prepositions). We also included Portuguese translations of words used in previous iconicity studies, specifically, the macro-concepts mapped by Erben Johansson et al. (2020) and sensory lexicon (adjectives and verbs) from Winter (2017) and Lynott & Connell (2009). Finally, we added 109 BP words with onomatopoeic or expressive origin, along with a list of expressive words comprising 46 interjections, 51 onomatopoeias and 19 ideophone-like words. There is currently no study claiming that Portuguese has an open lexical class of ideophones, but it has a set of conventionalized words used in informal contexts to express vivid imagery. Most of these words show full or partial reduplication (e.g., *lero-lero*, *bafafá*, *vapt-vupt*).

Task and participants

We recruited participants by advertising the experiment online. The final dataset (after applying exclusion criteria) includes observations from 1,521 BP speakers (mean age: 35.7; range: 18-76; SD: 9.9; 57.4% female, 36.7% male; 4.7% non-binary; 0.1% other; 1% unreported), none of whom received compensation to take part in the experiment. After reading the consent form and the instructions, participants were shown 40 words and asked to rate the extent to which they believed each word "sounded like" its meaning. Instructions were adapted from Winter et al. (2023) and probed participants to think of iconicity as a continuum.

Results

We followed the exclusion criteria outlined in Winter et al. (2023) and removed observations based on reaction time, number of repeated responses per subject and word knowledge (we only included words known by more than 80% of their raters). For this initial analysis, we consider only those words rated by 5 or more participants, resulting in a total of 6,389 words.

Intraclass correlation coefficients were comparable to those reported in previous norming studies and confirmed the reliability of our ratings. We used the mean iconicity score for each word in all statistical analyses, and the standard deviations (across raters for each word) were used as regression weights to account for by-subject variation (see Winter, Lupyan, Perry, Dingemanse, et al. 2023). For all analyses, visual inspection of the residuals revealed no issues with homoscedasticity and normality.

Lexico-semantic variables. We conducted a multiple regression analysis to replicate findings from previous studies. Iconicity was the dependent variable, and log-frequency, number of syllables, AoA and concreteness were entered as predictors using the stepwise method. The resulting model included all predictors, showed no multi-colinearity problems (all VIF's < 1.6) and significantly predicted the iconicity ratings ($F(4, 1721) = 26.91$, $p < .0001$, $R^2 = .05$). All variables were negatively correlated with iconicity (all p's < 0.001), replicating effects found in English and Spanish.

Lexical category. We built a regression model to assess how iconicity varies across lexical category. Iconicity was the dependent variable, and part of speech (POS), log-frequency and number of syllables were included as predictors. Model comparison showed that POS had a significant effect on iconicity ratings ($F(2, 6385) = 101.22$, $p < 0.0001$). *Post hoc* analyses revealed that expressive words (onomatopoeia, interjections and ideophones; n = 86, estimated mean = 5.88) were rated as more iconic in comparison to all other categories (all p's < 0.0001). Adverbs (n = 65; estimated mean = 4.63) were more iconic than all other categories. Adjectives (n = 1,019; estimated mean = 4.18) were more iconic than nouns (n = 3214; estimated mean = 3.9), verbs (n = 1876; estimated mean = 3.8) and function words (n = 129; estimated mean = 3.6). There was no significant difference between nouns, verbs and function words. This contrasts with findings from English, where adverbs are typically rated low in iconicity. We attribute this to Brazilian Portuguese being a verb-framed language, so adverbs occupy an adjunct position that typically conveys manner of motion. Finally, descriptive analysis within the class of expressive words showed that ideophone-like words were rated as more iconic than interjections (mean: 6.47 vs. 6.10), but less iconic than onomatopoeias (mean: 6.56).

Sensory modality and iconicity. A descriptive analysis of adjectives translated from Lynott & Connell (2009) norms revealed a pattern similar to that reported in previous studies (Winter, Perlman, et al. 2017). Auditory words (mean = 5.45, n = 37) and tactile words (mean = 5.08, n = 42) were the most iconic in the dataset, followed by words related to taste (mean = 4.77, n = 26), sight (mean = 4.59, n = 158) and smell (mean = 4.22, n = 17).

Etymology and iconicity. Descriptive analyses showed that words with expressive or onomatopoeic origins in BP (n = 79) had a higher mean iconicity score than the rest of the dataset (mean = 5.24 vs. 3.91).

Summary

So far, our analyses have successfully replicated previous findings on the relationship between iconicity and variables such as concreteness, AoA, frequency, word length and sensory modality. They also partially replicate prior results concerning the relationship between iconicity

and POS. We present new data on the relationship between iconicity and the etymological origin of words, suggesting that such words, although conventionalized and widely used in Portuguese, are still perceived as highly iconic. Additionally, we provide data on a small set of Portuguese words that resemble ideophones and have been largely overlooked in more traditional linguistic analyses of the language. According to our initial dataset, these words receive high iconicity ratings, which may explain their use in more expressive contexts.

We aim to gather data from more participants in order to reach 10 observations per word and to expand our dataset to over 7,000 words by the time we present our results at IcoLL 2026.

11

Are *turn off the music* and *turn the music off* two different signs?

A semiotic analysis of iconicity in grammar

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This paper is discussing the semantic distinction between the two configurations of verb-particle constructions applying the sign-oriented method of analysis. The traditional descriptive explanations of the difference between the continuous and discontinuous position of the particle draw on multiple factors, such as the length of the object, prosody, or even individual preference. The prescriptive approach dismisses the discontinuous word order as non-standard. This paper will show how the semiotic approach provides new insights for the study of iconicity in the English language and literature. The data analysis provides evidence that the two positional variants reflect a semantic distinction underlying their non-random distribution, which is rooted in iconic representation.

From the semiotic point of view, the two construction variants are regarded as two different signs, where the distinction in form necessarily brings about some difference in meaning (Tobin 1993). Iconically, the discontinuous word order shares the syntactic configuration with the resultative construction that includes an agent, a patient, and the result the agent's action on the patient engenders (Goldberg and R. S. Jackendoff 2004):

> *She* [agent] *turned* [action] *the music* [patient] *off* [resulting state].
> *He* [agent] *watered* [action] *the tulips* [patient] *flat* [resulting state].
> *We* [agent] *should caffeine* [action] *our problems* [patient] *away* [resulting state].

If we consider the discontinuous verb-particle construction to be a subtype of the resultative construction based on the iconicity of the signal, its semantic contribution should be different and marked for result, where result implies such aspectual meanings as completion, endpoint, telic goal, and others. The analysis of the data confirms this hypothesis. The continuous construction is chosen to reflect the process:

> *In* War and Peace, *Tolstoy had used Pierre Bezouchov's new-found ability t**o turn down applicants for money** as a sign of maturity.*
>
> (Shaw 1973, p. 85)

The discontinuous construction makes a claim for the result:

> *It is said he **turned** the offer **down** in a brief telegram, "Have already deserted sinking ship. Craig."*
>
> (Shaw 1973, p. 28)

The data in this paper culled from numerous literary texts and written and spoken corpora contrast the two types of the verb-particle construction and show how the semiotic principle of iconicity can be responsible for the semantic distinction between the two constructions. The non-random distribution of the forms is explained by the subtle difference in their meaning: the action is reported as marked for its outcome/endpoint/result when the discontinuous sign is used and as unmarked/neutral for this semantic feature when the continuous variant is preferred. This hypothesis is validated further by comparing the translation of the two construction variants into Russian, where the aspectual meaning of result has a mandatory morphological expression.

12

The iconicity, indexicality, and frequency of lines in comics and manga

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In comics and manga, lines are used to depict motion. In prior literature, different types of lines have often been subsumed under names like speed lines and action lines, and rarely separated into different types (e.g., Ito, Seno, and Yamanaka 2010). In this talk, we provide quantitative corpus-based evidence that at least three different types of lines need to be distinguished due to their structural differences: **motion lines** attached behind movers, **suppletion lines** replacing parts of movers, and **backfixing lines** set in the background behind movers (Cohn 2013), see Figure 1. In a corpus study of 331 comics, we analyze how these lines relate to the depicted paths and varying levels of speed, as well as the frequency and size of the lines to assess the degrees of their indexicality and iconicity. Within the framework of Visual Language Theory (VLT), we adopt a lexical view of motion, treating these constructions as distinct elements of a visual vocabulary (Cohn 2013). According to VLT, these lines behave like bound morphemes in language because they cannot stand alone and need to be attached to a root to gain meaning (cf. Figure 12.1). Also, the meaning they encode varies: For example, motion lines indicate traversed paths (indexical) while backfixing and suppletion lines that resemble motion blurs in physical settings (more iconic) show movers in the middle of action with fast speed. However, empirical research on comics has not focused on these types of differences between the lines.

Thus, we ask:

(a) which line types predict directionality

(b) which type/number of lines predict speed

(c) whether line types differ in their frequency and size, given that in language frequent forms become shorter, more conventional, and more abstract in meaning over time (J. Bybee 2006)

We expected motion lines indexing paths to correlate with explicitness of direction while suppletion and backfixing lines rather relate to fast speed due to their iconicity. Also, if these lines behave like morphemes in language and are lexicalized in a visual vocabulary as suggested by Cohn (2013), we expect that the more frequent lines are smaller and possibly less iconic and more grammaticalized. To examine these questions, we looked at a subset of the

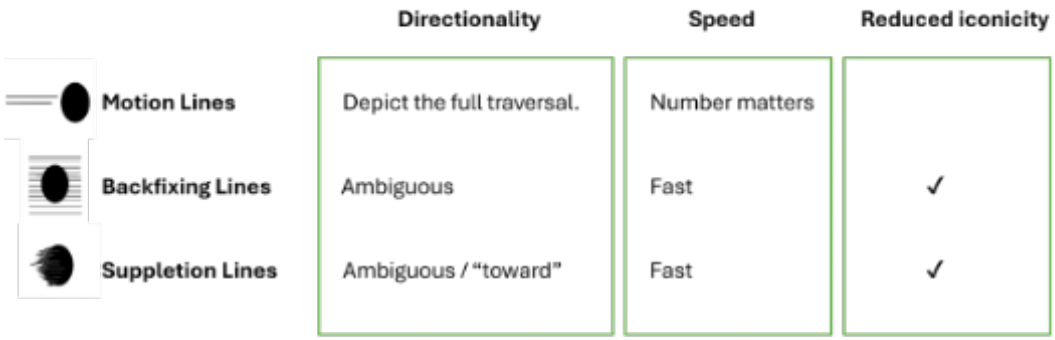

Figure 12.1: The suggested features of different types of lines that align with our findings.

TINTIN Corpus (Cardoso and Cohn 2022). We annotated 331 comics from 81 different countries for motion-related properties. These included morphological features (type of lines: motion, suppletion, and backfixing, and number of motion lines) and semantic features (explicitness of path direction if depicted, and manner of movement, such as walking, running, or driving). All the annotations automatically received a relative size of the annotation area measured in percentage on page.

To test whether line types differed in their relationship to explicit path direction, we analyzed which lines co-occur with annotated arrows indicating direction. We then investigated their relationship to speed by testing which types and numbers of lines appeared in panels depicting walking, running, and driving. Then, we tested the degree of imagic iconicity and grammaticalization of the lines by comparing the size and the frequency of the different types of lines. All analyses were carried out using Generalized Linear Mixed Models.

Our results revealed that only motion lines are associated with explicit directionality, while neither suppletion nor backfixing lines show any relationship with paths. Regarding speed, both suppletion and backfixing lines co-occur with fast motion (running and driving but not walking), but for motion lines, their number matters. Only multiple lines correlated with fastest motion (driving). This is in accordance with previous experimental findings by Hacımusaoğlu and Cohn (2025), where suppletion and backfixing lines were rated as depicting faster speed than motion lines, but with an influence of manga readership. Frequency and size analyses also showed that motion lines appear far more frequently and are on average smaller than suppletion or backfixing lines, consistent with linguistic observations that frequent forms become shorter, more conventional, and more abstract in meaning (J. Bybee 2006).

Overall, these findings align well with the lexical view of motion. Suppletion and backfixing lines rely on imagic iconicity, resembling motion blurs on objects or backgrounds, and thus evoke speed. Motion lines are rather indexical: they point at the starting point and endpoint of action and thus are associated with explicit directionality. The iconicity of motion lines is that of quantity, suggesting more lines mean more speed. Notably, their higher frequency and smaller sizes further suggest greater grammaticalization than suppletion and backfixing lines.

In conclusion, the differences in iconicity, frequency, and indexicality between motion, backfixing, and suppletion lines show that they should be treated as distinct items of a visual vocabulary.

13

Investigating tonal iconicity

An experimental study of sound symbolism in Xitsonga

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Background

This study focuses on the iconicity of tone, based on experimental data from native speakers of Xitsonga. The correlation between linguistic form and meaning has traditionally been regarded as arbitrary; however, the well-known Bouba–Kiki effect, originally proposed by Köhler (1929), initiated foundational discussion on linguistic iconicity. Subsequent research on iconicity-particularly at the segmental level has developed under the framework of sound symbolism. For example, Kawahara et al. (2018) investigated Japanese sound symbolism using a database of Pokémon names, revealing statistical correlations between phonological properties and character attributes such as power, speed, and weight. Despite this growing body of research, most studies have focused on segmental features. Tone, by contrast, is a suprasegmental phonological category that plays a central role in tonal languages, yet its contribution to non-arbitrary sound-meaning correspondences remains underexplored. While Zhang and Wang (2017) examined tonal effects in Mandarin and reported significant results, similar investigations of tonal iconicity have not been conducted in Bantu languages, many of which exhibit binary tone contrasts. To address this gap, the present study investigates the role of tone in sound-meaning associations in a Bantu language with a binary tonal system. Specifically, it examines whether tonal contrasts in Xitsonga systematically influence semantic judgments. By focusing on Xitsonga, this study aims to clarify how tonal iconicity operates in a binary tone system and to contribute to a broader cross-linguistic understanding of tonal iconicity.

Experiment

To discuss the tonal iconicity, perception experiments has been conducted. Thirty-one native speakers of Xitsonga in Limpopo, South Africa, participated in the experiment. The two different direction of experiments have been conducted by the every participants in the random order with tone contrasted audio stimuli and choices of meaning: experiment 1 play an audio stimuli first to chose a matched meaning and experiment 2 show the meaing first and chose a matched audio stimuli. The choices were presented in three semantic categories: weight (heavy vs. light), height (tall vs. short), and speed (fast vs. slow). The audio stimuli consisted

Category	Baseline Tone	Contrast Tone	P Baseline	P Contrast	Logit Estimate	SE	z value	p value
Height	H	L	0.48 (Tall | H)	0.40 (Tall | L)	−0.29	0.14	−2.05	< .05
Weight	H	L	0.28 (Heavy | H)	0.67 (Heavy | L)	1.66	0.15	10.8	< .000001
Speed	H	L	0.55 (Fast | H)	0.37 (Fast | L)	−0.73	0.14	−5.06	< .000001

Table 13.1: Regression result of experiment 1

of 12 CVCV and 1 VV nonce words, each with two tonal versions (High-High and Low-Low). Stimuli and response options were randomized across trials.

Result

Among the three semantic categories, tone–meaning correlations were statistically significant. Comparison of the coefficients across the two experiments revealed consistent results across experimental directions. Weight exhibited the strongest effect, while speed and height showed more moderate effects. Table 13.1 presents the correlation results and illustrates the relative strength of the tone–meaning association for each semantic category.

Discussion

The results across the three semantic categories are interpreted using multiple theoretical frameworks. The strong effect for weight aligns with Frequency Code Theory, which links fundamental frequency to perceptual distinctions such as size and mass (Ohala 1994). Effects for speed may reflect either direct pitch–motion mappings or mediation through higher-order conceptual factors (Sidhu, Vigliocco, and Pexman 2022). Height, however, does not follow Frequency Code predictions and is instead interpreted in terms of cross-modal correspondence between pitch and spatial elevation. Overall, these findings suggest that tonal iconicity arises from multiple interacting mechanisms rather than a single perceptual factor.

Conclusion

This study demonstrates that tone influences the perception of meaning in Xitsonga and reveals systematic tone–meaning correlations. The results and discussion contribute to broader debates on tonal iconicity and provide a basis for extending this work to general discussions of tone–meaning associations across languages.

14

Ideophonic language background does not aid in the comprehension of foreign ideophones

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Ideophones (marked words that depict sensory imagery) are a near universal but unevenly distributed phenomenon across the worlds'languages (Voeltz and Kilian-Hatz 2001; Voeltz and Kilian-Hatz 2001; Dingemanse 2012), which have been argued to be perceivable across cultures and languages (Lockwood, Dingemanse, and Hagoort 2016). While ideophonic languages (ILs) such as Japanese, Akan and Ga (Asiedu et al. 2023; Akita 2009; Campbell 2017) possess large, conventionalized sets of ideophones that play an integral role in daily communication, the ideophone inventory in non-ideophonic languages (nILs) such as German is comparably smaller and more constrained (Dingemanse 2018; Barnes et al. 2022). To help ascertain differences between ILs and nILs and determine cross-linguistic robustness of ideophones, the present study investigates whether ideophones from a typologically unrelated language (Cantonese) are comprehensible across linguistic boundaries, and whether speakers of an IL (Ga) are advantaged in understanding foreign ideophones compared to speakers of a nIL (German).

Given the various morphological types and the large inventory of Cantonese ideophones (see Bodomo 2008), we first conducted an iconicity rating task to ensure that highly iconic ideophones are selected as target items. 66 native Cantonese speakers gave their subjective judgment of iconicity on a 7-point scale for 30 ideophones of various sensory domains, from which we selected 10 ideophones with the highest iconicity ratings as our targets. The second phase employed a two-alternative forced-choice perception task, administered via PsychoPy to participants with no knowledge of any Sinitic language. L1 speakers of Ga (N = 19) and of German (N = 22) were tested. The stimuli consisted of 30 sound pairs which were matched on tone, including 10 experimental pairs (Cantonese ideophones), 10 control pairs (non-iconic Cantonese words), and 10 filler pairs (iconic sounds). Participants were given the written translation of the target item in their respective L1 before hearing the target and distractor options. They were then asked to select which of the two auditory stimuli better matched the written meaning. This design enabled the assessment of general iconic mappings (fillers), a random guessing baseline (controls), and target ideophone comprehension (experimentals).

Fitting a generalized linear mixed-effects models with random intercepts for participants and items revealed three findings: First, there was no overall group effect (β = .09, SE = .15, p = .54). Both groups performed at chance level in the control condition, but reliably above chance

on fillers (Ga: ~87%, Germ: 90%), confirming task validity. Second, the control-experimental difference was marginal and not significant (p = .058). Third, and most crucially, in the experimental condition, German speakers significantly outperformed Ga speakers (β = .47, SE = .21, p = .03), contrary to predictions. The significant interaction between condition type and group (see Figure 14.1 top) suggests that familiarity of ideophones in their L1 (i.e., Ga) does not necessarily confer an advantage in perceiving foreign ideophones; instead, processing may depend on language-specific phonological strategies or coincidental overlap between lexical forms. Our findings indicate that foreign ideophone comprehension cannot be solely predicted based on the ideophonic richness in the native lexicon. In the presentation, we will further discuss the possible factors that account for the different accuracies between groups and between items. Overall, these results nuance current assumptions about the accessibility of ideophonic meanings and highlight the need to expand cross-linguistic studies to a wider range of (non-)ideophonic languages. Future work should expand stimulus sets, and further disentangle the roles of phonological overlap and iconic strategy in ideophone perception.

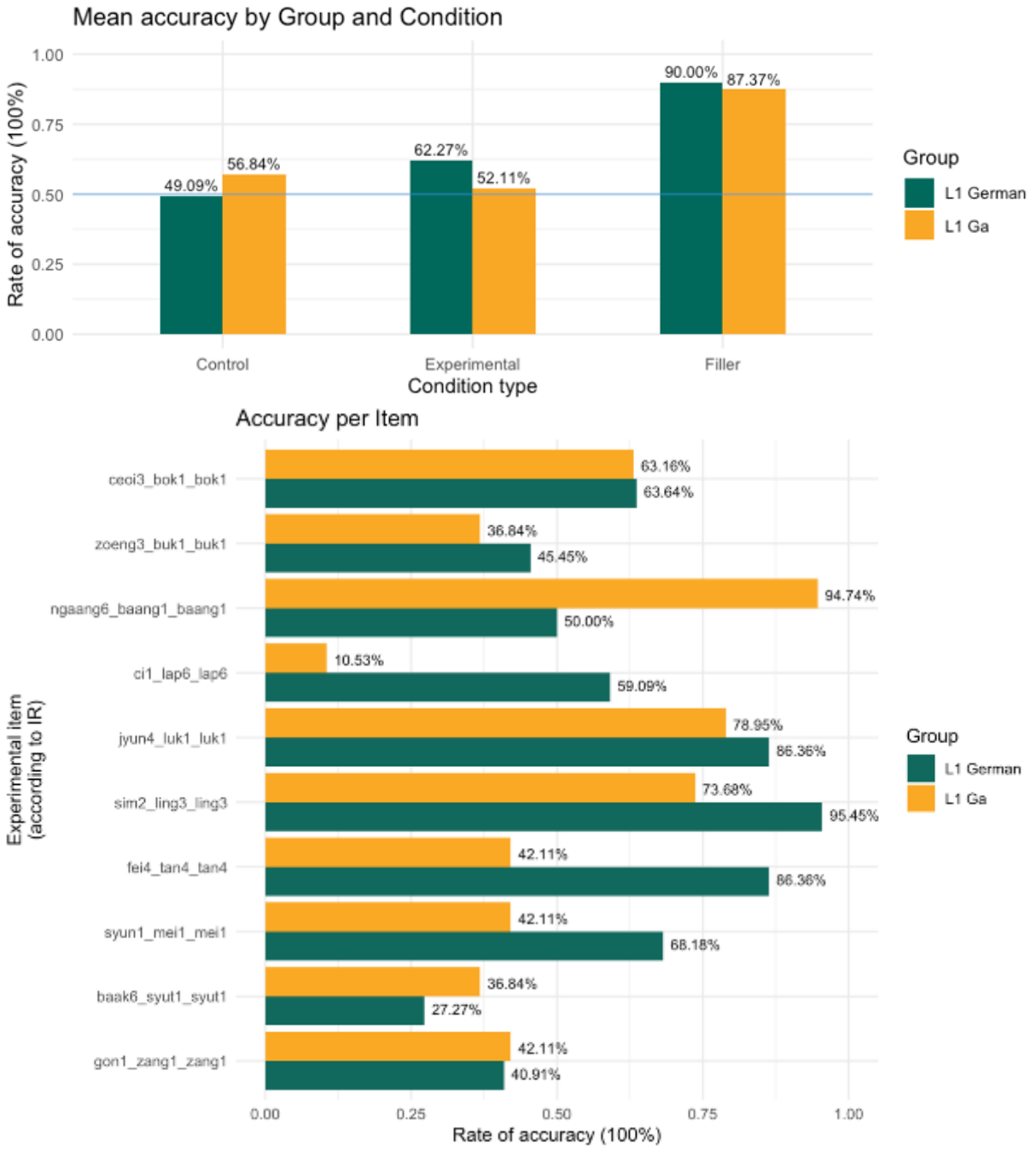

Figure 14.1: Mean accuracy ratings grouped by Condition and Group (top) and per Item (bottom)

15

Getting the bull by the horns

How the text linguistic notion of anaphor resolution and a slight variation in the diagrammatic dynamics of the Zen ox drawings can aid in their interpretation

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This paper is concerned with describing how the text linguistic notion of anaphor resolution and the iconic categories of image, diagram and metaphor can be useful when trying to understand the meaning of the Zen ox drawings. This sequence of drawings, which is somewhat like a recipe, or a description of a process, was first developed hundreds of years ago, and was, as Omori (2020, p. 205) states, intended to act as "a guide to students of Zen Buddhism" that would lead them through a series of epiphanies toward the discovery of the true self. The original sequence of drawings was created in China centuries ago, and over time, many different versions have evolved, but the sequence considered by Omori and in the following discussion is one common in Japan, consisting of ten drawings illustrating the (roughly) ten steps to the discovery of the true self.

Following Cohn's (2016) discussion of visual narratives, we will attempt to answer two fundamental questions. First, how are the forms (the ox and the young person) and the meanings (the hints of the true self and the true-self-seeker) of the individual images connected, and how do they function? The second question is how do the images in the sequence relate to each other to form a diagrammatic description of the enlightenment process? To assist in answering these questions, in addition to suggestions from Zen studies, insights from iconicity (image, diagram, metaphor) research and other linguistic research, especially the study of anaphor resolution by Schwarz-Friesel et al. (2007), will also be considered.

The reason why anaphor resolution studies can be useful for understanding the Zen ox drawing sequence is that, very simply, the search for the relevant referent of the ox in the drawings can be seen as quite similar to anaphor resolution in texts. That is, the ox can be seen as functioning like an indirect metaphorical anaphor, or as a special kind of retrieval clue, that is used to help activate the semantic, conceptual and spiritual knowledge necessary for the identification of the intended antecedent. As should become clear by the final portion of this paper, the ox drawings are not really about the ox, but instead are about the indirect metaphorical antecedent of the ox anaphor, the true self (the first Cohn-question). And finally, it will be shown how this reference to the true self antecedent can be more easily understood by a slight rearrangement of the presentation of the drawings (the second Cohn-question). It

is hoped that this slight shift in the diagrammatic arrangement of the drawings can lead to a slight paradigm shift that might eventually aid in the discovery of the true self.

16

The role of iconicity in the acquisition of Mandarin modal verbs and temporal adverbs by Japanese learners

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This study investigates the influence of the *iconicity of the sequence* principle on the acquisition of Mandarin modal verbs and temporal adverbs among Japanese learners. Iconicity of sequence refers to the tendency for linguistic structures to mirror the conceptual order of events (Givón 1989; Haiman 1980; Tai 1985). Tai (1985; 1988) further proposed the Time-Sequence Principle, arguing that the relative ordering of two syntactic units is determined by the temporal sequence of the events they denote. By contrast, Wang and Ai (2022) advanced the Space-Sequence Principle, contending that Mandarin Chinese exhibits a strong spatial orientation, such that word-order determination is primarily governed by spatial sequencing, with temporal sequencing functioning as a subordinate principle. Despite their differences, both approaches underscore the centrality of word-order principles in Chinese (Shen 1993, cf.).

From a second language acquisition perspective, although both Japanese and Chinese are topic-prominent languages, they differ substantially in the positioning of modal verbs and temporal adverbs (W. Wang and Ai 2022, cf.). These divergent word-order patterns give rise to systematic errors in Japanese learners' sentence production. At the cross-linguistic adverbial hierarchy, temporal-position adverbs (TP1) in Chinese, Japanese, and Korean tend to precede degree and manner adverbs, in contrast to English, where temporal-position adverbs (TP2) show a stronger tendency toward postverbal placement. Previous research on iconicity in Chinese has demonstrated its important role in native speakers' language preferences (Hwang and Tai 2014; Tai 1993; Wu, Huang, and Polley 2024, e.g.); however, little attention has been paid to how word order and adverbial ordering affect Japanese learners' acquisition of Chinese (Tamaoka and J. Zhang 2022; Tai 2015, cf.).

The present study addresses the following research questions: first, how do Japanese learners' word-order patterns involving modal verbs and temporal adverbs conform to or violate the Sequence Iconicity Principle? Secondly, which learner errors reflect Cinque's (1999) proposed universal hierarchy of adverb co-occurrence (e.g., the position of temporal adverbs and the principle of semantic distance)? Which errors can instead be explained by the Identifiability Precedence Iconicity Principle or by Focus Postposing? Notably, the interaction of these two principles has been argued to account for the preverbal placement of temporal adverbs in

Chinese, Japanese, and Korean. What pedagogical implications do these cross-linguistic differences have for Chinese language teaching? Existing research on Chinese as a second language has largely focused on grammatical correctness, with relatively limited attention to the cognitive motivations underlying form–meaning correspondences. This gap constrains our understanding of how second language learners internalize word-order constraints grounded in iconicity. To address this issue, the present study analyzes learner errors drawn from the TOCFL learner error corpus, examining the influence of learners' first language on their word-order deviations. Based on the research questions, we first conduct a corpus-based analysis to identify common error types and their relationships to the principles outlined above. Preliminary findings reveal three major types of representative learners' errors, illustrated below:

(16.1) * *Tamen hui danxin yang chongwu keneng dai lai xiangfan de xiaoguo.*
'They may worry that keeping pets could bring about the opposite effect.'

(16.2) * *Daole riyuetan yijing bangwanle, suoyi women xian zhao ge difang keyi luying.*
'By the time we arrived at Sun Moon Lake, it was already evening, so we first looked for a place where we could camp.'

(16.3) * *Ta 18 sui de shihou zhongyu cai keyi dang geshou.*
'When he turned eighteen, he was finally able to become a singer.'

(16.4) * *Yao buran jiu ta keneng fangqi nuli haohao di xuexi.*
'Otherwise, he might give up trying hard and studying properly.'

(16.5) * *Ruguo wo zai daxue keyi jiao ke dehua, wo zhi neng dang yuyan de laoshi.*
'If I were able to teach at a university, I could only be a language teacher.'

(16.6) * *Wo mashang anpai nin keyi gen fangdong jianmian.*
'I will arrange for you to meet with the landlord immediately.'

First, modal verbs such as *kěyǐ* 'can', *yīnggāi* 'should', *yào* 'need/want', and *kěnéng* 'might' are frequently placed in positions that do not align with event sequencing, thereby violating the Sequence Iconicity Principle. This tendency can be attributed to the multifunctional semantics of modal verbs and their frequent conflation with adverbs, which makes it difficult for learners to identify their appropriate syntactic positions. Second, adverbs pose particular challenges due to their semantic diversity, large inventory, and high sensitivity to word order. Because syntactic placement rules vary across adverb types and are not fully uniform, learners often misorder adverbs such as *xiān* 'first' and *cái* 'only then', which are closely associated with temporal and event structure, as well as aspectual adverbs such as *dōu* 'all', *yě* 'also', and *yǐjīng* 'already'. These adverbs are frequently placed in linear positions that are incompatible with Mandarin syntax (Cinque 1999, cf.). Third, Japanese typically encodes the speaker's stance through sentence-final modal forms, while sentential adverbs tend to occupy the left periphery of the clause. In contrast, Mandarin Chinese primarily expresses modality through preverbal adverbs or modal verbs, and sentence-final positions are not grammaticalized as modal markers. As a result, Japanese learners of Mandarin frequently misplace modal verbs, leading to systematic word-order errors. Preliminary analyses indicate that modal verbs such as *kěyǐ*, *yīnggāi*, *yào*, and *kěnéng* exhibit particularly high error rates among Japanese learners.

Overall, the results indicate that Japanese learners are strongly influenced by first-language word-order patterns. For example, in contexts where Mandarin prefers temporal adverbs to

follow modal verbs, learners frequently place temporal adverbs before modals, reflecting partial transfer of Japanese adverbial positioning rules. These findings suggest that explicit instruction emphasizing the mapping between event time and modal meaning, as well as clear explanations of cross-linguistic differences in the positioning of temporal adverbs within the adverbial hierarchy, may reduce error rates and enhance learners' awareness of form–meaning motivation.

This study is expected to make two major contributions. Theoretically, it extends research on iconicity to cross-linguistic second language acquisition contexts involving structurally similar languages with divergent word-order systems. In doing so, it clarifies the role of iconicity principles in L2 acquisition and sheds light on the interaction between cognitive constraints and typological features underlying Chinese word-order errors. Pedagogically, it proposes a cognitively grounded instructional model aimed at improving Japanese learners' accuracy in Chinese word order through explicit explanation of event sequencing, functional distinctions among modal verbs, and the positional characteristics of temporal adverbs. This model has practical implications for curriculum design, error diagnosis, and the development of automated error-detection systems grounded in iconicity-based constraints.

17

Syntactic Doubling and Iconicity in Japanese

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Reduplication is known to express several meanings, such as plurality, repeated or continued occurrence of an event, reciprocity, intensity, and attenuation, among others (Moravcsik 1992). In Japanese, reduplication of nominals such as *hitobito* ('person-person'; people) indicates plurality, while that of verbs such as *kawarugawaru* ('take.turns-take.turns'; by turns) indicates repeated occurrence of an event. These examples illustrate iconicity, as the repetition of a morpheme mirrors the plurality of an entity or the reoccurrence of an event expressed by a single morpheme. In addition to lexical reduplication, words are sometimes repeated within a single intonation phrase in a sentence (Wierzbicka 1991, cf.), which we refer to as "syntactic doubling." This paper examines the extent to which iconicity is observed in cases of syntactic doubling in colloquial Japanese.

(17.1) a. *Ah, kayu-i kayu-i. Moo gaman deki-nai.*
oh itchy-NPST itchy-NPST more stand able-NEG
'Oh, I'm so itchy. I can't stand it anymore.'

b. *Ah, tabe-ta tabe-ta. Onaka-ga ippai-da.*
oh eat-PERF eat-PERF stomach-NOM full-COP.NPST
'Oh, I've eaten so much. I'm full.'

c. *Ohtani-ga hoomuran-o uts-u uts-u.*
Ohtani-NOM homerun-ACC hit-NPST hit-NPST
'Ohtani hits/hit home runs repeatedly.'

As noted by Ishihara (2019), when a stative predicate or an activity-denoting predicate is repeated, the sentence is interpreted as expressing a higher degree of the state (17.1a) or greater intensity of the activity (17.1b) compared to non-doubled forms. When an achievement or accomplishment predicate is iterated, the sentence is understood to denote repeated events (17.1c). These examples demonstrate that syntactic doubling can exhibit a type of iconicity similar to that observed in lexical reduplication. The repeated occurrences of a predicate contributes to emphasis in various ways, depending on the predicate type.

In addition, syntactic doubling often occurs in response to an interlocutor's utterance.

(17.2) A: *Konogoro okome-ga takaku-te...*
recently rice-NOM expensive-CONT
'The price of rice has been high recently.'

B: *Un, soo soo. Wakar-u wakar-u.*
yes right right understand-NPST understand-NPST
'Yes, that's right. I agree.'

Here, Speaker B agrees with Speaker A's remark and repeats *soo* and *wakar-u*, often accompanied by nodding. While B could simply say "*Un, soo-ne. Wakar-u.*" without doubling, the use of doubling emphasizes agreement. This kind of emphasis is intuitive and can be considered iconic. In (17.1a-17.1c), emphasis is placed on the meaning of a predicate, whereas in (17.2), it is placed on the speaker's interactional stance. I argue that this constitutes a basic and central function of syntactic doubling in discourse, giving rise to a range of uses that reflect the speaker's active engagement in conversation. Syntactic doubling in answers to questions further illustrates this point.

(17.3) A: *Nee, Kimetsu-no Yaiba mi-ta?*
hey demon.slayer-GEN blade watch-PST
'Hey, did you watch Demon Slayer, the movie?'
B: *Un, mi-ta mi-ta. Sugoku yokat-ta-yo.*
yes watch-PST watch-PST very good-PST-SFP
'Yes, I DID. It was very good.'

(17.4) A: *Hankoo-genba-ni it-ta-na?*
crime-scene-to go-PST-SFP
'You went to the crime scene, right?'
B: *Iie, itte-mas-en itte-mas-en.*
no go-POLIT-NEG go-POLIT-NEG
'No, I did NOT.'

In (17.3), B willingly answers A's question. Negative responses can also be doubled, as in (17.4). Other examples like *doko doko?* ('where where'), *sore sore* ('that that'), and *dame dame* ('don't don't') express a speaker's conversational involvement. Expressions like *nee nee* ('hey hey'), *hora hora* ('look look'), and *mi-te mi-te* ('look look') are often used to initiate conversations or draw attention—functions that may be seen as extensions of the same basic interactional pattern.

There are cases where doubling does not seem to indicate speaker involvement at first glance.

(17.5) A: *Watashi-no i-u koto kii-teru-no?*
I-GEN say-NPST things listen-PROG-SFP
'Are you listening to what I'm saying?'
B: *Hai hai, kii-te-mas-u kii-te-masu.*
yes yes listen-PROG-POLIT-NPST listen-PROG-POLIT-NPST
'Oh, yes, I AM.'

In (17.5), B sounds somewhat irritated and appears reluctant to continue the conversation, unlike the neutral tone of a non-doubled response. Nevertheless, B acknowledges receipt of A's message and wants to ensure that understanding is conveyed. Even here, syntactic doubling expresses conversational engagement, though not necessarily agreement.

In summary, syntactic doubling can express a heightened degree or intensity of a state or activity, or the repetition of an event—phenomena that are strongly iconic. Moreover, in discourse, syntactic doubling can convey a speaker's engagement in the conversation, such

as agreement or willingness to cooperate. As long as these uses involve emphasis by the interlocutor, they reflect a close form-meaning relationship, illustrating iconicity not only in syntax, but also in pragmatics.

18

Lexical iconicity in child-parent interactions

Kamiyama Tomoe
Nagoya University

Some spoken words, such as *woof* and *click*, sound like what they mean, or are iconic. Recent research has revealed that iconicity, defined as a perceived similarity between the form of a sign and its meaning, is not limited to onomatopoeia. This study investigates how lexical iconicity in child-parent interaction changes through the children's development.

Several studies have demonstrated that iconicity plays a significant role in word learning. Imai and Kita (2014) propose a "sound-symbolism bootstrapping hypothesis" for language acquisition, arguing that sound symbolism helps children map words onto their referents. In addition, iconicity rating studies have revealed a negative relationship between the rated iconicity of words and their age of acquisition (Perry, Perlman, and Lupyan 2015; Winter, Lupyan, Perry, and Perlman 2024). Perry et al. (2018) used combined iconicity ratings with child–parent interaction data in CHILDES, replicating the general tendency that the more iconic a word is, the earlier it is acquired. However, no studies have focused on how the iconicity of words children use may change as a function of their lexical development.

Moreover, little has been known about iconicity in child-directed speech (CDS). Perry et al. (2018) revealed that adults use more iconic words when they speak to children than to other adults. The same tendency has been reported for onomatopoeia and ideophones (Imai, Kita, et al. 2008; Ogura, Yoshimoto, and Tsubota 1997; see also Cwiek 2022) for the frequent occurrence of ideophones in German picture books targeting younger children). It remains to be examined whether the rated iconicity of words in CDS also decreases in longitudinal data. The present study is the first to investigate the iconicity of children's and parents' utterances using English speech data in CHILDES. I used the Braunwald Corpus, which contains interactions between a child and their parents, covering 1;5;10 to 7;0;14, and the Kuczaj Corpus covering 2;4;24 to 5;0;11. I examined how the iconicity of words used in the corpus changes, using the iconicity ratings for 14,000+ words in Winter et al. (2024), which cover approximately 72% of the words in the Braunwald Corpus and 81% of the words in the Kuczaj Corpus.

A clear decrease in lexical iconicity over time was found in the child's speech. Linear mixed effects models were fit to predict rated iconicity from the child's age, while controlling for part of speech, word frequency, concreteness, and the length of the word. And word It was shown that iconicity ratings in the child's speech decreased by 0.0054 in each month on average (b = −0.00018, SE = 0.000011, p < .001, R^2 = 0.24) and by 0.0048 in the Kaczaj Corpus (b = −0.00016, SE = 0.000011, p < .001, R^2 = 0.24). Age remained a significant predictor even after accounting for part of speech. Iconicity ratings in IDS were investigated for each of the

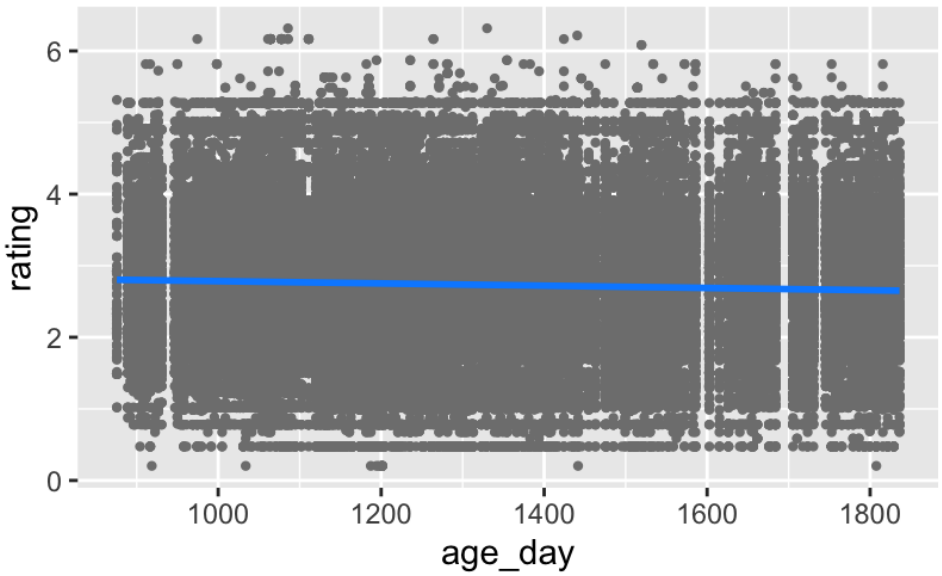

Figure 18.1: Relationship between the child's age and iconicity ratings in the Kuczaj Corpus (part of speech controlled)

two caregivers, namely, two fathers and two mothers. A linear regression was conducted to predict lexical iconicity from the child's age while controlling for part of speech. The effect of age was statistically significant in three parents' talks, the mother in the Braunwald Corpus (b = −0.000048, SE = 0.0000082, p < .001, R^2 = 0.25), the father in the Kuczaj Corpus (b = −0.00012, SE = 0.000016, p < .001, R^2 = 0.30), and the mother in the Kuczaj Corpus (b = −0.000074, SE = 0.000019, p < .001, R^2 = 0.25). However, children's age was not a significant predictor of iconicity for the father in the Braunwald Corpus (b = −0.000053, SE = 0.000032, p = .10, R^2 = 0.25).

These results reinforce the previous observation that children learn iconic words early and parents use more iconic words to younger children. However, the results suggest that the ability of parents to adjust the iconicity of their speech according to their children's lexical development varies among individuals. Future research will need to examine whether the distribution of iconicity is consistent across families and across languages.

19

Iconicity in the writer's archive

Agnieszka Karpowicz
University of Warsaw

The aim of this paper is to discuss the problem of iconicity, which we encounter in the manuscripts and typescripts of many writers, and which is not usually transferred to the published versions of works. I want to discuss the types of such iconicity and how its absencje in editions can affect the meaning, and therefore also the interpretation, of works, using the example of part of the archives of one of the most important and experimental Polish writers of the 20th century, Leopold Buczkowski. I will focus primarily on manuscripts of Works from the first period of his oeuvre, primarily related to his traumatic war experiences. Buczkowski was born in Podolia in 1905; the area was in Poland at the outbreak of World War II, after which it was annexed to the USSR; here, during the World War II, the writer observed the extermination of Jews, from here he escaped in 1943, avoiding the Volhynian massacre, then managed to get to Warsaw, where he survived the Warsaw Uprising. From this time come the autobiographically imbued diaries and his most recognised novel, *Black Torrent* and fragments of the novel *Rafał Bajc*. I will attempt, than, to relate the iconicity of manuscripts to affect, emotion and trauma, but also to memory. This will include, for example, the iconicity of non-standard punctuation marks used by writers in manuscripts and not preserved in print (e.g. posthumous editions of diaries). I will thus prove the iconicity of signs such as: =, ? –, ! –, . –, :–, #, . /, ! –,!!, !!! –, !.!, ·····, and other, by also relating them to the categories of silence and the unspeakability of trauma.

I will present arguments by referring both to literature and to the painting and sculpture or drawing that Buczkowski practised. I will be interested in how and what these visual signs mean, but also how they can be interpreted when there is no convention or usus for them. I will also take up the subject of drawings (e.g. schematic maps of Podolia in the text of the *Black Torrent* [fig.1,2] an oversized dot) in manuscripts, graphic signs of kontent division (vertical lines, horizontal dashes, division of the text into columns), proving theiriconicity and examining their relationship to the text (word and image).

I will show the changes that the removal of these elements from a literary work will lead to. I will demonstrate that the iconicity of manuscripts is related to the meaning of literary Works and I will also explore variations and dynamics of iconicity, encompassing its across different domains (visual art, music and litterature of Buczkowski). In examining manuscripts, I will be guided by the research of George Bornstein, Pierre-Marc de Biasi and Jean Bellemin-Noël (2004), who draws attention to the importance of the visuality of text in the the production of its meanings. The study of iconicity will support the genetics of the text, and the study of archival material will provide examples for analyses of the iconicity of the literary text.

20

A chronotopic analysis of iconic gestures in a rock climbing narrative

Kataoka Kuniyoshi
Aichi University

This presentation explores gesture in narration, demonstrating how iconic gestures index the narrator's *origo* and "chronotopic" (Bakhtin 1981) values that surround the narrated scene. To examine the subtle values, I will analyze narratives by rock climbers sharing their life-threatening experiences with fellow climbers. In such narratives, "iconic gestures" (McNeill 1992) are frequently employed to advance the narrative mainline, especially during the "complication" (Labov 1972). This presentation essentially employs multimodal analysis to clarify the chronotopic values in relation to the speaker's *origo*, created through the collaborative use of verbal and nonverbal signs (McNeill, Levy, and S. D. Duncan 2015).

A chronotope (Bakhtin 1981), etymologically meaning "time-space," refers to the inseparable connection between temporal and spatial relationships that are realized and combined into a coherent whole. Any spatial images that are socio-historically constructed through discourse are always chronotopic, revealing textual and perspectival distinctiveness (cf. Manning 2020; De Fina and Perrino 2020). In other words, the perspectival stances of the narrator can variably represent certain chronotopic values. In terms of gestural categories as well, iconic gestures are indexical of perspectival stances. Iconic gestures are usually classified into two (or three) major types: character-viewpoint (C-VPT) and "observer-viewpoint" (O-VPT) gestures, which are calibrated by physical and psychological "distance" (McNeill 1992, pp. 192–193) in terms of the continuum "C-VPT < Inside O-VPT < Outside O-VPT." C-VPT depicts an event from the proximal distance such that the narrator's locus of viewpoint is assimilated to that of the character in the story, while the O-VPT is that of an outside observer. As such, types of iconic gestures employed in narratives of a fatal/massive fall in rock climbing necessarily evoke value-laden spatio-temporal stances—or chronotopic values.

Also, another distinction we need to make is between a "narrated" event and a "narrating" event (De Fina and Perrino 2020). While a narrated event belongs to the past, the act of narrating occurs in the present. In this sense, they belong to separate chronotopes, often distinguished by different deictic elements such as demonstratives, tense, and pronouns. Despite these seemingly clear distinctions, many cases show that the two or more chronotopes do not have clear boundaries, leading to situations of what Silverstein (2005) calls "co-eval" alignment, where these distinct chronotopes overlap in space and time. In such cases, the "past" and the "present" (or even the "imaginary") converge not only through verbal representations but also through bodily ones.

Figure 20.1

For example, the images of Figure 20.1 show the same "fall" scene at different stages of narration. The almost identical iconic gestures suggest that these represent "catchments" (McNeill, Levy, and S. D. Duncan 2015).

At the same time, one can observe subtle differences in the gaze direction and the gestural trajectories—especially the starting and ending points of the right-hand gesture. From these features, the position of the speaker's *origo* (in the narration) can be inferred, indicating that these bodily depictions reveal differences in the experiential basis (chronotopic values) from distinct perspectives. In other words, these may simply be classified as iconic gestures, but upon closer investigation, they can represent specific space-time values that are not readily apparent to the audience.

Furthermore, I will also demonstrate (see Kataoka to appear in 2026) that proximal gestures, such as inside-O-VPT and C-VPT, trigger the "breakthrough into performance" (Hymes 1966), while distal ones in O-VPT mark the resultative state following the climax. These phenomena indicate the multiple layers of "coeval" calibrations through evoked image(rie)s and somatic representations. Such inter-layer alignments can be achieved not only between "narrated" (past) and "narrating" (present), combinations of which exhibit particular chronotopic values.

21

Iconicity in Tohoku dialect ideophones

Variation and communicative dynamics

Kawasaki Megumi
Nagoya Gakuin University

This paper investigates the multifaceted communicative functions of ideophones in Tohoku dialects of Japanese, focusing on their use in narration, explanation, directives, and appeals. While prior research (Kobayashi 2023; Kobayashi and Sawamura 2014, e.g.) has contrasted the predominantly "descriptive" use of ideophones in Eastern Japan with the more "performative" use in Western Japan, this study argues that ideophones in Tohoku dialects, while remaining primarily descriptive, exhibit a range of communicative functions that merit closer examination.

The analysis is based on a qualitative study drawing on multiple data sources, including discourse data from native speakers of several Tohoku dialects, such as the Dialect Discourse Data of the National Institute for Japanese Language and Linguistics and discourse materials compiled by the Tohoku University Dialect Research Center, introspective reports collected through interviews, and data from previous related studies. While many of the illustrative examples are drawn from the Sagae dialect of Yamagata Prefecture, their implications for Tohoku dialects more broadly are also discussed. The analysis highlights several characteristics that are particularly salient in Tohoku dialect ideophone usage. First, ideophones show a high degree of descriptiveness and context-sensitive flexibility, with speakers sometimes creating temporary or extended forms to capture fine-grained situational nuances. For example, the form *guitto* 'a sudden, firm movement' may be expanded to *guira-gittari* to enhance expressive detail. Second, a single ideophonic expression often condenses emotional stance and speaker intention, functioning as a relatively holistic communicative unit. Third, ideophones are used for interpersonal evaluation and in the sharing and rephrasing of expressions among interlocutors, which contributes to empathy and the confirmation of mutual understanding in interaction. Finally, in directives and appeals, subtle phonetic variation serves to convey detailed information about actions: for instance, vowel alternation in forms such as *garogaro~gairogairo~gaɛrogaɛro* signals differences in speed and force.

In sum, ideophones in Tohoku dialects function as a versatile linguistic resource for detailed description, affective expression, and social interaction. Rather than treating descriptiveness and performativeness as a simple binary, this study demonstrates how multiple communicative functions are internally structured within ideophone use, contributing to a more nuanced understanding of regional variation in Japanese ideophones.

22

An onomasiological model of onomatopoeia-formation

Lívia Körtvélyessy and Pavol Štekauer
Pavol Jozef Šafárik University

The classical cognitive onomasiological model of word formation (Štekauer 1998; Štekauer 2005) accounts for the formation of new complex words characterized by full arbitrariness. While sharing some fundamental features, the formation of onomatopoeic words –as imitation-based iconic images –is necessarily different. An important role in the onomatopoeia-formation model is played by the notion of the phonestheme. These submorphemic units, which otherwise do not carry any meaning and fulfill the meaning-distinctive function under 'standard' circumstances, acquire, in the sound-symbolic function, the properties of a linguistic sign and behave like morphemes due to the systematic association between a form and a generalized meaning. As Abelin (1999, pp. 266–267) notes, "words with phonesthemes are very effective since there are ties between expression and meaning other than merely the arbitrary conventional, namely the motivated and to some extent the conventional."

Körtvélyessy (2025) demonstrates an important role of phonesthemes in onomatopoeia formation: to imitate a sound event, a language user relies not only on the direct imitation of extralinguistic sounds by means of the articulated sounds of their language, but also on generalized associations between a sound and a meaning –that is, on phonesthemes. In the proposed onomasiological model of onomatopoeia formation, phonesthemes constitute fundamental building blocks of onomatopoeia.

The onomatopoeia-formation model (represented on the right-hand side in Figure 22.1) differs from the classical word-formation model (represented on the left-hand side in Figure 22.1) in two main respects. First, at the onomasiological level, it does not distinguish between the onomasiological base (standing for a class of objects to be named) and the onomasiological mark (which narrows down the scope of the onomasiological base). The categories at this level –such as Loudness, Pitch, Duration, Repetition, Course of the Sound Event, etc. –are equal in their status regarding the imitated sound event. Their relative importance and the way they are represented at the next lower level depend on the coiner's hearing sensitivity, imitation skills, and –similarly to the basic word-formation model –on the coiner's creative approach to the naming act, that is, to sound imitation.

The second important difference concerns the representation of the 'semantic categories'– that is, the sound parameters identified as relevant for imitation at the onomasiological level – by corresponding linguistic units. While the basic model distinguishes between the onomatological level (the naming level in the narrow sense), at which morphemes are assigned to the

individual semantic categories of the onomasiological structure by matching their meaning with that of the corresponding semantic categories (Morpheme-to-Seme Assignment Principle), and the phonological level, at which the new complex word receives its final shape (e.g., stress pattern), the imitative nature of the naming act in onomatopoeia formation means that these two levels merge into a single onomatological-phonic level. At this level, submorphemic units (phonesthemes) and sounds of direct imitation are used to represent the individual sound categories of the onomasiological level (Sound-to-Seme Assignment Principle).

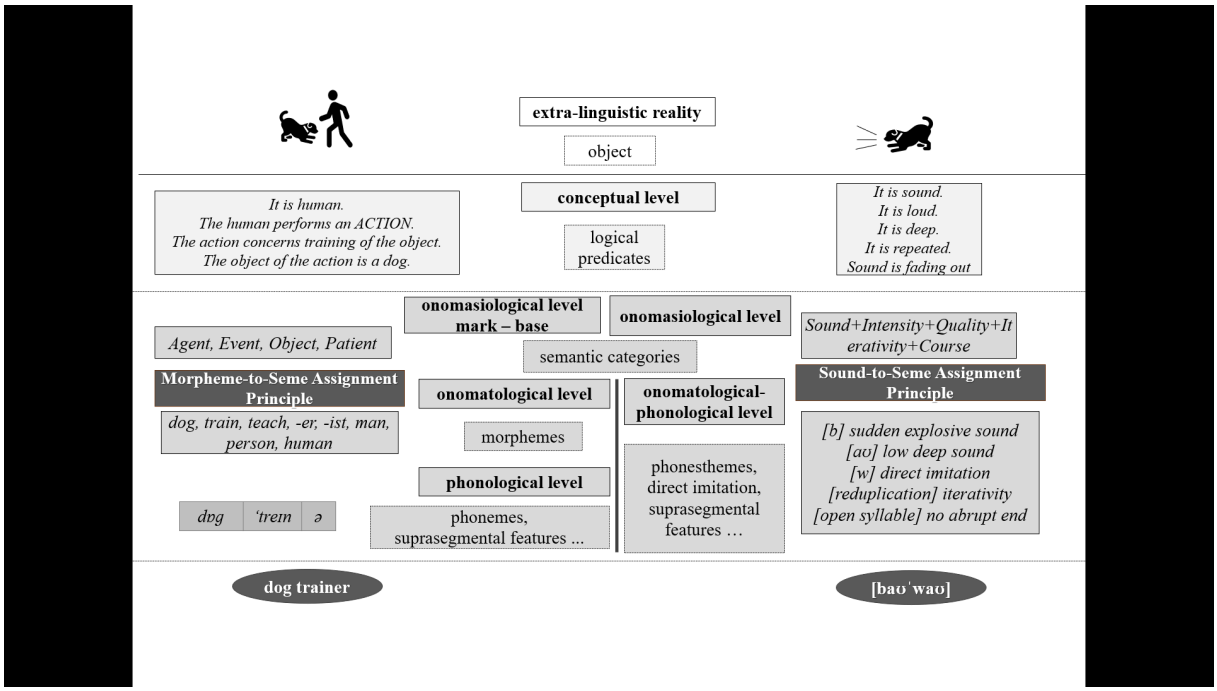

Figure 22.1: Onomasiological model of word-formation vs. onomatopoeia-formation

Figure 22.1 illustrates these principles with the formation of an onomatopoeia for the sound event 'dog barking'. It shows that the individual 'semantic'categories of the onomasiological level are represented at the onomatological-phonic level by the phonesthemes [b] and [aʊ], where [b], at the onset of the onomatopoeic word, means 'abrupt sound of short duration', and the diphthong [aʊ] means 'deep, loud sound'. Moreover, repeated barking is represented by diagrammatic iconicity—that is, by iconic reduplication. The fact that the barking does not end abruptly is indicated by an open syllable. In addition to a more detailed account of the fundamental aspects of onomatopoeia formation, the paper supports the proposed model with a brief overview of onomatopoeia-related phonesthemes.

23

Coding asymmetries of tenselessness

Iconicity or economy?

Ana Krajinović
Humboldt University of Berlin

In many languages without any obligatory tense marking, the verbs unmarked for tense are most likely to receive the present or past interpretation, with future being the least likely interpretation (see C. S. Smith 2008 for Navajo, Mucha 2015 for Hausa, Krajinović 2019 for Nafsan). The established explanation for this coding asymmetry is that "Speech Time is the central orientation point for language" (C. S. Smith 2008, p. 231), and thus the present is semantically the simplest and the most accessible temporal meaning (Mucha 2015, p. 69). Based on my quantitative analysis of Nafsan corpus data (Vanuatu, Southern Oceanic), I discuss whether the relationship between the cognitive simplicity of the present temporal reference and the lack of marking is motivated by diagrammatic iconicity (Givón 1991) or economy principles (Haiman 1983; Haspelmath 2021).

Nafsan [erk] is a tenseless language in which only aspect and mood markers can restrict or determine the temporal reference of an utterance. Every verb in Nafsan is marked by subject pronominals attached as proclitics, as in example 23.1. The most frequently used paradigm of subject proclitics only marks the person and number and it does not denote any tense, aspect, or mood (TAM) meanings, see the first two verbs in example 23.1. I refer to the use of these proclitics without any additional relevant TAM markers as morphologically "unmarked".

I consider as "marked" the perfect aspect marking (see last verb in 23.1), prospective aspect marking, and irrealis marking in Nafsan. The perfect marking indicates past temporal reference with dynamic verbs and a present temporal reference with states, while prospective aspect and irrealis mark the future temporal reference.

(23.1) *nmatu* ***ru**=tefla* *ko* ***a**=pak* *esum̃* *[...]* *natam̃ol kin* ***rui**=**pe*** *pur tu*
women 3PL=like.that or 1SG=go church [...] person COMP 3PL=PRF full stand
'Women are like that. If I go to church, it is already full of people.' (065.020, Thieberger 1995–2020)

In a corpus analysis of Nafsan, I counted the number of occurrences of present, past, and future meanings with marked and unmarked morphology. The present, past, and future meanings were coded as annotations completed in the MelaTAMP project at the Humboldt University of Berlin (2016-2020). The results in Figure 23.1 show that the present meanings were the least morphologically marked, followed by the past, and then the future, which is the most marked temporal meaning. This was tested with chi-squared tests with Bonferroni correction, which produced $p < .001$ for all contrasts between present, past, and future.

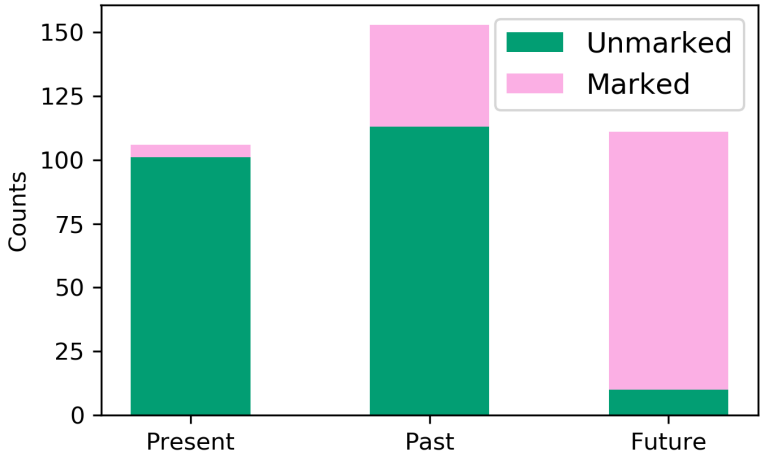

Figure 23.1: Counts of the morphologically marked and unmarked instances of present, past, and future meanings of verbs (n=370) in a subset of the Nafsan corpus (Thieberger 1995–2020)

Mucha's (2015) theory for tenseless languages posits that temporal meanings fall into a hierarchy of simplicity. Present is the simplest, as it refers to the time when the utterance is produced (C. S. Smith 2008), past is more complex because it requires displacement from the present moment, and future is the most complex as it involves displacement and increase in abstraction. The child acquisition of tenses also follows this order, with present tense being acquired first, followed by the past and then future tense (Szagun 1978). Our results of Nafsan can be explained by Mucha's (2015) arguments. In the absence of marking, speakers tend to resort to the simplest meaning available to them, the one of present. However, the question remains as to what motivates the connection between the simplicity of meaning and the lack of morphological marking.

There are two competing approaches answering this question. The first approach posits that the observed pattern of the unknown and unexpected information being more morphologically marked, such as the future, is caused by diagrammatic iconicity (complex form mimics complex meaning) (Givón 1991, among others). The second approach posits that economy relating to the frequency of use (frequent meanings have shorter forms) is a sufficient and a simpler explanation (Haspelmath 2021). Both approaches can equally well explain the Nafsan results, as the present is the simplest and the most frequent meaning in spoken language, which is also the least marked. I propose a new method of testing these approaches on linguistic data. By analyzing the diachronic data of Nafsan, I found that there is a tendency for a rise of the unmarked verbs across all temporal meanings, but tied to specific contexts (Krajinović 2019). This can be interpreted as evidence in support of the economy theory.

In this talk, I explore this analysis in more detail and discuss whether and to what extent iconicity might play a role in temporal meanings of tenseless languages. I show that the semantic explanations of coding asymmetries in tenseless languages need to be complemented by an explanatory mechanism that connects the meaning complexity to the morphological marking, and compare diagrammatic iconicity and economy as possible theoretical solutions.

24

Phonorhetorical Personae

Iconic Naming in Early Chinese Philosophical Texts

Liu Chunxiao
University of Zurich

Sound-meaning pairings are no *casus rarus* in Old Chinese (pre-221 BCE, Baxter and Sagart 2014), and form a key basis for Chinese etymological inquiries. Yet such sound-symbolic phenomena remain underexplored, largely due to the enduring influence of the Saussurean "arbitrary nature of the sign" (J. Smith 2015). Meanwhile, advances in Chinese historical phonology have heralded in-depth observations of sound-meaning correlations in early texts (Behr 2005). Still, these soundplays have received limited scholarly attention, especially through the lens of iconicity. Furthermore, although personal names play significant roles in early Chinese philosophical texts—rich in dialogue and narrative—they remain curiously peripheral to discussions concerning the texts' literary expressiveness and "argumentative force" (Gentz and Meyer 2015).

Focusing on personal names in early Chinese philosophical texts such as the *Zhuangzi* [Master Zhuang], this study reveals their iconicity. Some names are sound-symbolic, acting as "personifications" (Petersen 1992) of their bearers' roles through phono-semantic associations—notably size-sound symbolism (Sapir 1929; Ohala 1994). Others are phonologically entangled, mirroring relationships in textual meaning and thus demonstrating diagrammatic iconicity. Functioning as aural "images" or "diagrams" (Peirce 1932), these "phonorhetorical" names shape the narrative, instantiate philosophical concepts, and add playfulness by rendering them vivid.

I argue that personal names in early Chinese texts exhibit multilayered iconicity—both imagic and diagrammatic (O. Fischer and Nänny 1999), "exophoric" and "endophoric" (Nöth 2001)—through sound features and patterning. They serve not only as shared lore but also as mnemonic, argumentative, and rhetorical devices, primarily grounded in iconicity.

25

Linguistic iconicity in Chinese proverbs

Lu Chia-Rung
National Taiwan University

Linguistic form reflects conceptual structure through principles such as isomorphism, quantity, and sequence (Haiman 1980; Givón 1985; Croft 2003). Tai (1985) has shown that in Chinese, the order of syntactic structure mirrors temporal sequence, exemplifying a type of iconicity. While iconicity has been extensively studied in phonology, morphology, and syntax—often emphasizing its vividness—relatively little research has addressed how iconicity interacts with culture and becomes embedded in conventional texts. Since proverbs are regarded as fixed cultural-linguistic artifacts in which structure, rhythm, and imagery crystallize shared wisdom (Mieder 2004), this study examines the role of linguistic iconicity in Chinese proverbs, focusing on how sound, structure, and imagery combine to create motivated form–meaning correspondences. Drawing on proverb dictionaries, this paper categorizes Chinese proverbs into three domains of iconicity—phonological, structural, and imagistic—and analyzes how each reflects cognitive principles such as isomorphism, sequence, quantity, and symmetry. Particular attention is given to underlying schemas such as the balance schema. In addition, the study considers the variation of iconicity ranging from concrete imagery to abstract structure. Finally, it explores the interplay among iconicity, conventionalization, and creativity, showing how iconic proverbs have become entrenched cultural expressions while still inviting creative variation in modern discourse. The findings suggest that Chinese proverbs provide fertile ground for investigating the dynamic relationship between iconicity and conventionality. Iconicity is preserved even after conventionalization, yet still enables creative re-use. This study contributes to both cognitive linguistics and paremiology.

Data source

Xiandai Hanyu Yanyu Cidian [Dictionary of Modern Chinese Proverbs] (Wen 2009)

Data Analysis

(25.1) Phonological iconicity

a. Reduplication

阿諛 人人 喜， 直言 人人 嫌
E yu renren xi, zhiyan renren xian

'Flattery wins favor, but honesty wins enemies.'

b. Number variation

三 分 人才， 七 分 打扮
San fen rencai, qi fen daban

'Ability counts for thirty percent, appearance for seventy.'

c. Onomatopoeia

淡淡 長 流 水， 釅釅 不 到頭
Dandan chang liu shui, yanyan bu dao tou

'Subtlety lasts; excess never reaches the end.'

(25.2) Structural iconicity

a. Symmetry

水 能 載 舟， 亦 能 覆 舟
Shui neng zai zhou, yi neng fu zhou.

'The water that bears the boat can also capsize it.'

b. Parallelism

種 瓜 得 瓜， 種 豆 得 豆
Zhong gua de gua, Zhong dou de dou

'If you plant melons, you get melons; if you plant beans, you get beans.; You reap what you sow.'

c. Sequence

冰凍 三 尺， 非 一 日 之 寒
Bingdong san chi, fei yi ri zhi han.

'It takes more than one day of cold to freeze ice three feet thick.; Rome wasn't built in a day.'

(25.3) Imagistic iconicity

a. Oriental schema

吃 得 苦 中 苦， 方 為 人 上 人
Chi de ku zhong ku, fang wei ren shang ren.

'Only by enduring the hardest hardships can one rise above others.; No pain, no gain.'

b. Metaphorical images

井 底 之 蛙
Jing di zhi wa

'The frog in the well.; Seeing the world through a narrow window.'

26

To translate or not to translate ideophones in manga

It depends on meaning

Mori Mai and Akita Kimi
Nagoya University

The translation of ideophones in Japanese manga has long been recognized as a challenge. However, despite the huge international market for Japanese manga, few solutions have been proposed. Previous studies have identified four major strategies to deal with ideophones in manga translation—translating them into equivalent expressions in the target language, omitting them, spelling them in the orthography of the target language, and keeping them as is (Inose 2008)—and it has been shown that they may differ in cognitive load (Rohan, Sasamoto, and O'Brien 2021). However, no study has investigated how well target language speakers comprehend the meanings of ideophones under these different translation strategies.

We conducted an online experiment using an English translation of the Japanese manga *Black Jack ni Yoroshiku* [Give My Regards to Black Jack] (Sato 2022). The experiment consisted of two tasks: one was a 2AFC task in which 30 English monolinguals guessed the meanings of 15 ideophones (5 for sound, 5 for motion, and 5 for feeling), and the other was a semantic differential (SD) rating of the same ideophones on three 7-point scales from 1 to 7: intensity (very weak–very intense), duration (very short–very long), and evaluation (very negative–very positive). The ideophones were presented in original kana, romanized Japanese, English translation, and kana with English translation 26.1. A total of 30 Japanese monolinguals were also tested in the kana condition to establish a baseline.

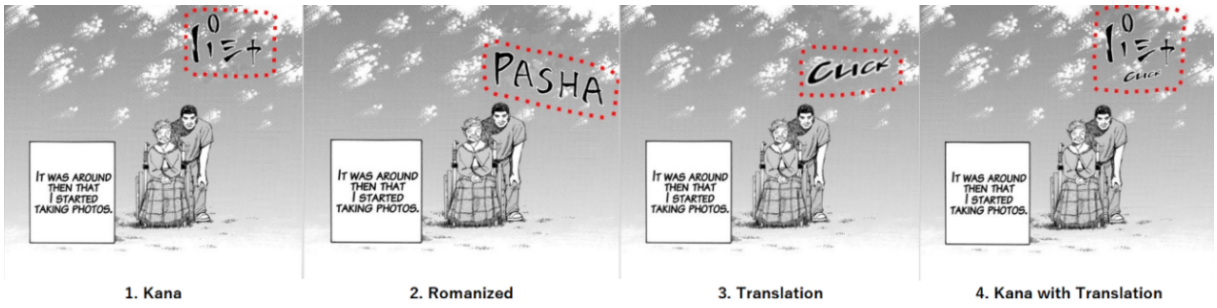

Figure 26.1: Four translation strategies

The 2AFC task showed that English translation was more useful for English speakers than kana and romanized Japanese, but the magnitude of this effect varied depending on ideo-

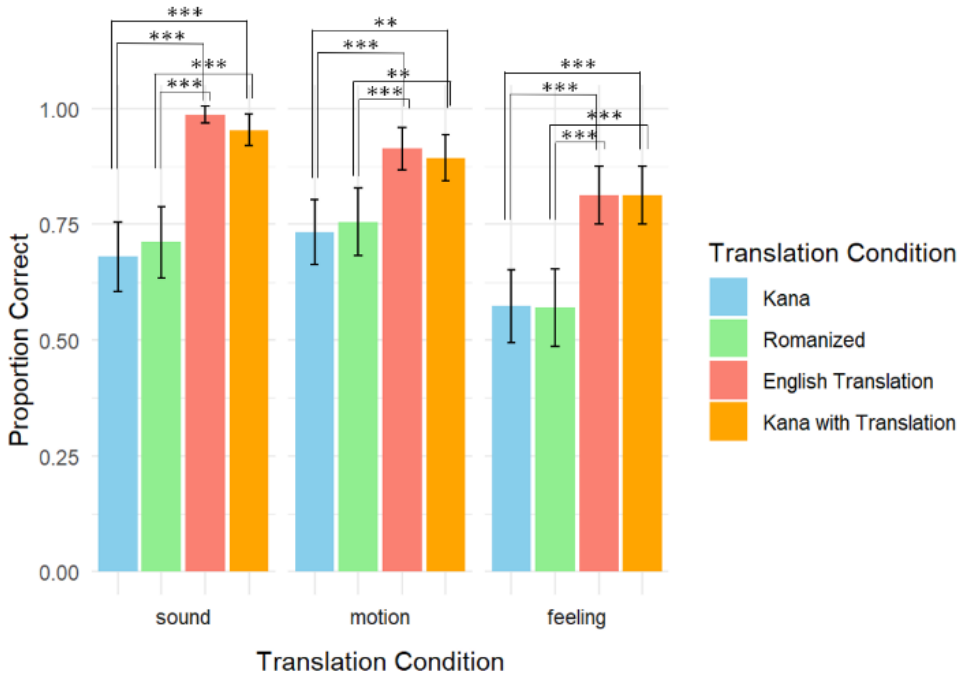

Figure 26.2: Results of the 2AFC task

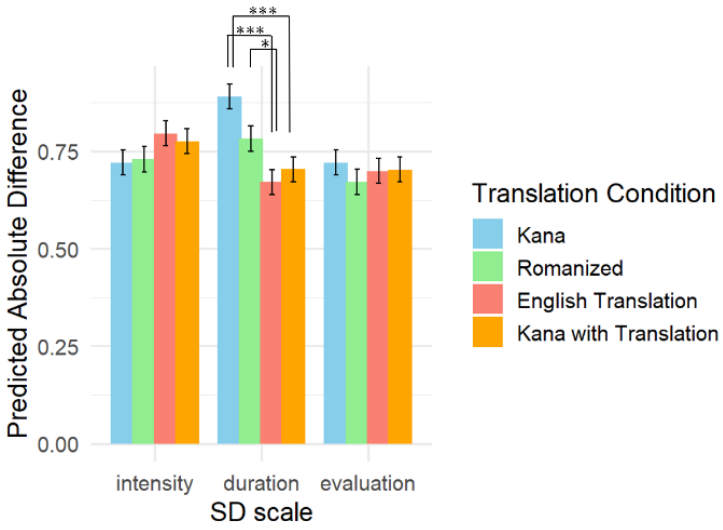

Figure 26.3: Results of the rating task

phone type. A logistic mixed-effects model, with response as the dependent variable, translation condition and ideophone type (including their interaction) as fixed effects, and individual ideophones as a random effect, revealed reliable interactions between translation condition and ideophone type, indicating that English translation did not work as effectively for motion ideophones (e.g., *fura* 'stagger') and emotion ideophones (e.g., *busuQ* 'sullen') as for sound ideophones (e.g., *gashan* 'clang') (b = −2.32, SE = 0.83, z = −2.81, p = .005; b = −1.98, SE = 0.82, z = −2.42, p = .015). In the tests of simple main effects, for all the three semantic types of ideophones, kana and romanized Japanese yielded lower accuracy than English translation and kana with English translation (all Tukey-adjusted p's < .01) (Fig. 2). Taken together, the interaction and the results of subsequent post-hoc tests indicate that English translation is effective across all ideophone types, although the extent of the effect varies. This variation can

be interpreted as resulting from the fact that, the sound sources in the two alternatives were depicted more distinctly than movements and feelings.

English speakers' SD ratings were analyzed in terms of how they differed from Japanese speakers' mean ratings. A linear mixed-effects model, with absolute difference as the dependent variable, translation condition, SD scale, the interaction between condition and scale, and ideophone type as fixed effects and individual ideophones as a random effect, revealed a reliable interaction between translation condition and scale, indicating that English translation worked better for duration than for intensity ($b = -0.29$, $SE = 0.05$, $t = -5.56$, $p < .001$). In the tests of simple main effects, only for duration did kana yield greater deviation than English translation and kana with English translation (all Tukey-adjusted p's < .001), and romanized Japanese showed greater deviation than English translation ($b = 0.11$, $SE = 0.04$, $z = 2.91$, Tukey-adjusted $p = .02$) (Fig. 3). When only kana was examined, duration also deviated more from the baseline than intensity or evaluation ($b = -1.67$, $SE = 0.04$, $z = -4.53$, $p < .001$; $b = 0.17$, $SE = 0.04$, $z = 4.51$, $p < .001$). One possible interpretation of these results is that, for the intensity and evaluation scales, participants were able to make partial inferences from the iconic fonts, so that the deviations from the baseline were not large even in the kana and romanized conditions. In contrast, for the duration scale, which was more difficult to infer from the fonts of the experimental stimuli, failing to understand the ideophones' meanings without English translations may have led to greater deviations from the baseline.

This study demonstrated that English translation is most helpful for English speakers to identify the referent of ideophones, although this effect was moderated by their semantic type. When it comes to the comprehension of the semantic details of ideophones, English translation was particularly effective for duration. The present results suggest that it is important to tailor translation strategies according to the semantic type and scale of individual ideophones.

27

Multimodal iconicity

Ideophones and co-speech gestures in Ga and German

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Background

Many spoken languages with different typological features have ideophones, a special class of words that can be defined as "an open lexical class of marked words that depict sensory imagery" (Dingemanse 2019). Ideophones, like iconic co-speech gestures, are a prime example of how iconicity influences language, However, some languages like Japanese, Akan, and Ga have quite large classes of ideophones. In these languages, ideophones form an integral part of the lexicon and grammatical system, refer to quite different conceptual domains and are used in everyday speech. We call these languages 'ideophone languages (ILs)' (Asiedu et al. 2023; Campbell 2017; Kakehi, Tamori, and Schourup 1996). By contrast, languages like English and German are what we call 'non-ideophonic languages (NILs)'. In these languages, the ideophones are less frequent, refer only to a small subset of conceptual domains (typically sound and movement) and are only used in specific contexts and registers (Barnes et al. 2022; Cwiek 2022).

Ideophones have been argued to share at least the following morphosyntactic and semantic properties (Dingemanse 2017; Dingemanse 2019; Barnes et al. 2022):

(i) Ideophones are conventionalized words that can be listed in the lexicon.

(ii) Ideophones depict rather than describe.

(iii) There is an iconic relationship between the form of an ideophone (including its very utterance in a specific utterance situation) and its meaning, which lies in the domain of sensory imagery encoding information about movement, sound, sentiment or mental state.

(iv) Ideophones are expressive items typically accompanied by intonational foregrounding, expressive morphology and expressive meaning.

(v) Ideophones are often accompanied by a corresponding (conventionalized) co-speech gesture.

In this presentation, we focus on the last property. We investigate the formal properties of ideophone-accompanying gestures in two different spoken languages (an IL and a NIL) and ask whether and how the degree of conventionalization of the gestures depends on and corresponds with the degree of conventionalization of the ideophones (see Dingemanse 2015 and Kita 1997 for previous investigations on ideophone-gesture pairs). In general, we expect that ILs use more conventionalized gestures than NILS.

Empirical study

In a production study on the combination of ideophones and co-speech gestures, we compare the interaction of ideophones and co-speech gestures in a NIL, in our study German, to an IL, in our study Ga. We followed the methodology of Ortega and Özyürek (2020) and asked 10 Ga and 10 German speakers to produce a set of 12 ideophones together with a co-speech gesture. We included different semantic domains such as *sound*, *movement*, *visual*, *texture*, and *smell*. Participants listen to an audio containing a sentence including an ideophone without additional contextual information, and are then asked to spontaneously reproduce the sentence together with a gesture of their choice. For the accompanying gestures, we took phonological similarity as a measure for their conventionalization grade: the more similar the accompanying gestures produced by different speakers for the same ideophone, the more conventionalized we took these gestures to be. Phonological similarity was measured via similarity in the specification of all relevant phonological parameters (handedness, movement, handshape, orientation, location). We hypothesize that co-ideophone gestures have a higher grade of conventionalization in Ga than in German.

Results

The results show that in both languages, the iconic visual potential of gestures is exploited to depict aspects of the meaning of ideophones. However, it turned out that in Ga, the alignment is much stronger: the phonological structure of ideophones often corresponds directly to the gesture (e.g., reduplicated ideophones are accompanied by reduplicated gestures). To enhance the iconic depiction performed by the hands, speakers use additional non-manual features such as body and head movements are frequently employed (around 70%), either by combining sound and movement or by depicting the event denoted by the ideophone –such as simulating a fall when the ideophone denotes a falling event (see Figure 27.2). Moreover, specific types of ideophones are associated with distinct body areas: in both Ga and German, movement ideophones are typically performed in front of the upper body, while ideophones expressing feelings or states are more closely linked to hand movements around the head. Age-related differences also emerged. For instance, with the German ideophone peng, older participants tended to depict a person firing a gun, whereas younger participants preferred an explosion-like visualization. In Ga, participants above 40 used larger gestures and more extensive body involvement. Lastly, our initial results show that ideophone-accompanying gestures in Ga are more conventionalized than those in German based on the similarity of the phonological features of the accompanying gestures (Figure 27.1, Figure 27.2). This is based on the higher degree of similarity we observed in the features that participants use to gesturally depict the meaning of the ideophones. Ga speakers use comparable handshapes for the same ideophone, which suggests the conventionalization of the ideophone-accompanying gesture (Figure 27.1).

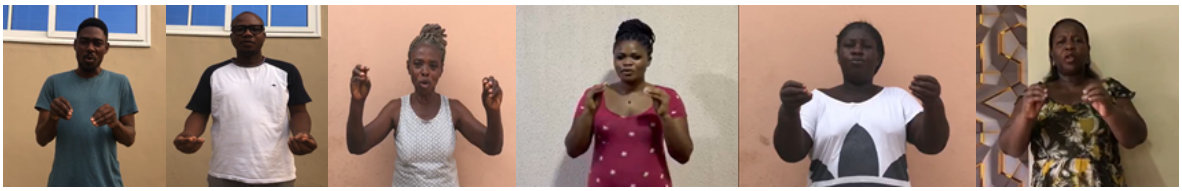

Figure 27.1: Gestures accompanying the Ga ideophone *bɔdɔbɔdɔ* (‘soft’); highly conventionalized ideophone characterized by minimal gestural variation

Figure 27.2: Gestures accompanying the German ideophone *holterdiepolter* (falling movement or sound), less conventionalized ideophone characterized by greater gestural variation

In contrast, German speakers produce a wider range of different gestures, with less similarity in the phonological parameters (Figure 27.2).

Summary

These findings highlight systematic cross-linguistic tendencies that gestures accompany ideophones in Ga show a stronger conventionalization. By contrast, gestures in German display more variability. Future research should examine how depictive features are selected in a language, how these patterns develop across time, how conventionalization interacts with language-specific phonological structures, and to what extent multimodal strategies contribute to the stabilization of ideophones in everyday communication.

28

Iconicity, language and migration

Collecting data on Brazilian and Mexican immigrants' politeness accommodation in Germany through the Language Portrait Technique

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This article aims to explore the connection between iconicity, language and migration through the adaptation of the Language Portrait Technique (LPT), developed within the fields of multilingualism and language education by Barbara Busch and Hans-Jürgen Krumm, to the analysis of Brazilian Portuguese and Mexican Spanish-Speaking Immigrates in Germany. The LPT is a visual and reflective method that invites individuals to represent their linguistic repertoires on a human body silhouette by colouring and labelling body parts with different languages or language varieties (Krumm and Jenkins 2001; Busch 2010; Busch 2016). Each colour and placement choice symbolizes a personal association with a specific language, such as emotional proximity, familial origin, social context, or cognitive experiences. This technique is grounded in the concept of iconicity (connected with sensory modality), particularly from a semiotic perspective.

According to Busch (2012), by means of the LPT, the variety of linguistic experiences can be interpreted in a "visual and embodied manner" (Busch 2012, p. 517), which triggers a multimodal representation of linguistic identity. The iconic logic plays a vital role in this context as the representation is not random but is instead rooted in metaphorical mappings (for instance, "language of the heart") that resonate intuitively with both the speaker and the researcher. These mappings correspond with theories of conceptual metaphor (Lakoff and Johnson 1980), reinforcing the notion that the representations are based on embodied experiences. In this dynamic, iconicity denotes the resemblance or perceived similarity between the signifier and the signified. Peircean semiotics highlights that iconic signs operate effectively because they bear a resemblance to what they signify (Peirce 1931–1958). In the realm of LPT, the positioning of a language on a body (for instance, the heart symbolizing emotional closeness, the hands representing practical usage, and the mouth indicating spoken fluency) becomes iconic: it reflects the individual's internal and social connection with that language.

Based on our data collection experience, the comparison between qualitative data on language adaptation collected through interviews with and without the LPT before asking questions leads to the following results, summarized in Table 28.1.

Feature	with language portrait	without language portrait
Mode	multimodal (visual + verbal)	verbal only
Reflexibility	high, prompts new insights	lower, relies on prior awareness
Emotional	insight	strong, iconic/metaphorical expression often limited to what is verbalized
Complexity of data	richer, layered representations	linear or simplified narratives
Suitability for diverse literacy levels	high, accommodates varying verbal skills	may marginalize less articulate participants

Table 28.1: Interviews on language adjustments with and without applying the LPT before, comparing the features of modality, reflexivity, access to emotion, complexity of data, and suitability for diverse literacy levels.

In Table 28.2, the codes LOC (location), POL (politeness), ACC (accommodation), CONV (convergency), and DIVE (divergency) support the following analysis of a Mexican and a Brazilian participant in this study.

In conclusion, LPT prompts self-reflection and offers a useful base to investigate politeness accommodation, through an iconic metaphorical placement that facilitates access to deeper emotional and biographical language knowledge. Thus, it is more than a pedagogical tool; it is an iconic medium of linguistic self-expression and identity construction.

Alvaro's Language Portrait (Mexican)		Julieta's Language Portrait (Brazilian)
		
1. portrait description (3 main languages)	Spanish: heart, stomach, hand/left, legs, mouth, and glasses (red/orange); German: head (hair, glasses, and mouth), arms, feet (blue); English: left hand, upper and under body, mouth and glasses	Portuguese: heart, skirt, hair, hand/left (red), mouth and belt; German: head (hair and face lines), both hands (black), feet; English: left hand and upper body
2. location/body	LOC-HEART (Spanish heart+other parts)	LOC-HEART (Portuguese heart+other parts)
3. colour/kind	COLOR-WARM (Spanish in red/orange)	COLOR-WARM (Portuguese in red/Spanish in orange)
4. narrative excerpt	*"Well, first I started with the glasses. I put the colours of Germany and Mexico because I think that's how I see life, because well, I live here in Germany. But on the other hand, as a Mexican I see everything also as, as, as my Mexican identity"*	*"(...) one hand in black and green because these are the languages that I need in my work and the other hand German and Portuguese, because I need them to live"/ "living in Germany, walking in Germany we need German as a support for the life, base for the life, but the language of the heart keep being Portuguese"*
4a	POL_ACC_EMOTIONAL_DISTANCE *"I don't want to say that the German language is cold, but it is rational"*	POL_ACC_EMOTIONAL_DISTANCE *"(...) direct and rush as the German language is"*
4b	POL_ACC_IDENTITY_SHIFT *"I speak neither as a Mexican nor as a Spaniard"*	POL_ACC_IDENTITY_SHIFT *"(...) mixed colours because our leben is like that here...Brazilians living in Germany"*
4c	POL_ACC_CONV *"I try to speak with certain words that are used in Spain"*	POL_ACC_DIVE *"(...) even been living in Germany for 20 years the base of my life is Brazilian"*

Table 28.2: Summary of two language portraits analysis

29

The iconicity of form and meaning in the poetry of Su Shi and Jiang Fengchen

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Hong Kong Shue Yan University

Jiang Fengchen (江逢辰, 1859-1900) was a renowned poet, lyricist, and painter born in Huizhou, Guangdong. *Jiang Xiaotong yiji* 江孝通遺集 (hereafter *yiji*) collection notably includes a volume dedicated to the works composed "In Harmony with Su Shi's (蘇軾, 1037-1101) Poems Written in Huizhou" (和東坡寓惠詩). Jiang Fengchen is unique among his contemporaries for his systematic approach to composing verse "in harmony"(*changhe* 唱和) with Su Shi's works. The *yiji* collection comprises 62 verses that harmonize with 42 of Su Shi's poems, making it a significant corpus. Especially in the context of ancient Chinese poetry, the *changhe* employs the same topic, imagery, length, and rhyme scheme. Thus, the poetry of Su Shi and Jiang Fengchen forms an iconicity of form and meaning. This iconicity warrants closer scrutiny as it sheds light on how Su Shi's influence resonated among late Qing poets. Su Shi, the eminent poet of the Song dynasty, was once exiled to Huizhou, Jiang Fengchen's birthplace. Jiang visited many of the sites that Su Shi had once graced and inscribed poems in numerous locations. Beyond the shared geography, Jiang consciously adopted the rhyming schemes of Su Shi's works and endeavored to compose poetry in harmony with the Song poet. His tribute to Su Shi often comes in the form of titular references, allusions, and quotations, and is sometimes accompanied by the adoption of Su Shi's rhyming schemes. Composed eight centuries after Su Shi's passing, Jiang's works raise several questions: How have later generations inherited Su Shi's poems using similar literary forms? In what ways is his cultural legacy being re-envisioned in the late Qing? Moreover, will strictly regulated forms of language limit the innovativeness of literary language? Jiang serves as a custodian of the past and an innovator in his own right, furthering the growth and evolution of a literary culture that spans centuries. We observe that iconicity techniques often lead to the generation of novel content within a text, transforming literature into a perpetual, collective memory. This paper will focus on the innovation ushered in by the iconicity approach, exploring the dynamic ways in which it enriches and extends the literary conversation into the future.

30

Iconically motivated, arbitrarily bounded

A random forest approach to sound symbolic Javanese first names

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University of Ottawa

Introduction

Investigations spanning English (Cutler and Carter 1987), Japanese (Ngai, Kilpatrick, and Ćwiek 2024), Korean (Sullivan and Y. Kang 2025), and other languages have found systematic sound–gender mappings in personal names. Repeatedly, palatal vowels (e.g., [i], [e]) are more commonly found in female names, while back and non-palatal vowels (e.g., [a], [o]) are prevalent in male names (Ackermann and Zimmer 2021). This study examines whether such patterns persist in Javanese names. Table 30.1 and 30.2 present the consonant and vowel inventory of Javanese (Nothofer 1995).

Vowel type	Front	Central	Back
High	i		u
Mid	e	ə	o
Low		a	

Table 30.1: Javanese vowel inventory

Consonant type	Labial	Dental	Retroflex	Palatal	Velar	Glottal
Voiceless stops	p	t	ʈ	c	k	ʔ
'Voiced' stops	b	d	ɖ	j	g	
Nasal	m	n	ɳ	ɲ	ŋ	
Fricative		s				h
Approximant	w		ɻ, l	y		

Table 30.2: Javanese consonant inventory

Methods

The database is composed of 425 Indonesian Javanese names (male: 191; female: 234). All names found in Arabic, English, and Sanskrit were discarded . Names were first transcribed into IPA using Epitran (Mortensen, Dalmia, and Littell 2018). To address gender imbalance, male names were upsampled to match female count (More and Rana 2017). All gender-marking suffixes are removed. Names were then coded based on the occurrences of syllables, vowels, and consonant features (see Table 30.3).

Length	Number of syllables
Syllable structure	Open/closed syllable
Vowels	a, e, i, o, ə, and u
Consonant quality	voiced obstruents, voiceless obstruents, breathy obstruents, sonorants, labial consonants, dental consonants, retroflex consonants, palatal consonants, velar consonants, and glottal consonant

Table 30.3: Phonological features coded

Random forest classifier was implemented in R 4.4.2 using the ranger package (Wright and Ziegler 2017). Mtry, min.node.size, and sample.fraction optimized via tuneRanger (Probst, Wright, and Boulesteix 2019). A 3-fold cross-validation was implemented. Aggregated out-of-the-bag accuracy was reported. Feature importance was evaluated using mean decrease in Gini impurity. P-values were aggregated using the Fisher's method (Fisher 2005).

Results

The Random Forest achieved a mean accuracy of 70.32% (SD = 2.77%) in gender prediction. Five statistically significant predictors are: breathy obstruents (4.50% importance; $p < 0.002$; male-directional), voiceless obstruents (2.69%; $p < 0.002$; male-directional), [i] (1.44%; $p = 0.006$; female-directional), sonorants (1.46%; $p = 0.004$; female-directional), and [o] (1.00%; $p = 0.017$; male-directional). Interestingly, a context dependent effect was found for [i]. When preceded by [d̤], it categorically marked male names (N = 27, 100%). In all other contexts, [i] probabilistically signal female names (117/125 names, 93.6% when not preceded by [d̤]).

Discussion

The present study confirms that phonological structure alone can reliably predict gender in Javanese given names. Observed Javanese associations are in-line with previous cross-language comparison (Ackermann and Zimmer 2021). [i] seemingly straddles between iconicity and arbitrariness: while iconically motivated by [i]-to-female association, the preceding phoneme ([d̤] vs. other consonants) arbitrarily dictates which association applies. Additionally, the prominence of breathy stops as a masculine marker reveals an underexplored dimension of sound symbolism. Collectively, these findings demonstrate the need to expand the scope of investigation to Southeast Asian languages.

31

The iconicity of "shadow"

from In Praise of Shadows (Tanizaki Junichiro) to Murakami Haruki's novels as the key to explore the modern Japanese psyche, aesthetic and identity

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Tanizaki Junichiro (1886 – 1965) and Murakami Haruki (1949 –) are both prominent literary figures who have made significant contributions to twentieth-century modern Japanese literature. Tanizaki's essay *In Praise of Shadows* (2025) has become a foundational text for all scholars embarking on the study of Japanese culture and thought. Its influence remains profound across various disciplines and transcends both spatial and temporal boundaries. In this seminal work, the notion of "shadow" – treated as a cultural symbol- is explored from multiple perspectives, including architectural space and Japanese culinary aesthetics. Through these explorations, Tanizaki offers readers deep insights into the spiritual, cultural, and aesthetic sensibilities of Japan. Moreover, in the book In Praise of Shadows, Tanizaki issued a compelling appeal to his literary successors to preserve the "shadow" as something precious within Japanese literature – a cultural legacy handed down from the ancestors. He wrote: "I have written all this because I have thought that there might still be somewhere, possibly in literature or the arts, where something could be saved. I would call back at least for literature this world of shadows we are losing. In the mansion called literature I would have the eaves deep and the walls dark, I would push back into the shadows the things that come forward too quickly, I would strip away the useless decoration. I do not ask that this be done everywhere, but perhaps we may be allowed at least one mansion where we can turn off the electric lights and see what it is like without them."

Murakami Haruki, the most widely read contemporary Japanese author outside Japan, is regarded as one of the most successful voices in articulating the theme of shadow within the postmodern literary framework. Throughout his body of work – including his novels, speeches, and interviews – the concept of "shadow" emerges as a central motif, shaping both the philosophical and psychological underpinnings of his literary career. Here, the "shadow" is not merely a symbol; it evolves into a cultural archetype in Japanese literature and culture. In Murakami's works, shadow conveys messages of psychological depth and inner tension in the modern Japanese psyche, serving as a bridge to the collective unconscious. It represents a primordial force derived from ancient myths and folktales, which the author revitalizes through the renewed mythical narratives centered on the strange and surreal journeys of protagonists.

When Murakami published *The Wind-Up Bird Chronicle* (1998) – a novel that garnered critical acclaim in the US and globally – Kenzaburo Oe (Nobel Literature 1994) referred to it as "the second In Praise of Shadows" in Japanese literature. This statement not only acknowledged Murakami's literary brilliance but also affirmed the existence of a subtle yet persistent thematic current of "shadow" running through Japanese literary tradition.

Then, what is the role and significance of the 'shadow' in Japanese culture and literature that has drawn the attention of so many eminent writers? In our viewpoint, interpreting and deciphering the symbol of the shadow offers a vital pathway for understanding the psychological dimensions, cultural identity, and aesthetic mysteries of Japanese beauty – from tradition to modernity. Thus, this article examines the evolving symbol of "shadow" in modern Japanese literature, tracing its philosophical and aesthetic significance from Tanizaki Junichiro's In Praise of Shadows to the psychologically complex and surreal narratives of Murakami Haruki. It argues that the shadow functions as a powerful icon through which the Japanese psyche and cultural identity are explored, negotiated, and transformed across time. Tanizaki presents shadow as a vital element of traditional Japanese aesthetics – signifying subtlety, impermanence, and harmony with nature. In contrast, Murakami's novels (*Hard-Boiled Wonderland and the End of the World*, *Kafka on the shore*, *The Wind-Up Bird Chronicle*) reimagine "shadow" in psychological and surreal terms. These shadows often appear as metaphysical doubles, subconscious realms, or existential voids that the characters must confront to find coherence or transcendence. In the acceptance speech of the Hans Christian Andersen Literature Award (2016), Murakami mentioned the shadow as the inner dark of not only people but also of society and nation: "It's not just individuals who need to face their shadows. The same act is necessary for societies and nations. Just as all people have shadows, every society and nation, too, has shadows. If there are bright, shining aspects, there will definitely be a counterbalancing dark side".[1]

This article asserts that the shadow operates as a persistent cultural metaphor, embodying Japan's fluctuating sense of self in the face of historical trauma (postwar defeat, rapid Westernization), technological transformation, and spiritual dislocation. The transition from Tanizaki's reverent acceptance of shadows as a space of beauty and quietude to Murakami's more fractured, labyrinthine shadows reflects deeper shifts in how identity is constructed and interrogated in contemporary Japan. The paper focuses on three main research questions:

1. How does the symbol of shadow evolve from Tanizaki's traditional aesthetic philosophy to Murakami's modern literary narrative?

2. In what ways do shadows in these texts serve as projections of cultural memory, psychological repression, or spiritual searching?

3. How can this evolution be mapped onto the broader trajectory of Japanese modernity and identity formation?

Methodologically, the study will combine theories of symbolism, archetypal criticism (Jungian psychoanalysis, particularly the concept of the "shadow self"), and postmodern literary criticism to approach the iconicity of shadow. Supplementary insights from scholar Hayao Kawai, and Haruki Murakami himself will also be considered. This exploration is also seeks to illuminate how the recurring icon of shadow – whether as aesthetic ambiance or metaphysical marker – acts as a symbolic conduit through which Japanese writers and thinkers articulate

[1]Source: andersen-award.com/haruki-murakami

the anxieties and aspirations of a nation suspended between light and darkness, tradition and modernity, the visible and the unseen.

32

Three-imperative advertisements as cases of diagrammatic iconicity

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This study attempts to identify the kind of iconicity involved in a short discourse formula often used in, but not limited to, advertisements, book titles and slogans in English, as in (32.1):

(32.1) a. *See It, Love It, Buy It.*
b. *Buy It, Develop It, Sell It.*
c. *Think It. Do It. Change It.*

(32.1a) is the title of a TV program for people interested in buying a real estate property. (32.1b) is in the opposite direction to (32.1a), and is an advertisement of a land development company whose goal is to sell land. (32.1c) is the title of an advisory book on business and careers. These expressions typically repeat three verb phrases (VPs) whose objects are all filled by the pronoun it. There are cases where two VPs, or four or more VPs of this form make advertisements and titles, but sequences of three such VPs are by far the most common form.

First, the three-VP sequence iconically represents the temporal order of the actions concerned. Through internet searches using keywords, I collected over 200 cases of this form, mostly advertisements and titles, and found that the first VPs often include verbs denoting ideas, like *dream*, *plan* and *think*; they introduce the first step of a large plan, i.e. an individual's interest in doing something. The second VPs mostly include verbs that provide tools and methods to transform ideas into practice, like *test*, *try* and *work*. The third VPs represent the third and final step that imposes the most important action on that individual. Thus, the sequence is appropriate for advertising goods and products that require a relatively long span of time, as in a house purchase. The choice of the third verb depends on the goal of the actions, too. When it refers to something beneficial like education, business, policy or charity, the third VPs typically have verbs like *change*, *manage* and *share*, which denote interactions with other people. When it refers to something harmful like disease, injustice, violence or pollution, by contrast, they are appropriately filled with verbs of removal, like *defeat*, *drop* and *eradicate*.

Second, the repetition of it shows that the items in question are topical and a matter of active concern for the addressees throughout the three steps (Lambrecht 1994). The repeated pronouns also make a rhyme and represent the constant speed with which they will go through the steps. Since the rhyme has the rhythm of "verb *it*, verb *it*, verb *it*," intransitive verbs like

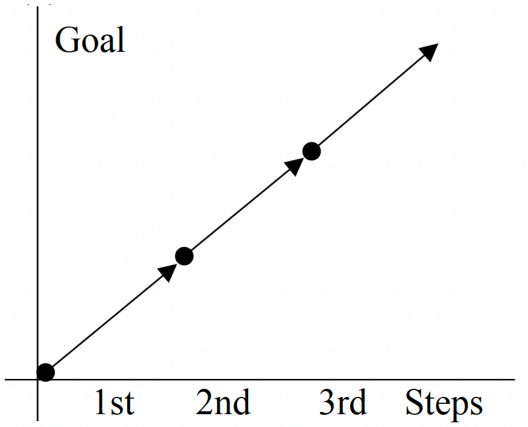

Figure 32.1

think and laugh may precede the object pronoun without inserting a preposition before it, as in (32.1c). Thanks to the rhythm, the VP-sequences are often employed in song lyrics, too. There are also cases of alliteration, as in *Find It, Fix It, Flog It*, where it stands for lost items in home, and *Recognize it. Reject it. Report it.*, where it stands for academic fraud. This indicates that the serial imperatives are combined to mean one process towards a specific goal. Furthermore, the serial imperatives are often used as slogans and titles of advisory books designed to give benefits to the readers (cf. Leech 1983; Takahashi 2012), because they provide keys for reaching a goal with good results. In order to do so, you have to master several approaches to the goal, instead of just one, as in three essential skills taught in one course. Thus, the three actions expressed by the three imperatives in a row are readily mapped into an incremental diagram in Figure 32.1, where the three are on a straight line in the positive direction:

Iconicity has been discussed on the forms of words and sentences, as on those of ideophones and onomatopoeia (Haiman 2018), on those of countable and mass nouns (Wierzbicka 1988), on those of simple and complex sentences (Haiman 1985b), and also on those of sentences organized in discourse, basically via repetition. Although the single token of an imperative like Change it may not indicate any form of anything, the repetition of three imperatives in rhyme come to have a form that resembles a step-by-step plan.

Two theoretical implications are in order. First, since the kind of iconicity discussed here is understood in terms of the availability of mapping from the combined form of its parts to a specific diagram, it belongs to the diagrammatic iconicity in Haiman's 1985 sense, and applies, not to single constituents, but to a set of discourse units that have parallel forms, verse par excellence. Second, just as forms of grammatical categories like morphemes have a one-to-one mapping of form and grammatical function (Behrens 2009), so formulaic repetitions in discourse, which are out of the realms of grammar, have a one-to-one mapping of form and function to represent a unique situation. This is because verse-based organizations are tools for assigning iconicity to a flow of discourse, and iconicity and grammar complement each other to bring one-to-one mappings of form and function into language (Li 2022). Differently put, conventions of discourse organization are as responsible for linguistic forms as grammar is.

33

How “No littering” pictograms construe events

A cognitive linguistic analysis of action chains and profiling

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In guidelines and explanatory materials issued by public institutions in Japan, pictograms are commonly described as language-independent and intuitively understandable for people from diverse linguistic and cultural backgrounds (e.g., Ministry of Land, Infrastructure, Transport and Tourism and Japan Tourism Agency 2014; Ministry of Economy, Trade and Industry 2025). Within these accounts, pictograms are treated almost self-evidently as easy to understand forms of expression, based on the assumption that their iconic nature itself guarantees comprehensibility.

At the same time, previous studies on public signs and pictograms have repeatedly pointed out that this assumption does not necessarily hold in actual use. Research focusing on public spaces in Japan has shown that, particularly in multicultural settings, pictograms may lead to misunderstanding or difficulty in comprehension (Honda, Iwata, and Kurabayashi 2017; Niwa and Yoshizaki 2022; Miwa 2020). Studies in linguistic landscape research have likewise reported that the interpretation of prohibition signs is influenced by cultural background and shared visual conventions (Nishimura and Saito 2024)

Despite these findings, there has been relatively little attempt to explain in a systematic manner why the interpretation of pictograms is not uniform, especially from the perspective of human cognitive processes. Pictograms are not necessarily understood simply because they are iconic. Rather, their interpretation may reflect cognitive choices concerning how people construe events and which components of those events are treated as meaningful and brought into focus.

The present study addresses this issue by focusing on *No littering* pictograms widely used in public spaces. It aims to show that designs which appear superficially diverse are not the result of arbitrary variation but instead reflect different ways of construing the same action. In this sense, the study reframes pictogram diversity not as inconsistency in design, but as variation in event construal. From a semiotic perspective, a relevant body of work can be found in the series of studies by Tanaka (2018; 2019; 2020; 2022), which draw on Peirce’s classification of signs into icons, indices, and symbols. These studies demonstrate that icon-based pictograms are generally perceived as easier to understand, while also emphasizing that icons inherently

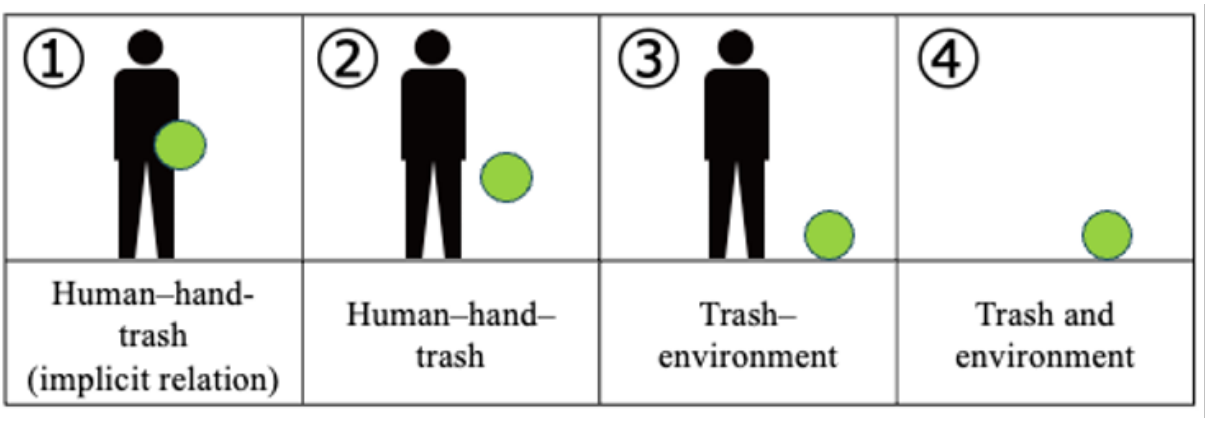

Figure 33.1: Action chain of littering

Figure 33.2: Collected *No littering* pictograms

allow for a wide range of interpretations. They further show that contextual factors and embodied experience play an important role in constraining interpretation. However, this line of work mainly concentrates on external factors that influence interpretation and does not sufficiently examine the internal structure of pictograms depicting human actions, namely which components of an event are selected and how they are visually highlighted.

To address this limitation, the present study adopts a Cognitive Linguistic framework and treats the structure of event construal in pictograms as its central object of analysis. Specifically, the analysis draws on Langacker's (2008) notions of action chains, scope, and profile. The act of littering is modeled as a unidirectional action chain in which a human functions as the energy source, the hand as the instrument, trash as the patient, and the environment as the entity that is ultimately affected (Figure 33.1). The analysis examines which segments of this action chain fall within the scope of each pictogram, and which elements are profiled and visually foregrounded.

The data consist of *No littering* pictograms collected from public spaces in Japan. In principle, studies of this kind require carefully controlled sampling with respect to location and number of items. However, the broader aim of the present research is first to explore whether pictograms can be meaningfully analyzed within a Cognitive Linguistic framework. For this exploratory purpose, data were collected without strict control over sampling conditions, resulting in a dataset of 77 pictograms. The results reveal four major types (Figure 33.2):

1. Human-body focused (28 cases): The full figure is depicted standing, bending, or walking, with trash represented either as an abstract shape (square) or as a concrete object

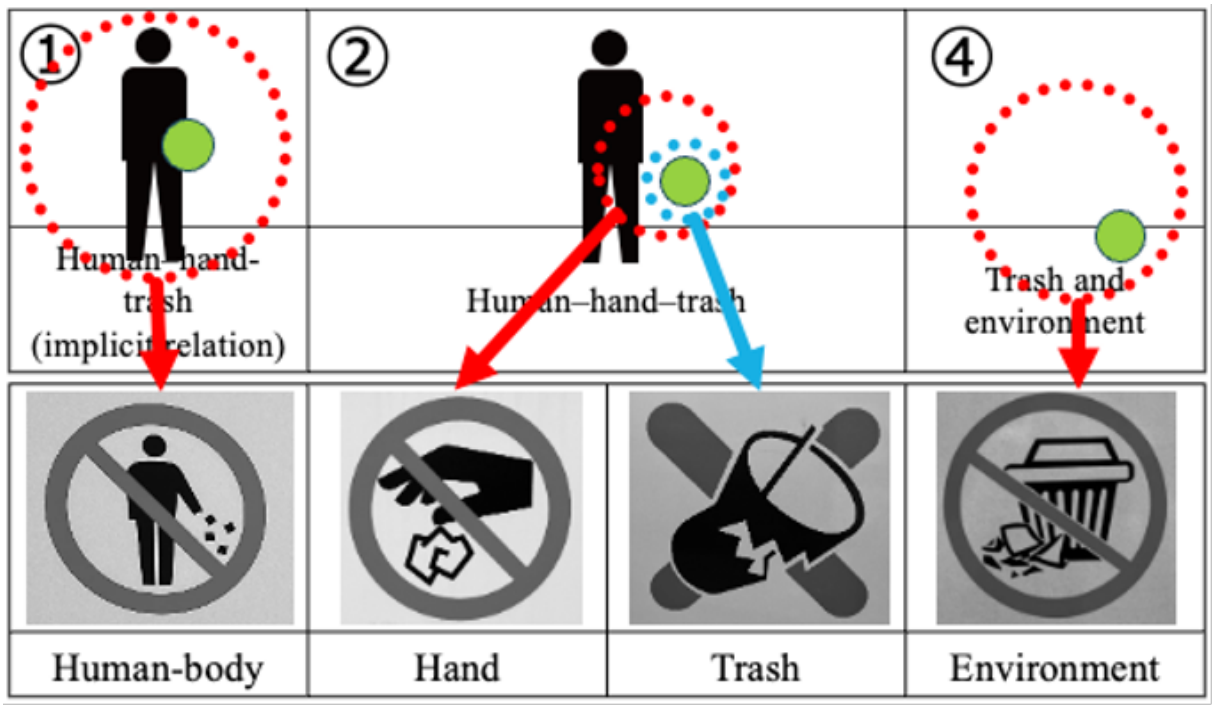

Figure 33.3: Profiling and pictorial representation

(bag, cigarette). The landing site of the trash may or may not be indicated. Here, human → hand → trash (→ environment) is profiled.

2. Hand focused (35 cases): A hand is shown dropping an object, which may be abstract (shape) or concrete (scrap paper, cigarette). The scale of the trash often diverges from real proportions, and cigarettes may be emphasized in fire-prevention contexts. Here, hand → trash is profiled.

3. Trash focused (8 cases): Objects such as cans, bags, or bins are depicted with a prohibition mark. Cans function synecdochically to represent trash in general, while images of bags or bins metonymically indicate a later stage of the event, after disposal. In both cases, only trash is profiled.

4. Environment focused (2 cases): Litter scattered around a waste bin is marked as prohibited, profiling trash → environment.

These differences can be systematically explained in terms of which segment of the action chain is selected and visually highlighted (Figure 33.3). Additional examples supporting this classification are also identified.

Taken together, these findings suggest that the visual diversity of pictograms can be understood as a correspondence between event construal and expression, as proposed in Cognitive Linguistics. Much existing research on pictogram design in disaster-related and public-space contexts has relied on generating multiple candidate designs and evaluating their effectiveness after the fact (Oikawa and Katada 2010; Oikawa, Katada, and Nishizawa 2017). Such approaches risk inefficiency and may fail to align with the ways in which people cognitively structure events. By contrast, organizing pictograms in terms of their underlying cognitive structure provides a principled way to clarify the relationship between human cognition and pictogram design, and offers a theoretical basis for considering what constitutes an effective pictogram.

34

Pointing in Hawu

A cross-cultural comparison of iconic forms

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Pointing serves to connect speech to a referent in both space and time (Lefebvre 2007). It may take different forms depending on the information that is being conveyed (Kendon and Versante 2003; Kendon 2004), and this form-meaning relationship differs across cultures (Wilkins 2003). Variations in the iconic information given in gestures depend on how the accompanying speech is packaged (Kita and Özyürek 2008), culture-specific conventions in form-meaning associations and spatial cognition, and gestural pragmatics (Kita 2009).

Although studies on the form-meaning relationship of pointing have been conducted in a variety of languages, the studies are few, and, to my knowledge, none have been conducted on an Austronesian language. Therefore, I build on previous studies by analyzing the form-meaning associations of pointing in Hawu, an Austronesian language of eastern Indonesia. Hawu is particularly interesting because of the frequency of argument dropping; pointing can sometimes be the sole indicator of an argument in discourse. For instance, in Example (34.1) and Figure 34.1, the nucleus of the speaker's point occurs with the words hape raiti 'carry from'. However, when prompted, the addressee says that the speaker is pointing to his destination, the hospital, even though this referent is not uttered.

(34.1) *[ta (hape rai)ti d'e]*
PRT carry from DEM
'(I was) carried (to the hospital) from here.' (lit: 'Carried from here.')[1]

To understand how addressees correctly identify such referents, data were collected using the Millingen Task (Kita 2001), resulting in 148 minutes of conversational data and over 400 pointing gestures across six participants. Pointing meanings were coded based on native speaker intuition, discourse context, and the co-occurring speech. Results suggest that Hawu speakers employ four primary features to convey meaning in pointing: gesture frame, arm height, hand shape, and palm orientation. The gesture frame—absolute or narrational—helps the addressee locate the referent. Gestures within an absolute frame serve to ground the speech in real-world locations, while those in a narrational frame are oriented to the conversational dyad. Pointing height correlates with the distance of the referent; higher pointing indexes further referents. Hand shape and palm orientation provide information about the

[1]Brackets indicate the alignment of the gesture phrase to speech while parentheses indicate the pointing nucleus

Figure 34.1: The speaker points to the hospital

Form	Meaning
Open hand, palm vertical	A vector
Open hand, palm down	Establishing referent's position in narrative space
Open hand, palm up	An array for exchange
Index point, palm vertical/down	Individuating a referent or location
Index point, palm up	A specific object for exchange

Table 34.1: Six commonly occurring pointing forms and their associated meanings

nature of the referent and why it is being indexed. In this dataset, six pointing forms occur regularly, shown in Table 34.1. Each is associated with a particular meaning. Index pointing individuates objects, open hand pointing is usually associated with directions or arrays, and palm up pointing corresponds to items for exchange.

Therefore, in Example (34.1), the addressee can identify the correct referent because the speaker's arm is lifted to at least shoulder height and is oriented towards the northeast, indicating a distant referent in that direction. The index pointing form means that the speaker is individuating a referent as opposed to indicating a vector. This is confirmed in the next utterance, shown in Example (34.2), in which an identical point is produced alongside the word èmu pèd'a 'hospital'.

(34.2) *[hape la* *èmu* *pè(d'a la)* *Mèba la]* *nii*
carry toward house sick toward Seba toward DEM
'(I was) carried to the hospital in Seba over there.'

These form-meaning associations demonstrate that pointing forms contain systematic iconic information that corresponds with language-specific packaging. In some instances, Hawu pointing correlates with findings in other languages. Height is commonly used to indicate distance (Mesh 2021). Open hand, palm vertical pointing tends to be used to indicate vectors without a precise target (Cochet and Vauclair 2014), and index pointing also individuates a referent in Neapolitan and Arrernte (Kendon and Versante 2003; Wilkins 2003). Thus, as the first study of pointing forms in an Austronesian language, this analysis of Hawu provides cross-linguistic evidence that certain iconic features may not be culturally-specific conventions but rather appear consistently across diverse linguistic communities.

35

Manner of motion in *Harry Potter*

How ideophones are used in motion event descriptions in Japanese and Korean translations

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We investigate how Manner of motion is depicted in Japanese and Korean translations of *Harry Potter and the Philosopher's Stone* (Rowling 1997). We aim to answer the following research questions:

(i) For what types of Manner in the original English work are ideophones used in Japanese and Korean translations? In what ways are ideophones used for the same motion events in the two languages, and is their usage similar or different in the translations?

(ii) Are there any patterns of types of ideophones and their usage where only one of the two language translations utilizes ideophones?

This paper adopts a broadened view of motion events that includes fictive motion, which describes motion of a non-concrete entity along an emanation path OR the path of emanation (Talmy 2000), such as vision and speech, as well as events for which lexicalization patterns resemble causative motion events, such as opening and closing (Toratani 2012, p. 94). Data come from the first three chapters of the original English text of *Harry Potter and the Philosopher's Stone* by Rowling (1997), and its Japanese translation by Yuko Matsuoka (2022) and its Korean translation by Donghyuk Kang (2019). The analysis focuses on the motion events depicted using the Japanese and/or Korean ideophones, and the semantic and morphosyntactic features of the ideophones.

A total of 51 ideophones (40 types) are used in the Japanese translation and 52 ideophones (37 types) in the Korean translation, as shown in Table 35.1. We found that:

	Chapter One	Chapter Two	Chapter Three
Japanese	18 tokens (16 types)	7 tokens (7 types)	22 tokens (20 types)
Korean	21 tokens (17 types)	10 tokens (10 types)	21 tokens (17 types)
Total	39 tokens (33 types)	17 tokens (17 types)	43 tokens (37 types)

Table 35.1: The distribution of Japanese and Korean ideophones

(a) When the English source text contains specific Manner verbs that describes events emitting sound (e.g., *splatter*, *bang*, *whizz*, Flaksman 2024), both the Japanese and Korean translations tend to render these items with ideophones, and the ideophones selected in translation explicitly represent sound, as exemplified in (35.1a-35.1c).

(b) In the Japanese translation, English motion verbs describing events that likely evoke sound (e.g., *rattle*) – and even verb phrases that do not inherently represent sound (e.g., *catch someone sharply*) – are more frequently translated with sound ideophones (e.g., *kotsun-to butsukat-ta* 'hit with a bump') than in the Korean translation. On the other hand, the Korean translation often employs monosyllabic ideophones that highlight the intensity of force, higher energy, or faster speed (e.g., *hwak* 'suddenly, quickly, powerfully,' *kkwak* 'tightly,' 9 words) as in (35.1c), which is less common in the Japanese translations.

(35.1) a. The English original text:
Something came whizzing down the kitchen chimney ...

b. The Japanese translation:

Nani-ka-ga *kitchin-no* *entotsu-o* *tsutawat-te* *hyut-to*
what-INDEF-NOM kitchen-GEN chimney-ACC pass.along-CONN IDPH-QUOT
ochite-ki-te *...*
fall-come-CONN

'Something fell down the kitchen chimney with a whizzing sound and fell.'

c. The Korean translation:

Mwenka-ka *pwuekh kwulttwuk-ulo hwik nayly-e-wa* *...*
something-NOM kitchen chimney-DIR IDPH descend-CONN-come

'Something descended through the kitchen chimney quickly and suddenly.'

This observation further supports the idea that Korean ideophones tend to prioritize broader contextual interpretations compared to their Japanese counterparts (Park and Iwasaki 2025). These findings suggest that Japanese and Korean ideophones have different preferences for encoding semantic dimensions and sub-components of motion events (Ibarretxe-Antuñano 2019; Ibarretxe-Antuñano 2025). Furthermore, the finding that both Japanese and Korean translations of the English source text describing sound-emitting events tend to utilize ideophones suggests that iconicity is maintained across the source text and translations. The translations take advantage of the highly iconic nature of sound ideophones, which serve as a foundation in the hierarchy of the constitution of ideophone systems (Dingemanse 2012).

36

Automatic identification of phonetic and semantic patterns for iconicity research

A transformer approach

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Counter to traditional assertions, sound symbolism is a feature of many languages that suggests a non-arbitrary relationship between meaning and expression on a large scale. Conventional sound symbolism refers to instances where similar relationships appear to emerge from entrenched patterns in language that are not consciously recognized by speakers (Hutchins 1998). The origin of such conventionalized sound symbolic features is an open question, but they nevertheless have psychological reality for speakers. In English, this has been demonstrated using priming experiments, where words with phonesthemes were found to have a priming effect that outperformed words that did not (Bergen 2004).

Variation in the distribution of sound-symbolic features in Japanese versus other languages (Monaghan et al. 2014; Imai and Kita 2014), and the fact that these patterns of sound symbolism often go unrecognized (Hutchins 1998) motivate the need for new Japanese datasets.

In English, unrecognized sound-symbolic features have been identified by researchers using word embeddings (Liu, Levow, and N. A. Smith 2018). Word embeddings rely on the distributional hypothesis, representing the meaning of a word as a vector multi-dimensional space (a vector) –proximity within the multi-dimensional space reflects semantic similarity.

While the use of word embedding vector algorithms alone is increasingly regarded as obsolescent (Kokab, Asghar, and Naz 2022), they are foundational components of transformers such as BERT (Devlin et al. 2019). Transformers generate separate word embeddings for polysemous words. Even averaged to create single embeddings for a polysemous words, these finer grained word embeddings are especially effective for tasks such as clustering (Stankevičius and Lukoševičius 2024).

In this study, we identify semantic clusters and examine phonetic patterns to propose candidates for sound-symbolic relationships (Yoshida et al. 2023) using a Japanese-trained transformer based on BERT. Motivated by findings that some Japanese words exhibit non-arbitrary relationships in initial sound (Yoshida et al. 2023), we examine phonetic patterns in the initial sounds of Japanese words. Words in this context refers to kanji compounds, which are polymorphemic. Polymorphemic words are likely to produce stronger embeddings, and more focused clusters due to their lower polysemy versus monomorphemic words (individual kanji). As a result of this constraint, we primarily inspect Chinese readings of kanji.

Only kanji or hiragana words were considered. Very uncommon or common words (words with frequencies in our corpus beyond the 90th and 25th percentiles) are ignored per findings

that these are unlikely to be sound-symbolic (Hutchins 1998). We generated 839,509 word embeddings for 11,422 types. Vectors were averaged, reducing the count to 11,422 word embeddings. 20 clusters within the embeddings (corresponding to groups of semantically related words) containing between 100 and 562 Japanese words (σ: 104.18) were identified using HDBSCAN (McInnes, Healy, and Astels 2017). Clusters were assigned a semantic descriptor by GPT-5 and confirmed by two raters, one in Japanese and one translated to English.

The frequency of word-initial sounds in IPA was counted for each cluster. Frequencies with a p-value of ≤ 0.01 and a q-value of ≤ 0.04 were retained. The remaining words were inspected in both IPA and their original kanji or hiragana form. Initial sounds that were found to result from fewer than 5 kanji were discarded. This measure partially mitigates the influence of etymology on the initial sound.

The model identifies that initial [h] is over represented in terminology relating to change, transition, and transformation, with a possible bias towards negative sentiment.

Additionally, initial [ɕ] is over represented in terminology relating to religion and spirituality, but also in terminology relating to time. It is assumed that a sound-symbol relationship would be singular –while *gl-* appears in many words that do not have the light phenomena association (for instance *glass*, *gland*), it is only productive as a phonestheme for light phenomena words (Bergen 2004). Initial [ɕ] likely also only has one salient association –uncovering which would require testing these findings with Japanese-speakers.

This is however the ultimate goal of this study: Automated approaches that use large corpora to identify patterns are invaluable to surfacing these patters, and models like the one outlined in this project serve to provide datasets for further investigation –datasets that might otherwise be impossible to create.

37

Sonic iconicity and the flesh of the Earth

Perceptual Dynamics in The Skin of the Earth: Fragments (2024) by Paulo C. Chagas

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This paper examines the dynamic, multimodal dimensions of iconicity in the electroacoustic and audiovisual works of Paulo C. Chagas, with a focus on his recent composition, *The Skin of the Earth: Fragments* (2024). Departing from traditional semiotic views that define iconicity as a static resemblance between signifier and signified, I propose an expanded concept of iconicity as a temporally unfolding, affectively charged, and perceptually grounded phenomenon. This rethinking frames iconicity as a form of *cognitive ecology*, in line with N. Katherine Hayles's theory of the *cognitive nonconscious*, where meaning emerges through distributed perception and material engagement rather than representational coding (Hayles 2017). *The Skin of the Earth: Fragments* exemplifies this eco-iconic process: a compositional strategy that translates environmental dynamics into an immersive interplay of sound, image, and gesture.

Chagas's work signals a paradigm shift from iconicity as imitation to iconicity as *resonance* —not merely in the acoustic sense, but as a relational and embodied phenomenon rooted in sensory memory, affect, and imaginative co-presence. In *The Skin of the Earth: Fragments*, real-time signal processing, sonified environmental data, AI-generated visuals, and immersive diffusion techniques converge to create a semiotic ecology where iconic relations are *enacted* rather than simply perceived. Sound becomes a membrane—like the skin of the Earth itself—through which the world touches and is touched by the listener.

This reconceptualization draws from Charles Sanders Peirce's triadic model of signs, where the icon is defined not only by resemblance but by intrinsic qualities or relational structures. For Peirce, the icon "refers to the object it denotes merely by virtue of characters of its own" (Peirce 1998, p. 291). This semiotic function is not static; it is dynamically interpreted through the *interpretant*, the evolving mental translation of the sign. In Chagas's work, iconicity arises not from mimetic representation but from perceptual alignment between sonic forms and ecological processes. These alignments—ever-shifting and affectively modulated—initiate a chain of interpretations in what Peirce called *infinite semiosis*.

Chagas's compositional poetics rely on the phenomenological conditions of this interpretive process. Drawing on the work of Don Ihde, Jean-Luc Nancy, and Maurice Merleau-Ponty, I argue that listening becomes an *embodied encounter*, where sound functions not as propositional meaning but as gesture, presence, and relational force. Ihde's notion of "showing

without showing" (cf. Ihde 2007, p. 52) proves essential: sound discloses without determining, allowing phenomena to emerge without closure. Similarly, Nancy's insight that "to listen is to be on the edge of meaning" (Nancy 2007, p. 7) captures the work's indeterminate but resonant aesthetics. Within this framework, Denis Smalley's spectromorphology offers analytic precision for describing how the shaping of spectral materials over time evokes causality, gesture, and spatiality (Smalley 1997, pp. 107–126). In *The Skin of the Earth*, low-frequency rumbles and filtered noise suggest geological or atmospheric forces—not through direct imitation, but via dynamic resemblance and embodied inference. These sounds behave like natural events, enacting a performative mode of iconicity.

This behavioral iconicity is amplified through Chagas's use of real-time audiovisual synthesis, where continuously evolving images modulate and respond to sonic changes. These visuals are not representational illustrations but co-constitutive elements of a multimodal ecology. Here, iconicity transcends the sonic, forming *cross-modal correspondences*—integrated patterns of motion, density, and transformation across sound, image, and gesture. From a Peircean perspective, these relationships can be viewed as icon-index hybrids: signs that resemble and simultaneously co-occur with their referents, often drawing from real environmental data.

François Bayle's concept of *image-de-son* or *i-sound* further illuminates this phenomenon. Bayle defines the *i-sound* as a metaform that fuses metaphor, memory, and morphology (Bayle 1989). In Chagas's composition, many sonic textures hover between reference and abstraction, forming perceptual "fictional objects" that invite interpretation without resolution. This acousmatic poetics places sound as a site of perceptual projection and symbolic ambiguity, deepening the listener's imaginative engagement.

François Delalande's typology of listening—taxonomic, empathic, and figurative—provides another useful lens (Delalande 2007). *The Skin of the Earth: Fragments* activates all three modalities: listeners may analyze spectral structures (taxonomic), sense the expressive force of gestures (empathic), and infer environmental metaphors (figurative). This multimodal engagement enables a *plural* and *layered* experience, where iconicity emerges as a constellation of perceptual resonances rather than a single interpretive act.

Importantly, Chagas's eco-iconic aesthetics align with broader posthuman and ecological thought. By treating sound as a *skin*, both metaphorical and material, *The Skin of the Earth: Fragments* dislodges anthropocentric assumptions about representation. It fosters a relational ontology in which technological and organic, human and non-human, sensory and symbolic realms are entangled. This view echoes Merleau-Ponty's notion of the *flesh of the world*—a chiasmic field where perception and being are co-constituted (Merleau-Ponty 1968). Iconicity here becomes a medium of *attunement* and *co-affection*, not depiction.

Viewed semiotically, this entanglement reframes iconicity as a *situated*, *temporal*, and *emergent* event. Rather than a property of isolated signs, iconicity becomes a *processual unfolding*—a mode of resonance enacted through the interplay of affect, context, and technological mediation. Each sonic moment in *The Skin of the Earth: Fragments* is an iconic event: a convergence of perception, meaning, and material presence within the listener's cognitive ecology. This extension of Peirce's model integrates temporality, intermodality, and ecological awareness as fundamental semiotic parameters.

In this light, Chagas's composition offers a compelling framework for rethinking iconicity in electroacoustic music. Through environmental sonification, spectromorphological nuance, and audiovisual interplay, *The Skin of the Earth: Fragments* performs a form of iconicity that is relational, immersive, and participatory. It challenges traditional models of musical meaning, inviting listeners to co-construct significance through embodied resonance rather than

symbolic decoding.

This paper thus contributes to a broader theoretical and musicological discourse on sonic iconicity, proposing a model that draws from Peircean semiotics, phenomenology, and non-representational aesthetics. Iconicity becomes a bridge between form and perception, between ecological thought and musical gesture. In foregrounding the perceptual dynamics of resemblance, *The Skin of the Earth: Fragments* reveals iconicity as a form of care, resonance, and relational knowledge—making audible the fragile interdependencies that bind us to the Earth.

38

Line, circle, arrow

Word-image intertwining in the poetry of Ilse and Pierre Garnier

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In this paper, I examine the strategies by which Ilse and Pierre Garnier incorporate iconicity into spatial poetry. I trace the shifting functions of signs in a selection of their works, concentrating primarily on three forms: the straight line, the circle (or the incompletely closed curved line), and the arrow. In compositions by the Garniers that combine verbal and linear elements, the drawings are typically schematic and non-literal. A closer analysis of their spatial volumes, however, reveals that this degree of non-literalness is subject to modulation. I therefore propose to devote particular attention to attenuated lines and to less immediately legible word–image configurations.

Through selected examples, I delineate the contexts in which Ilse and Pierre Garnier employ lines, circles, and arrows. I analyze the dynamic transformations of these elements' functions within individual volumes, the interplay between the letter and the extra-verbal sign, and—drawing on Tim Ingold's anthropology of lines as well as the theoretical writings of Wassily Kandinsky and the notebooks of Paul Klee—I investigate how the type and curvature of the line inform the works' modes of representation. With reference to the manifestos of spatialism and to the writings of the Polish avant-garde artist Władysław Strzemiński, I further consider how the deployment of supplementary expressive means shapes the works' dynamism and rhythmicity. I outline the Garniers' approaches to perspective, repetition, and dichotomy. Of particular importance is the question of absence: I examine how the removal of a visual representation of a central element—and its potential substitution with traces of its activity—affects the viewer or reader.

Finally, invoking W. J. T. Mitchell's now-canonical theory, I pursue the Garniers' unexpected and ambiguous juxtapositions and reflect on their understanding of iconicity, ultimately posing the question of its boundaries.

39

Iconicity across modalities

A structural comparison of signed Languages with written/ vocal and pictorial languages

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Since the seminal works of Saussure (1971, pp. 100–101) and Peirce (CP 2.265), numerous studies have revealed that there can be no iconicity in language without a degree of arbitrariness, and that iconicity must therefore be understood in terms of gradation (see, e.g. Caselli and Pyers 2020; Ortega 2017; Cuxac 1998; S. Wilcox 2004, 140ff). In defining the iconic dimension of written, spoken, and signed languages, the literature generally relies on a resemblance-based relationship between a linguistic form and its referent–a relationship validated by a more or less arbitrarily selected group of speakers/signers (e.g. Perniss et al. 2017; Dingemanse, Schuerman, et al. 2016; S. Taub 2000, pp. 32–33). Drawing on various semiotic traditions (e.g. Peirce 1995; Hjelmslev 1971; Jakobson 1966; Eco 1970; Groupe μ 1992), this contribution offers a contrastive structural study of written/spoken languages, pictorial languages, and signed languages. It aims to identify the mechanisms underlying the structuring of meaningful units in these languages, from lexical formation to signed narratives.

While semiotics has provided a theoretical framework for describing iconicity as based on traits conventionally associated with a semiotized object, this study translates those theories into a concrete methodological framework. By contrasting a series of values with their opposites across various geographical and temporal contexts, e.g. 'feminine' vs. 'non-feminine', the context-specific and cross-context features commonly used to represent such values have been identified in pictorial languages (Sähn 2022; Sharifzadeh and Sähn 2025). The first section of the present work extends this analysis to signed languages, in which lexical units display the same (proto)typical traits found in pictorial languages. For instance, the concept of femininity[1] is either expressed through the *presence of jewelry* (German Sign Language [DGS], *longer hair* (French Sign Language [LSF]), the *presence of breasts and a narrower waist* (Finnish Sign Language [SVK]), or *a combination of longer hair, jewelry, and breasts* (Chilean Sign Language [LSCh]). Depending on the number of those arbitrarily selected traits which constitute a unit, iconicity can thus be understood through the lens of a continuum, along which the meaningful units of a given language or semiotic system range from purely arbitrary (symbolic) to purely motivated (indexical).

[1]Clicking the hyperlinks (in blue text) leads to a video clip depicting the sign. All hyperlinks used in this work link exclusively to signs produced by the signers featured on spreadthesign.com or by a native Deaf LSF instructor.

In a second step, through the segmentation of meaningful units into minimal units, this paper emphasizes the unique status of signed languages, straddling symbolic and iconic systems. Signed languages are composed of minimal units that may be either discrete hence non-meaningful, as in many written/spoken languages, or distinctive, as is generally the case in pictorial languages where such units gain meaning through their co-presence with others. Within this configuration, signed languages exhibit iconic connections in which signs share properties with extralinguistic (e.g. *rooster*, LSF), intralinguistic (e.g. *man* / *human*, LSF), or interlinguistic (e.g. *SOS*, LSF) referents, either through direct iconic mapping (e.g. *tree*, LSF) or via additional symbolic (e.g. *to feel sad*, LSF), indexical (e.g. *to feel nervous/stage fright*, LSF) and/or iconic (e.g. *elephant*, LSF) connections. A model of iconicity based solely on the quantity of (proto)typical traits involved is therefore insufficient to account for how signed languages function. To capture the various forms of iconicity at play, it is necessary to combine a quantitative model, based on the number of shared features between the linguistic form and its referent, with a qualitative model that encompasses the different types of connections involved. Signed languages thus offer a fertile ground for investigating diverse forms of iconicity, all the more so because they involve both codification by "norm authorities" (Ammon 1995) and semantic creation permitted but not codified by such norms.

One salient illustration of this can be found in the production of more complex utterances, particularly narrative discourse, where signed languages combine the linear articulation of their constituents–akin to the linear ordering of constituents in written or spoken languages–with the tabular articulation–characteristic of pictorial languages. In signed discourse, the latter is made possible by personal and situational "transfers" (see Cuxac 2000, pp. 31–95) and underlies the ad hoc production of "narrative panels" (Sharifzadeh 2026). By reusing and transforming previously instantiated features, these panels not only ensure discursive cohesion in signed narratives but also allow for variation in framing, perspective and/or scenographic layout, either when the signer embodies event participants or when they spatially organize elements of the scene in front of them. By comparing a pictorial narrative with its translation by five Deaf signers, the final section of this paper demonstrates how fully such panels reflect the multiple levels of iconicity at work in signed languages.

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Cross-cultural differences in gesture use in comics

A corpus-based multimodal analysis

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Introduction

Comics are a powerful medium of multimodal communication, combining visual, textual and spatial elements to convey narrative meaning. One of the most salient yet understudied visual features in comics is the depiction of gestures. Gestures serve critical functions in face-to-face interaction, such as expressing emotions, guiding attention and reinforcing speech. In drawn media, these bodily expressions are rendered visually and can reflect both universal tendencies and culturally specific norms. Despite the global popularity of comics, few studies have systematically investigated how gesture types vary across comics produced in different linguistic and cultural contexts. This study seeks to fill this gap by conducting a corpus-based analysis of gesture representation in 300 comics from across the world. We focus on four gesture categories—adaptors, pointing gestures, representational gestures, and emblems—and investigate how their distribution is influenced by culture, genre, target readership, and language.

Method

We constructed a multimodal corpus of 300 comics sourced from East Asia, Europe, North and South America, Africa, and the Middle East. Comics were annotated using the Multimodal Annotation Software Tool (MAST; Cardoso and Cohn 2022), which enables hierarchical tagging of visual content. The coding scheme was based on Kita's (2000) and Ekman and Friesen's (1969) classifications of gestures, adapted for application to visual media. Each gesture was classified into one of four major categories:

1. Adaptors, which are behaviours (e.g., self-touch, manipulation of objects) that typically serve a regulatory or tension-release function rather than explicit communication
2. Pointing gestures, which designate referents in the visual space and anchor attention to specific entities or directions

Region	Adaptors	Pointing	Representational Gestures	Emblems
East Asia	24.5%	16.2%	41.0%	18.3%
Europe	22.1%	18.7%	33.5%	25.7%
North America	21.3%	21.0%	31.2%	26.5%
South America	26.7%	15.8%	30.9%	26.6%
Middle East	23.5%	17.2%	28.4%	30.9%

Table 40.1: Mean frequency (%) of gesture types across cultural regions

3. Representational gestures, which depict or symbolise actions, objects, or ideas through bodily form. This category includes iconic gestures that depict concrete actions or objects and metaphoric gestures that convey abstract ideas

4. Emblems, which are culturally conventionalised signs with a direct verbal translation, such as a "thumbs up", and whose meanings are broadly shared within a community

Each comic was also coded for four independent variables: n of origin, language of text, narrative genre (e.g. fiction, historical, social commentary), and target readership (children, adolescents, adults, general). Two dependent variables were analysed: gesture frequency (proportion of total gestures) and gesture frequency per panel. Statistical analyses included one-way ANOVAs with Bonferroni-adjusted post-hoc tests.

Results

Significant cultural differences were observed in the distribution of gesture types across comics. Representational gestures were most frequent in East Asian works, particularly iconic gestures from the character's viewpoint, while emblems occurred most often in Middle Eastern comics, frequently depicting culturally specific signs. Pointing gestures varied strongly across cultures: they were more common in European than Middle Eastern comics, appeared more frequently in English and Slovak texts, and were especially prevalent in historical and political/social genres. By contrast, adaptor gestures displayed little cultural variation, supporting previous claims that these behaviours, often linked to emotional regulation, are less modulated by cultural conventions. Table 1 summarises these cultural tendencies, showing the predominance of representational gestures in East Asia, emblems in the Middle East, and pointing gestures in Europe, while adaptors remained relatively stable across all cultural regions.

Discussion

The findings highlight how gesture use in comics reflects cultural communication styles. The predominance of representational gestures in East Asian works corresponds to narrative traditions that emphasise subjective perspective and embodied simulation. In contrast, the high frequency of emblems in Middle Eastern comics points to a reliance on conventionalised visual codes widely shared within those communities. The relatively frequent use of pointing gestures in European works suggests a cultural preference for explicit referential strategies and spatial anchoring. The stability of adaptors across all cultural regions implies that these behaviours, often associated with internal regulation, may constitute a universal dimension of human expression that transcends cultural boundaries. This study also demonstrates the feasibility of applying corpus-based methods and annotation tools such as MAST to large-scale

visual media analysis. Future research could extend this work by examining reader comprehension of gestures or applying the same methodology to animation and interactive digital comics. Additional analyses, including those examining readership and genre effects in greater detail, will be reported in the conference presentation.

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Correlation between iconicity and stability of ideophonic lexemes

Evidence from Shanghainese

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This study investigates ideophones in Shanghainese, a Sinitic language spoken in Shanghai, China. In linguistic typology, ideophones are typically defined as "a member of an open lexical class of marked words that depict sensory imagery" (Dingemanse 2019, p. 16). These are conventionalized words that combine both iconic and arbitrary form-meaning mappings (Dingemanse 2019, p. 18). Prototypically, ideophones are distinguished from the core lexicon by their unique morphophonological patterns, prosodic features, and syntactic behavior (Dingemanse and Akita 2017). Their meanings cover a wide range of semantic domains. Examples of ideophones in Shanghainese are /tsʰili~tsʰala/ 'sound of stir-frying', /matɕi~matɕi/ 'move clumsily', /pəʔtəŋ~pəʔtəŋ/ 'blink (one's eyes)', /lə-boŋ~boŋ/ 'slightly spicy', and /leha~ha/ 'shiftless' (tones are omitted for clarity; the tilde marks the boundary between reduplicated elements). Cross-linguistic data has supported the existence of an implicational hierarchy among semantic domains of ideophones:

> Sound < Movement < Visual patterns < Other sensory perceptions < Inner feelings and cognitive states (Dingemanse 2012, pp. 662–664)

The semantic domains on this hierarchy are ordered from left to right according to the increasing difficulty of iconically mapping them to speech, reflecting the order in which languages develop ideophones in these domains (McLean 2021). Like the core lexicon, the ideophonic lexicon of a language also changes over time, with some of the ideophonic lexemes going out of use in a later stage of the language.

This study examines the semantic domains of Shanghainese ideophones and investigates whether the extent to which ideophonic lexemes across semantic domains fall out of use over time correlates with the relative difficulty of iconic mapping associated with each domain, as suggested by the implicational hierarchy above. It is hypothesized that sound-depicting ideophones exhibit the greatest diachronic stability because of the relative ease of iconic mapping in the sound domain.

To collect data on an earlier stage of Shanghainese, I use a two-volume French–Shanghainese dictionary compiled by the missionary Rabouin (1894; 1896). This high-quality, comprehensive dictionary documents Shanghainese as spoken before major linguistic changes had

taken place. It includes a substantial number of ideophones. I then test the ideophonic lexemes documented in Rabouin's dictionary with three native speakers of Shanghainese. The ideophonic lexemes are categorized by semantic domain, and the speakers are asked whether these ideophones are still in use, whether their meanings have changed, or, if they are no longer in use, whether similar or alternative expressions conveying the same meanings have emerged.

The analysis proceeds in two steps. First, it establishes the distribution of ideophones documented in Rabouin's dictionary across semantic domains. Second, based on speaker judgments, it calculates and compares the proportion of inherited ideophonic lexemes in each domain. The results indicate that sound-depicting ideophones exhibit the lowest decline rate compared to ideophones belonging to other semantic domains, suggesting a correlation between iconicity and stability of ideophonic lexemes.

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Iconicity in Frame-Semantic Perspective using a corpus of CDS

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Introduction

Iconicity, the motivated resemblance between linguistic form and meaning, is a central yet often under-theorized feature of language. Words like splash, bang, or oops align sound and meaning in ways that are perceptually salient and socially engaging. Such forms are frequent in child-directed speech (CDS) and appear early in children's productions, suggesting a key role in language acquisition (Perniss, Thompson, and Vigliocco 2010; Perry, Perlman, and Lupyan 2015). Yet iconicity is typically studied as a property of isolated words rather than within conceptual and constructional systems.

This paper advances a concept-led approach, using frame semantics (Fillmore 1982; Ruppenhofer et al. 2016) to situate iconic expressions within structured event schemas. Frames capture participants, roles, and scenarios: *splash* evokes LIQUID_CONTACT (child, water, location), *bang* aligns with IMPACT (agent, body part, sound), and *oops* triggers EMOTION/REPAIR. Far from being peripheral, iconic forms function as lexical anchors in multiword constructions (MWCs) such as *splash in the puddle* or *oops it broke*, linking sound-symbolic salience to conceptual frames and providing children with recurring, meaningful routines.

Corpus and Methodology

Data come from the British English section of the CHILDES corpus (MacWhinney 2000), a 3-million-word collection of caregiver–child interactions. Ten high-frequency iconic lexemes were selected: verbs (*bang, splash, wiggle, crash, bump*) and interjections (*oops, uh-oh, ouch, yuck, oops-a-daisy*). Collocational profiles were extracted using Sketch Engine (Kilgarriff et al. 2014) within a ±3-word window, ranked by frequency and logDice. Collocates were mapped onto FrameNet frames (e.g., *splash–puddle* → LIQUID_CONTACT; *wiggle–toes* → SELF_MOTION). A qualitative discourse analysis illustrated pragmatic functions in interaction.

Results

Iconic forms were statistically overrepresented in CDS. High-frequency examples included uh-oh (7,695 tokens) and oops (5,000+ tokens), alongside verbs like bang (207) and splash (124). Collocational analysis revealed entrenched MWCs: *bang* with *head/drum*, *splash* with *puddle/bath*, *wiggle* with *toes/fingers*. These conventionalised patterns displayed both high token frequency and strong association scores.

Frame annotation showed consistent alignment with event schemas: *bang your head* → IMPACT, *splash in the puddle* → LIQUID_CONTACT, *oops it broke* → EMOTION/REPAIR. Pragmatically, MWCs served as directives (*let's splash!*), repair initiators (*oops it fell!*), or play routines (*wiggle wiggle!*). Caregivers reinforced salience with gesture, prosody, and demonstration.

Discussion

Findings support a layered view of iconicity. Iconic words function as perceptually salient anchors; collocational patterns embed them in MWCs; frames provide conceptual grounding; and discourse routines give them pragmatic force. Iconic MWCs thus act as constructional entry points, enabling children to abstract grammar from meaningful, embodied input (Goldberg 2006; Tomasello 2003).

The Role of Chunking

A central implication is the importance of chunking—the grouping of elements into larger, memorable units. Children encounter iconicity not as isolated words but in entrenched sequences (e.g., *bang your head*, *oops it fell*). These high-frequency chunks allow storage and retrieval of event schemas with minimal effort. From a frame-semantic perspective, chunking aligns with frames' relational structure: children rely on pre-packaged constructions linking iconic anchors to conceptual roles.

Chunking also supports abstraction. Repeated exposure to patterns like iconic V + location (*splash in the puddle*) allows generalization to non-iconic forms. Because iconic MWCs are multimodally reinforced (gesture, prosody, enactment), they form robust learning units, bridging perceptual immediacy and grammatical productivity.

Conclusion

A concept-led, frame-semantic perspective reveals **iconicity as foundational for constructional development**. Expressions such as *oops it broke* or *wiggle your toes* demonstrate how perceptual salience, chunking, and frame-based organization jointly contribute to the emergence of grammar. Future work should extend this approach to multimodal corpora to explore the interplay of gesture, prosody, and iconic vocabulary in activating conceptual frames.

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Sonority sounds beautiful, round, friendly, erotic — but why?

Effects of iconicity and indexicality on language attitudes

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Listeners have attitudes towards language, such as the perception of French sounding beautiful and romantic but German sounding harsh and aggressive. We can distinguish two groups of explanations for this: The indexical view (Peirce 1958; Silverstein 2003) understands such language attitudes as a result of differences in power, prestige, and sociocultural stereotypes (Giles and Niedzielski 1998). Particular sounds point to groups of speakers and their supposed character traits, like friendliness or harshness (see, e.g., Bayard et al. 2001; Coupland and Bishop 2007). However, the iconic view suggests that aesthetic judgments may be directly activated by properties of sound. For instance, voiced obstruents may be perceived negatively because of the articulatory challenge in producing them (Kawahara, Godoy, and Kumagai 2021) or trilled /r/ may be associated with roughness because its discontinuous phonetics resembles rough textures (Winter, Sóskuthy, et al. 2022). Some recent studies attempt to test both sociocultural and phonetic-phonological factors (e.g. Anikin, Aseyev, and Erben Johansson 2023; Hilton et al. 2022; Mooshammer et al. 2023; Reiterer et al. 2020), but it remains unclear which features can carry which specific meanings.

To explore this question, this study focused on one of the properties that are most commonly hypothesized to affect how listeners rate language —sonority. In a controlled experimental approach using newly created languages, 500 listeners of different language backgrounds rated 3 out of 15 high-sonority target stimuli and 3 out of 15 low-sonority control stimuli on ten semantic differential scales (pleasantness, beauty, softness, shape, education, intelligence, friendliness, ordinariness, goodness, eroticism). Stimuli were generated with a newly written program, the sonority-sensitive pseudotext generator (SSPG), which varies the probability of sounds depending on the target sonority of the stimulus (following Parker 2008). Stimuli are matched in properties like their phonemic inventory, CV ratio, syllable structure, and syllable probability. Audio files were generated with Amazon Polly using different language optimizations and voices. Mixed models regressed the ratings on condition (high or low sonority) and on covariates encoding, e.g., the sonority of the listener's L1s, how familiar the stimulus language felt to them, which real language they thought it was similar to, and demographic information. Results show that high-sonority stimuli are rated significantly better (as hypothesized by Reiterer et al. 2020, but see Mooshammer et al. 2023) on almost all scales—interestingly, by listeners with both high- and low-sonority L1s. This suggests that to some

extent, sonority can predict ratings irrespective of previous exposure, lending some support to the iconic view. However, for beauty, shape, and across all scales, only high-sonority (and not low-sonority) stimuli are rated better by participants with high-sonority L1s compared to participants with low-sonority L1s. This suggests an exposure effect on top of a phonetic-phonological effect. In addition, the results show effects of several other sociocultural predictors, most of which are shown by random forests to outweigh sonority. For example, listeners may rate language worse if they perceive it as being less familiar, if their gender is male, or if they felt the stimulus sounded similar to a language from a specific region (e.g., Middle East). These findings speak in favor of the indexical view. The results add another important piece to the puzzle of the interplay between social and aesthetic meaning. Here, listeners do have some inherent preferences for certain types of sound, but they largely rely on attitudes towards groups of speakers. This implies that theories concerned with phonaesthetics and iconicity also need to take into account sociocultural effects on the associations humans have with speech sounds.

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Are olfactory expressions synesthetic metaphor or cross-modal iconicity?

Evidence from co-occurrence with reduplicated onomatopoeia

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This paper examines the co-occurrence of reduplicated onomatopoeia taking "*-suru*" and "smell" in contemporary Japanese, with the aim of clarifying differences in perception between native speakers and language learners, using the MC (Metaphorical Competency).

In "*Kishidancho Goroshi*" (Killing Commendatore), Haruki Murakami depicts "smell" as a marker of the real world. Olfactory expressions are often used effectively in literary works to evoke atmosphere, yet they are notably scarce across many languages. This scarcity has been attributed to several factors: compared to taste or vision, smell is considered a more primitive sense and has historically been avoided in linguistic encoding; it is invisible, fleeting, and difficult to verbalize (Suzuki 2019; Azuma 2017; Olofsson and Gottfried 2015). As a result, olfactory descriptions often rely on expressions from other sensory domains—a phenomenon known as synesthetic metaphor or cross-modal iconicity.

Muto (2015) defines synesthetic metaphor as "a metaphorical expression involving touch, taste, smell, vision, or hearing, in which a term from one sensory domain is transferred to another" (Muto 2015, p. 11). Also, Amemiya, Mitsuda, and Miyahara (2008) notes that olfactory adjectives tend to lack clear referents, often indicate ambient atmosphere, and are rarely borrowed from other sensory domains. They state, "Olfaction is less concerned with specific objects in a given environment and more with the overall mood of a space" (p. 198). Compared to other senses, smell is more likely to refer to intangible qualities such as atmosphere or air, making it particularly conducive to iconicity.

For example, a search for "*nioi*" (smell) in the Balanced Corpus of Contemporary Written Japanese (BCCWJ) reveals a range of preceding modifiers: The modifiers that precede "*nioi*" in the BCCWJ include "*ii*" (good; pleasant 172), "*amai*" (sweet; taste-related 38), "*kōbashii*" (fragrant; olfactory 26), as well as more abstract or metaphorical expressions such as "*ayashii*" (suspicious; dubious 7), "*koizora-teki ren'ai-kei na*" (romance-themed like Koizora 1), "*himitsu-mekashita*" (secretive; suggestive of hidden meaning 1), "*fudōtokuteki na*" (immoral; unethical 1), "*shōgyō-teki na*" (commercial; businesslike 1), and "*jimuteki na*" (bureaucratic; administrative 1). These latter examples do not denote literal smells, yet they are syntactically compatible with "*nioi*". Expressions like "*kiken na nioi*" ("a smell of danger", "*olor a peligro*" (SPA)) are not unique to Japanese and appear across languages.

This study selected 20 onomatopoeic expressions from the list compiled by Nakamura, Miyabe, and Aramaki (2013), all of which were confirmed to be understood by three JLPT N2-level international students in a preliminary survey. To ensure morphological consistency, this study chose expressions that can take the auxiliary verb "*-suru*", such as "*iraira suru*" (to feel irritated or annoyed), "*niyaniya suru*" (to smirk or grin slyly), "*dokidoki suru*" (to feel a pounding heartbeat, often from excitement or nervousness), "*gangan suru*" (to have a throbbing headache or loud pounding sensation), "*daradara suru*" (to be sluggish or lazy; to dribble or flow endlessly), "*wakuwaku suru*" (to feel excited or thrilled), "*kirakira suru*" (to sparkle or glitter), "*nikoniko suru*" (to smile cheerfully), "*furafura suru*" (to feel dizzy or unsteady; to wander aimlessly), "*batabata suru*" (to be busy and flustered; to flap noisily)

This study then examined the acceptability of "*nioi*" following each of these expressions, using a five-point scale administered to 20 native Japanese speakers and 20 Chinese and Korean learners of Japanese (first and second-year undergraduates).

Results showed that learners rated the combinations as more acceptable than native speakers did, though Chinese students were less accepting in their judgements of these expressions than Korean students. This seems to be due to their educational style that tends to prioritize correctness over creativity. When these Japanese learners should utilize their MC (Metaphorical Competency) to grasp the meaning of such unfamiliar olfactory examples.

Expressions associated with positive affect received higher acceptability scores, in contrast to the negative adjectives such as "*ozomashii* (horrifying)" and "*ayashii* (suspicious)" are frequently found in literary texts and the BCCWJ. The participants in this study were so-called "Gen Z", the digital natives who are familiar with social media and have experienced the mobility restrictions of the COVID-19 pandemic. It is possible that the need to convey olfactory elements remotely—despite their inherently non-remote nature—has led to shifts in usage not yet reflected in corpora compiled before 2010. However, a major limitation of this study is the lack of a clearly defined metric for individual acceptability judgments.

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Internal iconicity within languages and across modalities

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In a series of works, Haiman (1980; 1983; 1985a) has demonstrated the pervasiveness of imagic and diagrammatic iconicity in spoken languages. Haiman's iconicity reflects the correspondence between linguistic structure and external world. Greenberg (1995) proposed the 'internal iconicity' in contrast with Haiman's 'external iconicity'. Internal iconicity (aka. 'automorphism' in contrast with 'isomorphism' in Haiman 1985a) refers to similar correspondence between two or more parts of the same system. For instance, as in Greenberg (1985), time, space, and discourse deixis are mapped on to the same set of demonstrative words in many languages.

The main purpose of this talk is show that internal iconicity is also pervasive in spoken languages. internal iconicity accounts for correspondence between the marked and unmarked systems within a particular language, case marking in Sanskrit and Chinese decimal system (Greenberg 1995). This talk will argue that the complex system of personal pronouns in Vietnamese and the mapping of land animals and plants to the sea animals and plants in Chinese in naming (Tai 2025) can be more interestingly revealed in the light of internal iconicity. More significantly, internal iconicity also exists across modalities, e.g., manual alphabets in American and British Sign Languages, and manual syllabary in Japanese sign language (Ann, Nonaka, and Sagara 2024). Chinese character signs in Japanese and Taiwan Sign Languages are also imitated in whole or in part on Chinese characters and have become a part of vocabulary in these two sign languages (Ann 1998; S. Fischer and Gong 2011).

In conclusion, iconicity is fundamental in signed languages, but still pervasive in spoken languages. In addition to external iconicity, internal iconicity within individual signed and spoken languages as well as across these two modalities are still largely unexplored, thus deserving further extensive study. Furthermore, as suggested by two reviewers of this abstract, conceptual metaphors can also be taken as a kind of internal iconicity.

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Iconicity, chronotopes, and cosmology in ritual speech

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To examine the concept of iconicity in speech, I draw on "poetic pragmatics" (Silverstein 1984), which looks at pragmatic patterns and indexicality that shape interaction and generate cultural meanings. This study examines iconicity in ritual speeches, drawing on data collected from Ishigaki Island in Okinawa, Japan. I focus on the poetic function (Jakobson 1960) of language, which highlights the form of the message and adds coherence to discourse through the use of repetition, rhythm, and parallelism, even when interaction seems chaotic or disjointed. By introducing the concept of chronotopes (Bakhtin 1981), defined as the social constructs of time and space that emerge through discourse, this study provides a linguistic anthropological perspective on how speakers utilize metrical structures to connect the present moment of interaction with past experiences and projected futures.

This study is based on data collected at *Puurii*, a two-day harvest festival held annually across twenty districts of the island. Each community's celebration takes place at a sacred site called on, where designated priestesses perform rituals of thanksgiving and supplication. On the first evening, priestesses and parishoners offer prayers of gratitude for the harvest, while the second day features prayers for prosperity. Alongside the rituals, community members participate in parades, performances, and a tug-of-war. The data presented in this study consist of two speeches recorded at one of the *on*s during the 2016 festival. By combining linguistic analysis with Peircean semiotics, I demonstrate that speakers make use of poetic pragmatics (metricalized structures) including prosody to seamlessly transition between immediate and transcendent time and space.

The opening speech that took place in the *on* on the first night starts with conventionalized greeting forms. Its opening and closing stanzas follow a predictable style, while the hierarchy of noun phrases (Silverstein 1976) in the speech foregrounds the religious nature of the event and situates participants in the *on*–the very center of the event. The speech is strictly anchored in the present interactional moment with the frequent insertion of contrastive pairs of temporal phrases, "today/tomorrow," while invoking ancestral gods and anticipating future prosperity.

The second speech, which followed the first, was delivered in a monotonous tone, although it shows a much more dramatic and dynamic, semiotic turn. For instance, the speech includes parallelism at the end of each stanza, along with numerous repetition and contrastive pairs of temporal and spatial phrases, such as "today/tomorrow," "now/then," and "earth/heaven."

In addition, there are several instances of prosodic and moraic iconicity. The speaker uses semantically contrastive pairs that share similar prosodic contours. By repeating the nexus of earth, sky (heaven), and people, as well as past, present, and future, the speaker conveys that the community exists in a culturally significant order that extends beyond the current festival and embraces a broader cosmological perspective. This highlights a chronotopic movement: from the origo of the speech event, the speaker reflects on ancestral presence, while ensuring generational continuity. The use of poetic iconicity heightens the effect of this chronotopic movement.

The data suggest that poetic iconicity in the ritual speeches reveals a cosmological worldview commonly shared in this insular community. As Stasch (2011, p. 159) notes, a ritual is a "poetically dense figuration of macrocosmic order in microcosmic action." The *Puurii* speeches analyzed in this study, rich in iconicity through sound, rhythm, semantics, and grammar, create a chronotope of cyclical renewal that connects the past, present, and future within the bounded time-space of the festival.

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Iconicity in semantic shift

A contrastive analysis of dimension and physical property predicates in Vietnamese and English

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This paper investigates iconicity in the systematic semantic shifts of predicates of dimension (*dài* (long), *ngắn* (short), *rộng* (broad), *hẹp* (narrow), *to* (large), *nhỏ* (small), *cao* (tall/high), *thấp* (low), etc.) and physical property (*nặng* (heavy), *nhẹ* (light), *cứng* (hard), *mềm* (soft), *nóng* (hot), *lạnh* (cold), etc.) in Vietnamese, with a comparison to English. Based on the conceptual metaphor theory by Lakoff and Johnson (1980), the metaphorical semantic structure (Sweetser 1990), the adjective class typology by Dixon and Aikhenvald (2004), and the evaluative components in the semantics of some adjectives (Chu 1989), we argue that the metaphorical semantic shift of these predicates from the physical to abstract domains is a form of iconicity. The semantic change from a neutral, physical meaning to an evaluative meaning (ameliorative or pejorative) is not arbitrary, but rather an iconization of physical experience into moral and emotional concepts, reflecting a community's cognitive perception. The goal of our study is to explore how these predicates iconize physical properties and to identify the similarities and differences in this process between Vietnamese and English. Our research questions are: 1) How do these predicates iconize physical properties into moral and emotional concepts? 2) What are the similarities and differences in this process between the two languages?

We focus on a cognitive-semantic analysis of two groups (dimension and physical property in Vietnamese and English predicates) and hypothesize that the semantic shifts are driven by an iconic principle, where the embodied experience of physical space and material properties is mapped onto abstract concepts. While a universal iconic tendency may exist, specific metaphors and idioms will vary across the two languages, showing the "dynamics and variations" of iconicity.

The results of our analysis indicate that the two languages exhibit both similar and distinct patterns in iconizing abstract concepts from simple physical properties. Regarding similarities, both Vietnamese and English show a common iconic trend. The predicate "*rộng*" (broad) tends to acquire an ameliorative meaning (*rộng lòng* (generous) –*broad-minded*). In contrast, the predicate "*chật*/*hẹp*" (narrow) acquires a pejorative meaning (*suy nghĩ chật hẹp* (narrow-minded thinking) –*narrow-minded*). This similarity reinforces the view that iconic semantic shift is a universal cognitive phenomenon rooted in human embodied experience. However, we also found clear differences, which reflect the iconic dynamics specific to each language. For example, while the word "*dày*" (thick) in Vietnamese can acquire both an ameliorative

meaning (*dày kinh nghiệm* (well-experienced)) and a pejorative meaning (*mặt dày* (shameless)), its English equivalent "*thick*" is mostly associated with a negative nuance. Similarly, while "*sâu*" (deep) can have an ameliorative meaning in both languages (*hiểu biết sâu* (a deep understanding) vs. *a deep understanding*), only deep in English participates in a pejorative idiom (*go off the deep end*). This difference shows that the same physical property can be iconically encoded into distinct nuances by different cultures and linguistic systems.

Our analysis shows that iconicity operates not only at the semantic level but is also deeply embedded in cognitive processes. The iconic mapping from physical concepts to abstract domains is a dynamic process with clear cross-linguistic differences. By examining these variations, this paper offers a new perspective on iconicity and illustrates the relationship between language, cognition, and culture.

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Do visual signals really afford more iconicity than acoustic signals?

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Gesture-first theories of language origins are based, in significant part, on the argument that gestures afford far more iconicity than vocalizations, which would have supported the emergence of early symbols (Goldin-Meadow 2016; Tomasello 2008). This claim is supported by semiotics experiments, which consistently demonstrate that gestures outperform non—linguistic vocalizations when people developed novel communication systems from scratch (Fay et al. 2014, e.g.). This gestural advantage for iconicity is often attributed to the depictive potential of the visual modality, compared to the acoustic modality of speech, which is characterized as linear and ephemeral (Armstrong and S. E. Wilcox 2007; Hockett 1978, e.g.). However, these studies comparing gesture and vocalization typically conflate the perceptual modality of communication (visual versus acoustic) with the specific physical properties of the articulators (two hands versus a larynx and vocal tract). Thus, it is not clear whether gestures afford more iconicity than vocalizations due to the perceptual modality of communication or to other differences between the articulators.

The current study seeks to directly test the effect of perceptual modality by comparing the evolution of visual versus acoustic communication when signals are produced by the same apparatus. We designed a novel interface—namely, dragging a mouse on a tablet—to "draw" a visual signal or an acoustic one. For the generation of acoustic signals, the tablet x- and y-axes control the timbre and frequency of the acoustic output. Critical to our data analysis, both acoustic and visual signals are captured as 2D coordinate trajectories, providing a commensurable measurement for direct cross-modal comparison. In the general experimental set-up, dyads of participants play an interactive communication game in which they take turns creating acoustic or visual signals to refer to eight animal stimuli (see Fig. 48.1). Animals each have a distinct appearance and sound, displayed by five-second video clips. For each trial, the Sender uses the tablet to generate a signal for a target meaning within 30s. The Receiver guesses the target meaning from six alternatives, and their response times are recorded. After each trial, feedback is provided to both players on whether the guess was correct. The Sender and Receiver swap roles after each trial. Each participant cycles through five rounds, totaling 80 (2×5×8) trials per dyad.

Preliminary results with eight dyads in each perceptual condition show that guessing accuracy was above chance from the start in both modalities, indicating successful communication. Dyads became more accurate over rounds. While the visual modality consistently

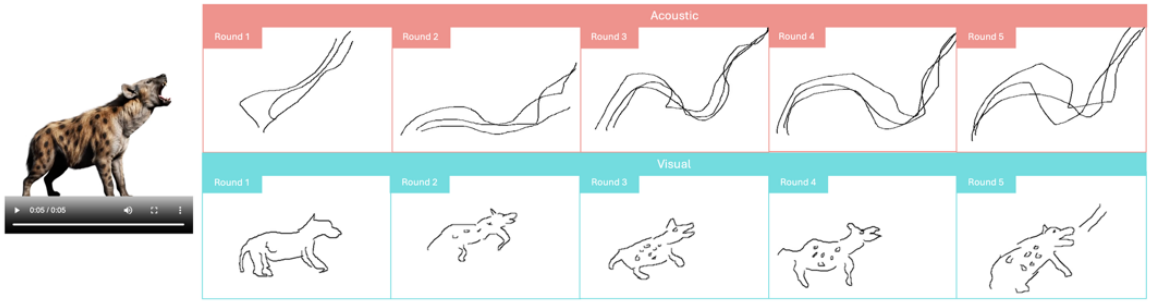

Figure 48.1: A sample videoclip and the trajectories of visual and acoustic signals given coordinates. Note that acoustic trajectories are invisible during the experiment.

outperformed the acoustic modality, both improved at similar rates, suggesting similar learning patterns. As accuracy improved, guessing time decreased, reflecting adaptation across rounds, with visual signals processed faster than acoustic signals. This advantage of visual modality appeared at the start and plateaued over time, reflected in a significant modality-by-round interaction. The acoustic modality showed an advantage of production efficiency across rounds, taking less time than visual signals to articulate. In addition, we found that signals gradually conventionalized: Analyses of 2D trajectories showed that participants within each dyad converged on more similar signals in both conditions, with greater similarity in the visual condition. These results show that the evolution of communication system is modality-specific, physical articulators being identical.

In ongoing analysis, we are exploring how participants used iconicity in each modality, including which aspects of the stimuli—visual or auditory—participants chose to represent and how. The top row in Figure 1 shows the coordinate trajectories of the signals created by a participant in the acoustic modality, which can be compared to the visual drawings from a different participant in the bottom row. The graphic signals clearly exhibit the use of iconicity by creating pictorial figures to represent visual aspects of the target stimulus. The stability of the acoustic signals over rounds, in addition to guessing accuracy, suggests participants are finding an iconic solution to represent the animals, which may capture aspects of their vocalizations or possibly visual aspects of the animals. To assess iconicity affordance, we are currently running a playback experiment to see whether naïve participants can guess the meaning of these ad hoc signals.

A follow-up step is to probe conventionalization and its consequences. Prior work has showed that through repeated transmission, graphic signals gradually became simplified with iconic elements being eroded, and meanwhile, combinatorial structure emerges, enabling systematic reuse of a minimal set of elements (Tamariz et al. 2014). Given conventionalization, we ask whether the differences in iconicity affordances will lead to different structural patterns (Roberts, Lewandowski, and Galantucci 2015; Verhoef, Kirby, and De Boer 2016). This will

inform the relationship between combinatoriality and iconicity (Meir et al. 2013). Long term, we will also implement a tablet that allows for multimodal signaling—switching or combining visual and acoustic channels to look at how people use multimodal communication.

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Iconicity in aspectual grammaticalization

Schematic correspondence between language and vision

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Theories of grammaticalization increasingly recognize that pathways from lexical items to grammatical markers are often non-arbitrary, shaped by persistent semantic and embodied associations (J. L. Bybee, Perkins, and Pagliuca 1994; Heine and Kuteva 2002). Such motivation is frequently discussed in terms of iconicity, whereby source meanings provide schematic correspondences to grammatical functions (Haiman 2008). In Persian, the auxiliaries *xāstan* ("want") and *dāštan* ("have") have developed aspectual uses commonly described as inchoative and progressive, respectively. From an embodied semantics perspective, these developments have been argued to align with image-schematic associations: *want* is linked to directed orientation toward an unrealized goal ("Desire is motion toward"; Lakoff and Johnson 2002), whereas *have* is associated with containment or control over an included entity ("Possession is inclusion"; Lakoff and Johnson 2002). If such source schemas contributed to the emergence of these aspectual functions, one might expect a schematic correspondence between the auxiliaries' lexical meanings and the perceptual configurations that co-occur with their aspectual uses, raising the question of whether such correspondence remains available during real-time comprehension (S. Duncan 2002). The present study examines whether these proposed schematic correspondences are reflected in online sentence comprehension by testing whether aspectual marking in Persian biases the integration of linguistic descriptions with visual scenes that differ in their perceptual organization. To test these predictions, native Persian speakers (N = 38) completed a two-stage experiment. In Stage I, participants performed a sentence–scene verification task with 45 trials. On each trial, they read a sentence describing an everyday action marked with either an inchoative (*xāstan*) or progressive (*dāštan*) auxiliary. A 3-second silent video then appeared next to the sentence, depicting an agent interacting with a manipulable object (e.g., a ball, a comb, a candle, etc.) in one of two configurations: approaching the object or holding it. The videos did not depict the specific events described in the sentences, but instantiated configurations that were either compatible or incompatible with the sentence's aspectual marking. Participants judged whether the scene fit the sentence. In Stage II, participants completed a two-alternative forced-choice recognition task, selecting the previously seen scene from a pair of screenshots taken from the final frame of the earlier videos; accuracy and response times were recorded.

On this basis, we expected verification performance in Stage I to vary as a function of sentence–scene pairing, with higher accuracy for progressive-marked sentences paired with possession scenes and for inchoative-marked sentences paired with approach-to-object scenes,

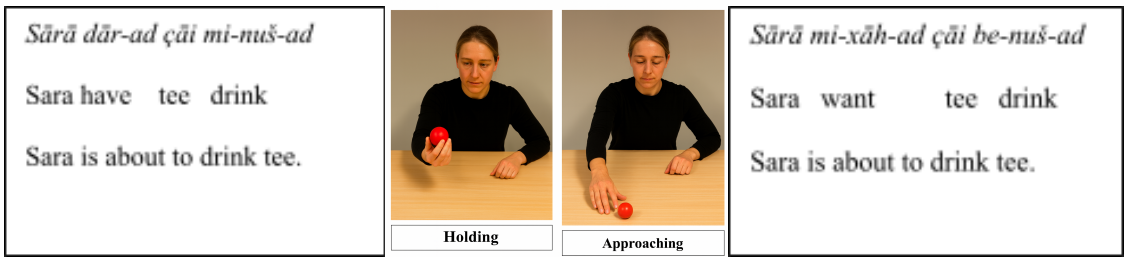

Figure 49.1: Example stimuli from the sentence–scene verification task (approach vs. possession; red ball)

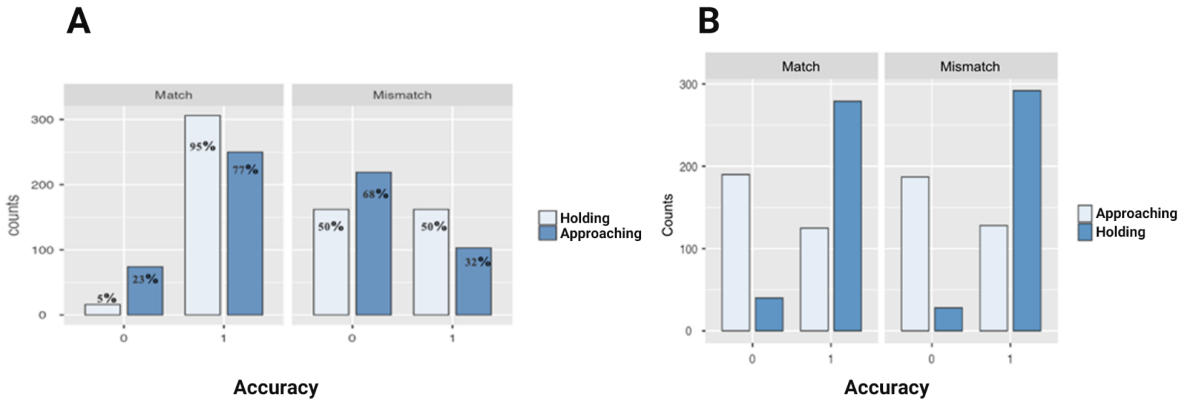

Figure 49.2: A. Response accuracy in the recognition memory task (Stage II) B. Response accuracy across action phases and trial conditions (Stage I)

relative to mismatched pairings. The memory task examined whether such online effects extended to later visual recognition.

In Stage I (verification), accuracy was significantly higher in match than mismatch trials ($b = -2.592$, $z = -15.00$, $p < .001$) and for holding over approaching scenes ($b = -1.295$, $z = -7.66$, $p < .001$), with a significant interaction ($b = 0.969$, $z = 2.88$, $p = .004$), reflecting the strongest advantage for progressive–holding pairings. In Stage II (recognition memory), participants recalled holding scenes more accurately than approaching scenes ($b = 3.087$, $z = 8.58$, $p < .001$) and responded faster to them ($\approx$ 203 ms advantage, $p < .001$). No reliable effects of aspectual condition or interactions with aspect were observed in the memory task. The verification results indicate that aspectual marking systematically influenced online sentence–scene integration, with performance modulated by how the visual scenes organized the agent–object relation. In particular, the interaction observed in Stage I suggests a strong compatibility between progressive marking and scenes depicting object possession, alongside a relative advantage for inchoative marking with approach-to-object scenes. Because the visual scenes did not depict the events described in the sentences, this pattern is consistent with the view that aspectual auxiliaries bias comprehenders toward different schematic construals during real-time interpretation, rather than relying on lexical or event identity. At the same time, the robust advantage for possession scenes across both tasks suggests that such configurations may be cognitively more salient or conceptually more stable, in line with proposals that result-like or possession states afford privileged access to the internal structure of events and are more strongly encoded in perception and memory (Sakarias and Flecken 2019; Santin, Van Hout, and Flecken 2021, e.g.). The absence of reliable aspect effects in the memory task further indicates that downstream recognition was primarily sensitive to general properties

of visual event structure rather than to aspect-specific linguistic encoding. Taken together, the findings offer converging but non-decisive evidence that embodied source meanings associated with aspectual auxiliaries may remain active during comprehension and may have contributed to their pathways of grammaticalization.

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Relevance of iconicity to the sense of "force" encapsulated in the meaning of Japanese motion ideophones

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This paper examines the semantics of motion ideophones (Ibarretxe-Antuñano 2019; Van Hoey 2025), focusing on the sense of "force". According to the Oxford Dictionary of English (2010), in physics, force refers to "an influence tending to change the motion of a body or produce motion or stress in a stationary body". Motion ideophones are assumed to express a motion by virtue of being motion ideophones, but is the sense of force actually encapsulated in their meaning? Ibarretxe-Antuñano (2019) implies FORCE is a potential meaning subcomponent of MANNER, but not necessarily an obligatory meaning subcomponent shared by all motion ideophones, thus leading to the paper's first question: how is the sense of force realized in motion ideophones (Question 1)? This, in turn, leads to the second question: if force is part of the meaning of motion ideophones, what accounts for such realization? Is it an arbitrary association between the sense of force and the ideophone, or does iconicity play a part (Question 2)? Though Hamano (1998) does not specifically address the question, her discussion seems to suggest the latter, as she reports some phonemes express the sense of forcefulness, a type of conventional sound-symbolism, i.e., "the analogical association of certain phonemes and clusters with certain meanings" (Hinton, Nichols, and Ohala 1994a, p. 5).

This paper offers an initial response to the two questions, arguing (i) motion ideophones typically do not express force definitionally, and (ii) iconicity plays an important part in associating the forms of ideophone and the sense of force or force-related concepts, both in conventional sound-symbolism and beyond. The discussion is based on the observation of the entries in an ideophonic dictionary (Atoda and Hoshino 1995) [A&H 1995].

The sense of force: In the dictionary definitions, in a limited number of instances, application of force is literally indicated by using the word *chikara* 'force'. For instance, *gakugaku* means "manner of something partially fixated ⋯trembles when force is added" (A&H 1995, p. 26), which contains 'force' (*chikara*). In most cases, however, we must appeal to our world knowledge to evaluate whether the force is applied or generated to realize the motion expressed by the ideophone. The key factors include: (a) weight of the Figure (Hamano 1998; Hamano 2022), (b) direction of motion (horizontal or vertical, following the force of gravity), (c) flow of the motion (against or in the same direction as), and (d) speed-related notions (e.g., abruptness, momentum). For example, we commonly note the presence of force when the

motion goes against the force of gravity (e.g., *zuruzuru*: "sound/manner of dragging something heavy ⋯(A&H 1995, p. 247)), or the motion involves abruptness or an impact of hard or heavy objects colliding with each other/falling onto a hard surface (e.g., *bataQ*: "the sound of something that suddenly collapses to the ground or hits something" (A&H 1995, p. 373)). To reiterate, the sense of force is rarely definitional in motion ideophones but is arrived at by resorting to our world knowledge.

Iconic motivation: Force or a force-related concept is associated with the meaning of motion ideophones at least in four possible ways.

1) Conventional sound-symbolism: Hamano notes some phonemes express a sense of a force-related concept or lack of it, most notably, the suffixal moraic obstruent /Q/, which expresses "unidirectional forcefulness" for both mono- and bi- moraic base ideophones (Hamano 1998, pp. 100, 174). For instance, in *potaQ-to ochiru* [IDEO.$_{drip}$-PARTICLE fall] 'drip', the ideophone is argued to express the sense of a fall from a high position [i.e., unidirectional] of the Figure (e.g., a large tear drop) to *splash* onto the Ground [i.e., the motion is forceful] (Hamano 1998, p. 106).

2) Imitative sound-symbolism: According to Hinton et al. (Hinton, Nichols, and Ohala 1994a, pp. 3–4), imitative sound-symbolism refers to a word/phrase that represents an environmental sound (e.g., *swish* and *knock*). Most notably, this covers motion ideophones that express an impact of contact, such as *doN* 'a loud bang' ("the sound emitted, or the manner depicted, when a very heavy object rapidly collides with something or falls to the ground"; A&H 1995, p. 335).

3) Diagrammatic iconicity ("a grammatical structure ⋯reflects its meaning"; Haiman 1980, p. 516): While the instance in 2), *doN* 'a loud bang', is isomorphic in that there is a one-to-one correspondence between the form and the meaning (the force is enacted once), in the repeated form, *doN doN doN*, the three forms reflect the force enacted three times, following the temporal order.

4) Idiosyncratic: Some ideophones are lexically coded with the meaning of force. One example is hasshi: "manner of strongly hitting a hard object into something' (A&H 1995, p. 382), where the C1 /h/ expresses 'weakness; softness ⋯' if the /h/ is sound-symbolic (Hamano 1998, p. 172). Another example is *ecchira-occhira*: "manner of someone walking with a struggle due to the heaviness of the load ⋯(A&H 1995, p. 19), which is outside the CV/CVCV-root scheme of sound-symbolism discussed in Hamano (1998).

This paper examines how and to what extent the sense of force is encapsulated in the meanings of Japanese motion ideophones. It argues: (a) the sense of force is associated with a particular type of motion (e.g., collapsing, dragging), and in most cases, we appeal to our world knowledge to construe the presence of force; (b) the form-meaning (the sense of force) is mostly iconically motivated, but there are idiosyncratic instances when the meaning of force is lexically encoded. In studies of sound-symbolism, the properties with which a sound is often associated include shape, size and texture (e.g., Sidhu 2024). The paper suggests the force-sound association is a viable addition to be investigated in other languages rich with motion ideophones.

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The (in)flexibility of classifier handshapes

Iconic depiction in two unrelated sign languages

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1. University of Göttingen

In sign languages, classifier (or depicting) handshapes are morphemes that pertain visual or geometric features of the referent. These handshapes combine simultaneously with hand locations and movements to express spatial information about entities. Unlike location and movement, which allow more analogous spatial mappings, classifier handshapes are typically drawn from a language-specific set that contrast categorically (e.g., Schembri 2003; see also Zwitserlood 2012). Given the iconic potentials that are retained in classifier handshapes, specifically whole-entity and body-part classifiers, previous research has described how signers creatively manipulate the hand-parts and modify them gradiently to capture distinct visual characteristics of referent entities (S. Duncan 2005; Fuks 2014; Suppalla 1986). However, no empirical study has compared, across languages, the types and extent of iconic modulation in classifier handshapes. This study aims at filling this gap by exploring to what extent the formational properties of classifier handshapes –particularly, hand configuration, finger selection, and hand orientation –can be modulated to express depictive meaning. We ask the following questions:

1. Under what circumstances and in what ways do signers modulate entity handshapes for depiction?
2. What are the constraints of iconic modulations?
3. Do signers of the same language exploit the same type of iconic potential in classifiers to encode depictive meaning?
4. How comparable are these strategies cross-linguistically?

We present data from a picture elicitation task involving 56 entities, collected with Deaf adult signers of two historically unrelated sign languages: German Sign Language (DGS) and Hong Kong Sign Language (HKSL). Participants see realistic pictures of various entities and are asked to describe the picture one by one. The selected entities range from animals to vehicles, each with altered manners of location (e.g., a fox in sitting, sleeping, and stretching posture). Here, we focus on classifiers constructions that include a whole-entity classifier handshape. Data collection with the DGS group is ongoing, while the HKSL dataset is completed (n=8,

Figure 51.1: An HKSL signer (left) and a DGS signer (right) described a crashed bike with the respective conventionalised whole-entity classifier for 'bike' by changing hand orientation.

Figure 51.2: An HKSL signer described a fox in stretching posture, with a modulated y-hand by curving the pinky, which represent the hindlegs of the fox.

mean age=38.4), yielding 1584 tokens of entity classifiers. The analysis will draw on the full dataset from both languages.

Preliminary findings suggest that, firstly, signers tend to modulate hand configurations primarily when describing the altered manners of an entity, but not when introducing the entity. Consistent with previous findings, both groups most frequently employ change in hand orientation of the classifier handshape to capture the changed manner (Fig 51.1). The modifications in hand features –including both hand orientation and configurations –are marked aspects indicating the changes are iconically mappable onto the changes in intrinsic features of the referent (Emmorey 2002). In both languages, these modulations adhere to certain phonological constraints of the language. Interestingly, however, we observe that HKSL signers appear to have a higher tendency of modulating the finger and joint configurations (Fig 51.2) than the DGS group. These patterns indicate that typological variation extends not only to classifier inventories, but also to how sign languages exploit the iconic affordances of these conventionalised forms (Brentari et al. 2017). By investigating the extent to which signers of different languages can *play* with their manual articulators in classifier predicates, this study highlights the dynamic balance between visual iconic representation and functional linguistic structure in the signed modality.

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Iconicity and handshape type frequency in Taiwan Sign Language

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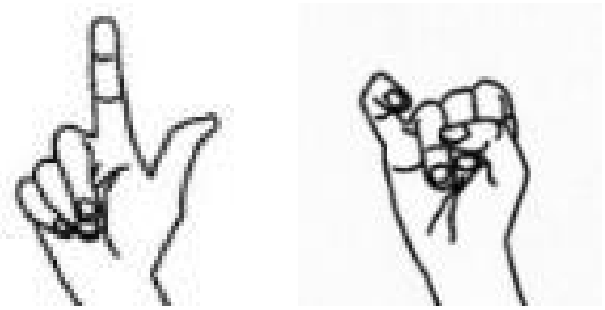
Although phonological systems prefer more economical/efficient forms that require less effort (ease of articulation), sign languages often use iconicity to coin signs for concrete objects (S. F. Taub 2001), even if this may be at the cost of requiring more difficult (marked) handshapes in order to match the objects' physical shapes (Eccarius and Brentari 2010). By contrast, signs for abstract concepts in sign language do not necessarily depend on physical shapes to match with and thus should be able to use easier (unmarked) handshapes. Moreover, there are also multiple ways for signed nouns to be iconic (Mandel 1977; Nyst et al. 2022), and only some where the shape of the hand matches the shape of the object; iconic signs also include manipulating imaginary objects, tracing out their shape in the air, or pointing (e.g. at body parts), and these actions do not depend on using difficult handshapes. Putting these points together, it is predicted that concrete signs should tend to use more marked handshapes than abstract signs, while also showing greater variation in handshape markedness, reflecting the different types of iconicity.

This study tests these predictions in Taiwan Sign Language (TSL) using concreteness ratings from non-signers and a quantification of handshape markedness based on their handshape type frequencies (number of distinct signs containing a given handshape) and the articulatory difficulty scores, a modification of the ease scores of Ann (2006) that captures a fuller range of variation. Concreteness ratings for Chinese words were collected from Chinese speakers by Lv et al. (2024) and applied to their TSL translation equivalents. Handshape type frequencies and difficulty scores of the dominant hand were calculated from the 4,600 signs in the Taiwan Sign Language Online Dictionary (Tsay et al. 2026) (Figure 52.1). We began by selecting the most concrete 200 signs and the most abstract 200 signs from the TSL Online Dictionary, annotated with their initial handshapes of the dominant hand. After excluding compound signs, character signs (mimicking Chinese characters or ASL fingerspelling), pointing signs, and synonyms (TSL signs that can be translated into more than one Chinese word), there were 152 concrete signs and 152 abstract signs (Figure 52.2).

An F test showed that the concrete signs have significantly higher variance in log handshape type frequencies than the abstract signs ($F(151) = 1.84$, $p < .001$), consistent with the hypothesis that not all forms of sign iconicity depend on difficult handshapes (Figure 3). Even with this variance difference taken into account, a heteroscedastic unpaired t test found that

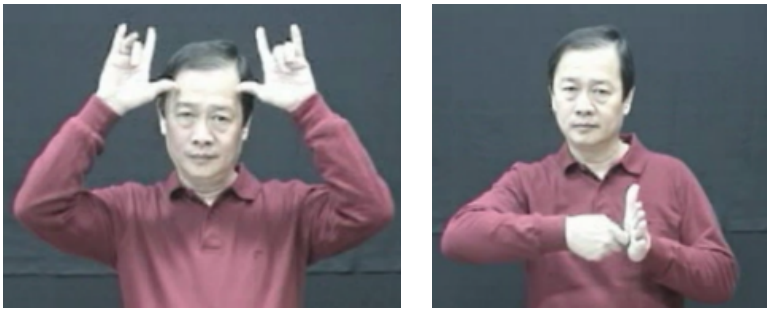


ALWAYS INSECT

Figure 52.1: Easier (left) vs. more difficult (right) handshapes in TSL

WHY DOG

Figure 52.2: Signs for abstract (left) and concrete (right) concepts with the same handshape



DEER KEY

Figure 52.3: Shape-based concrete word vs. non-shape-based (manipulating) concrete word

the mean log handshape type frequency was significantly lower for concrete signs than for abstract ones ($t(278) = -4.95$, $p < .0001$).

Only two of the abstract signs were shape-based, while 110 (72%) of the concrete signs were shape-based in the dominant hand, though other types of iconicity were also used (Figure 52.3). Consistent with this variability in iconicity strategies, the variance in difficulty scores was higher for the concrete than for the abstract signs, though this difference did not reach significance ($F(151) = 1.2$, $p > .1$). However, an unpaired t test showed that concrete signs had significantly more difficult handshapes than abstract ones ($t(302) = 2.07$, $p = .04$).

We are currently extending our study in a number of ways. In particular, analyzing a much larger proportion of the TSL Online Dictionary will allow us to use more sophisticated statistical analyses, teasing apart partly correlated variables (like TSL-specific frequencies vs. cross-sign-language frequencies) and exploring nonlinear effects.

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Iconicity in Japanese ideophone-based innovative verbs

Integrating speaker judgments and BERT modeling

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Introduction

Ideophones are "marked words depictive of sensory imagery found in many of the world's languages" (Dingemanse 2012). Japanese is particularly rich in them, and they occur across parts of speech with varying degrees of iconicity. Verb usage with the light verb suru (e.g., *nikoniko-suru*) is considered less iconic than adverbial use (e.g., *nikoniko-to warau* "smile in a *nikoniko* way") (Akita 2013; Toratani 2015). Case studies (Uno, Kaji, and Kitsuregawa 2013) further suggest that innovative verbs directly derived from ideophones (e.g., *nikoru*, "to smile") exhibit even lower iconicity. Yet the assumption that innovative verbs reduce iconicity remains largely hypothetical, as no comprehensive data have examined their actual status compared to ideophonic verb uses. Moreover, it is still unknown how differences in iconicity are linked to differences in usage. This study aims to develop a method to address these questions comprehensively.

In our previous work, we examined reception and production separately: a large-scale questionnaire survey was conducted to investigate how ideophone-based neologisms are perceived (Uno, Komiya, and Asahara 2023), while BERT-based contextual modeling was applied to explore how they are used (Komiya, Uno, and Asahara 2025). In the present study, we bring these two strands together by linking speaker judgments with corpus-based modeling, to examine how iconicity is manifested in innovative verbs.

Reception: Questionnaire Survey

We extracted 844 reduplicated ideophones (ABAB type) with verb usage (ABAB-*suru*) and derived innovative forms (AB-*ru*) from the 25-billion-word NWJC corpus (Asahara et al. 2014). For these items, we conducted a crowdsourced questionnaire survey (Uno, Komiya, and Asahara 2023). Participants judged (i) whether the ABAB form is an ideophone, (ii) whether the verb AB-*ru* is related to ABAB-*suru*, and rated iconicity for (iii) the ABAB form and (iv) the

AB-*ru* form on a 0–5 scale. The number of respondents was 674, 667, 1795, and 1043, respectively.

For the present study, we focused on 55 items also analyzed in the production study (next section). After excluding words with low ratings for (i) and (ii), we subtracted (iii) from (iv) for each verb. Five verbs showed lower iconicity scores than their ABAB bases. Independently, using the Nihon kokugo daijiten, the largest Japanese dictionary (Kitahara et al. 2002), we judged 16 AB-*ru* verbs to be ideophone-based neologisms. All five verbs with negative (iv minus iii) values were included within these 16. These results are summarized in Table 1.

Production: Usage Analysis with BERT

From an initial set of 844 candidate AB forms, we selected 55 items for detailed analysis. Using BERT, a large language model, we analyzed data from NWJC corpus. We visualized their usage distributions and analyzed AB-*ru* verbs with zero-shot BERT vector plots. In an exploratory analysis, we found it useful to manually categorize the results by relative distances (far or near) : (X) between AB-*ru* and ABAB, and (Y) between AB-*ru* and ABAB-*suru*. Based on the combinations of (X) and (Y), the AB-*ru* verbs were then classified into four categories (A–D) (Komiya, Uno, and Asahara 2025).

Following previous research (Uno, Kaji, and Kitsuregawa 2013), we predicted that innovative verbs would not only lose part of their iconicity but also convey a narrower semantic range than the original ideophones, corresponding to type D (where both X and Y are “near”). For example, in ideophonic expressions based on the mimetic base *mofu* (“soft touch”), multiple meanings are iconically connected to the sound image, such as “to come into contact with something soft.” By contrast, the derived form *mofuru* is restricted to a single meaning, “to touch soft fur.” The results showed that three of the five verbs judged to have lower iconicity ratings than their ideophonic bases, and 12 of the 16 verbs identified as ideophone-derived in the dictionary, fell into type D. These results are summarized in Table 53.1. Examples of types A and D are illustrated in Figure 53.1.

Discussion

Earlier studies (Uno, Kaji, and Kitsuregawa 2013) predicted that innovative verbs reduce iconicity and convey only part of the meanings of their source ideophones. Our results showed that these predictions do not hold universally: iconicity loss was limited to a subset identified through ratings, and semantic narrowing emerged as a tendency rather than a strict rule.

The reception section demonstrated that iconicity ratings are useful for extracting such subsets. The production section showed that these subsets do not display distinctive distributional patterns in BERT space, suggesting they can serve as a basis for investigating the overall distribution of innovative verbs. Future work should focus on automating BERT-based classification. Although we have begun testing approaches such as measuring centroid distances, additional refinement will be required.

Type	(X) AB-*ru* & ABAB	(Y) AB-*ru* & ABAB-suru	Sixteen verbs judged to be ideophone-based innovative verbs based on the dictionary are followed by their iconicity rate values (iv minus iii) in parentheses. Boldfaced items are those identified as innovative verbs from speaker judgments, including iconicity ratings. Items marked with * have negative iconicity rates but received low scores in (ii).
A	far	far	*age-ru*, *boke-ru*, *bure-ru*, *guzu-ru*, *hore-ru*, *kasu-ru*, *kusa-ru*, *moe-ru*, *mure-ru*, *sube-ru*, *teka-ru* (0.55), *tere-ru*, *tsume-ru*, utsu-*ru*
B	far	near	*ase-ru*
C	near	far	***biku-ru*** (-0.39), *botsu-ru*, *gachi-ru*, ***gami-ru*** (-0.96), *hita-ru*, *moji-ru* (0.18), *pashi-ru*, *yore-ru*
D	near (including "overlap")	near	*boko-ru* (0.21), *chibi-ru*, *chiku-ru*, *dona-ru*, *doya-ru* (0.52), *gune-ru* (0.28), *gusu-ru*(0.00), ***hena-ru*** (-0.21), *hie-ru*, *hoji-ru*, *iki-ru* (0.52), *kaji-ru*, *kone-ru*, *kune-ru*, *maze-ru*, *mofu-ru* (-0.44), *mogu-ru* (-0.05*), *moya-ru* (0.07), *nade-ru*, *neba-ru*, *neji-ru*, *nemu-ru*, *nigi-ru*, *nobi-ru*, *nume-ru*, *sawa-ru*, *shiba-ru*, *shiko-ru* (0.27), *shiku-ru* (-0.61*), *uda-ru*, *une-ru*, ***yota-ru*** (-0.44)

Table 53.1: Categorization of 55 AB-*ru* verbs into 4 types

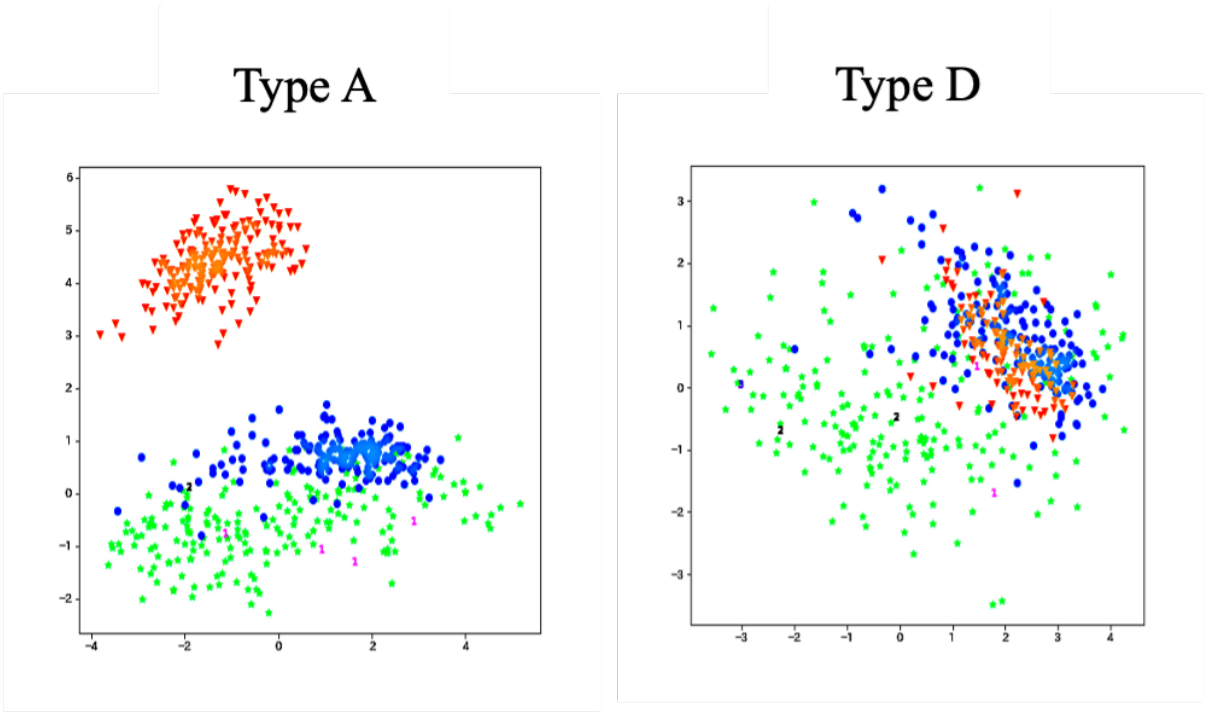

Figure 53.1: A plot of BERT vectors of *teka* and *mofu* as AB. The green stars represent "ABAB", the blue circles represent "ABAB-*suru*", and the brown triangles represent "AB-*ru*".

54

Behavior mirrored in the brain

An fNIRS study of Chinese ideophone modality exclusivity

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Linguistic iconicity has attracted much interest in the past few decades. Ideophones (including onomatopoeias, mimetics, expressives) occupy a central position in this line of research, e.g., Mundari *mondolmondol* 'strong smell spreading through the room', Dutch *roetsj* /rutʃ/ 'slide' or Mandarin *máo-cáocáo* 毛糙糙 'coarse'. We know that such words can depict a range of different sensory modalities varying in extent by language, including sound, movement, color, size, configuration, texture, taste, smell, pain, temperature, balance, inner feelings and cognitive states, and elicit evaluative responses (Dingemanse 2012; Van Hoey 2023a; Dewey et al. 2024). But do speakers generally agree upon such categories? How well do they allow for multisensorial items? And is the behavioral data reflected in the brain?

This study addresses these questions by combining a behavioral modality exclusivity rating task with a neurolinguistic experiment that makes use of functional near infrared spectroscopy (fNIRS). Stimuli (N = 161) came from a preselected list of collocate-ideophone ABB expressions in Chinese, which provided minimal contexts (Van Hoey 2023b; Van Hoey et al. 2024). These were rated for different sensory modalities by native speakers. We found a statistically optimal number of eight clusters, which can be unisensorial (e.g., color such as *huī-chénchén* 灰沉沉 'gloomy grey) or multisensorial (e.g., size + movement + touch such as *máo-cáocáo* 毛糙糙 'coarse').

Subsequently, we conducted an fNIRS experiment involving fifty-one native speakers, who were exposed to the most prototypical items for each cluster (N = 99). Preliminary analysis of the neurolinguistic data, utilizing GLM modeling and t-test comparisons, indicates that the behavioral clusters are well-differentiated in the brain. Regions associated with similar sensory functions exhibited significant activity. For instance, color stimuli elicited greater activation in the right dorsal and left ventral visual streams compared to other ideophones (see Figures 54.1 and 54.2). Similarly, touch stimuli resulted in heightened activity in motor areas and regions responsible for motor visualization (see Figure 54.3).

The study provides further converging empirical evidence that behavioral data and neurolinguistic data tap into similar constructs, with regard to ideophones. It also strongly suggests that the traditional classification into unitary senses needs to be widened to accommodate overlapping multisensorial categorization.

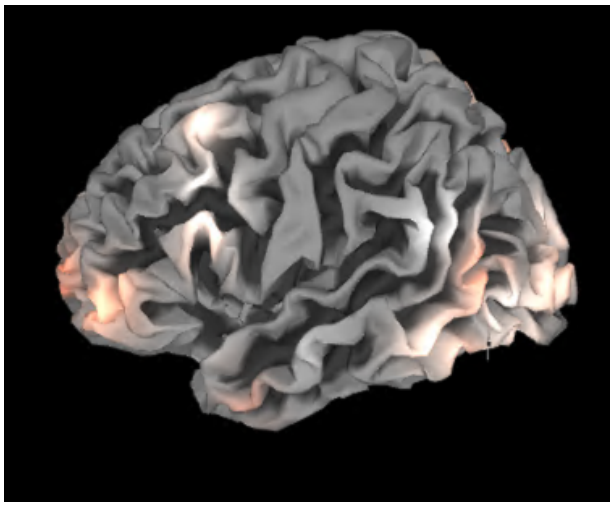

Figure 54.1: Left brain with areas associated with color ideophones in red (illustrates possible left ventral visual stream)

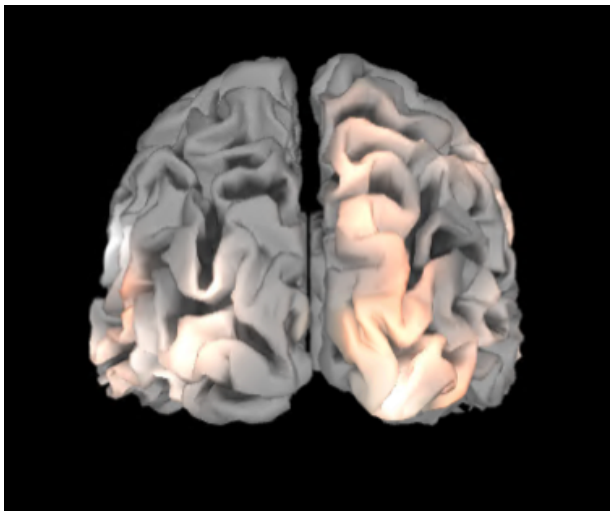

Figure 54.2: posterior brain image, red again associated with color ideophones (possible right dorsal visual stream)

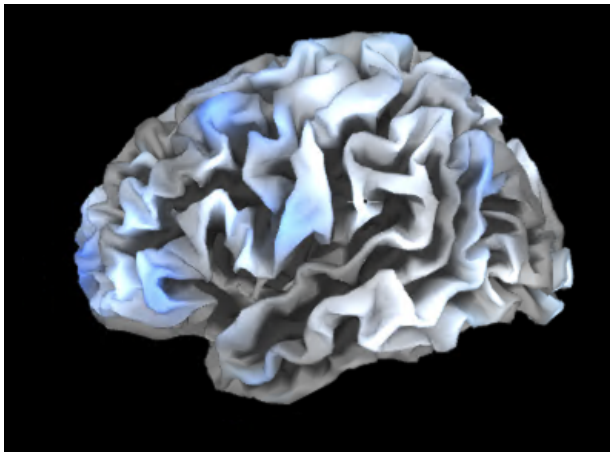

Figure 54.3: left brain image with blue indicating areas activated by touch ideophones (motor areas and areas associate with visualization of motor activity more active than for other ideophones, including color ideophones, illustrated in Figures 54.1 and 54.2)

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Acoustic frequency and movement associations

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Pitch, that multidimensional attribute of auditory sensation by which sounds are ordered on the scale used for melody in music (Acoustical Society of America 2025), is commonly used in animations to stress movements: a falling object is usually accompanied by a downward portamento, a rising object with a portamento in the opposite direction, in agreement with the Pratt Effect (Pratt 1930). The physics of the phenomenon are, however, the opposite: For a steady listener and a broadband sound source, the mix of the direct sound and its reflection on the ground creates periodic notches in the spectrum which center frequencies decrease with the distance from the ground, i.e., the closer to the floor, the higher the pitch. These reflections have been shown to be beneficial for the localization accuracy of elevated sources (Villegas, Fukasawa, and Arevalo 2021).

Besides these pitch and vertical movement associations, an object approaching a steady listener in a straight path at some distance from the listener will produce a sound that, once perceivable, decreases in frequency throughout the entire path, until the sound is no longer perceivable. This is due to the Doppler shift. However, multiple experiments have shown that when asked to imagine the aforementioned situation, participants, in general, responded that the sound increases in pitch when the object is approaching the listener (as opposed to decreasing, or staying the same) in what is known as the Doppler illusion (Neuhoff and McBeath 1996).

To summarize, there appear to be several associations between pitch and motion that are contradictory at times. In the past, we have found that the Doppler illusion seems to be stronger than other associations (Villegas and Fukasawa 2018). In that research, participants selected from a digital form, the origin, final destination, and trajectory of several Risset tones (Risset 1989). These are frequency-sliding complex tones whose components are separated by a fixed interval (usually, one octave) and elicit a never-ending illusion (the tones seem to drop/rise in pitch without end). The employed apparatus, however, limited the freedom with which participants could describe associated trajectories to these tones. In addition, it is possible that sound level spectral changes of the Risset tones could influence the assessments of the participants when asked to relate pitch to movement (Villegas 2019).

We propose to revisit these findings by using a virtual apparatus where participants can draw the trajectories in an egocentric scene, allowing unprecedented freedom in the path

description (Arevalo and Villegas 2023). In addition, Risset tone judgements are compared with judgements of control stimuli (such as speech, which in principle should not elicit movement) and Risset notches. Like the Risset tones, these stimuli elicit a perpetual change in pitch, but they are created by passing a pink or white noise through a series of narrow notch filters centered at the same frequencies as the tones, so that the influence of sound level changes can be minimized.

To test whether the previous results prevail, we are conducting a series of experiments in three different countries to also account for cultural differences. At the time of writing, data collection has finished, and we are now moving to the analysis. We are confident that we can show some results at IcoLL2026.

56

Exploring the iconicity between music notes and syllable structure

A preliminary study

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Background

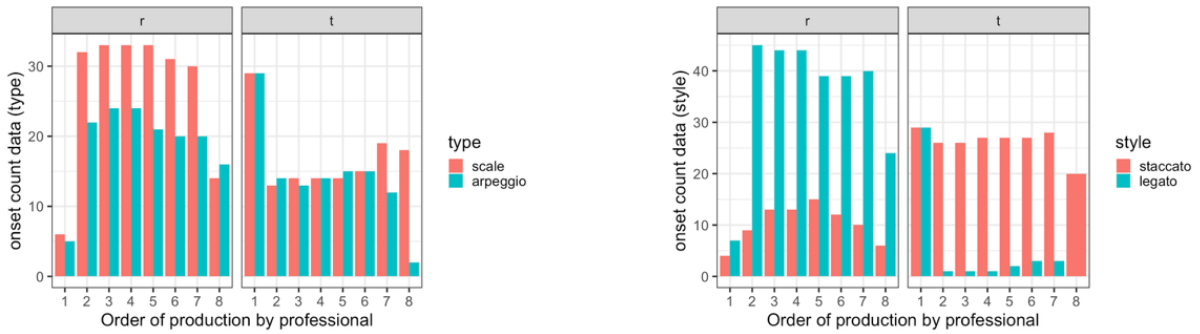
In this paper, we explore the iconicity of music notes represented by syllable structure. Music and language are proposed to be closely related. Lerdahl & Jackendoff (1990) and Lerdahl (2005) argue that the music structure is akin to the grammar of language, and they analyze the musical structure using linguistic theories. Based on the results of five perception experiments, Kolinsky et al. (2009) suggest that consonants and vowels show a dichotomy in that vowels are closely associated with pitch of music, while consonants are not. Other studies report the relationship between musical beat and rhythm in languages (Fitch 2015), and the structure of songs (Lerdahl 2015). These studies show how existing musical scores are structured, or how speakers respond to music-language dimensions in perception. No known study directly addresses the question of iconicity of music notes, when they are represented by syllables. In this paper, we show that music notes carry iconicity and speakers of a language pattern in consistent manner when representing the music notes; in particular, they pay attention the continuity of music notes (scale vs. arpeggio) and the length of the music notes (staccato, legato), but not other variables.

Experiment

A set of 16 recordings of musical notes was created by varying variables such as speed (fast, normal), tune (major, minor), style (staccato, legato) and type (scale, arpeggio). We recruited seven musically trained Japanese-speaking participants, and asked them to verbalize the musical notes without using names of the music notes such as *do*, *re*, *mi* etc. The stimuli varied in the number of notes depending on the type: scale with eight notes vs. arpeggio with seven notes. The experiment generated 840 syllabic tokens (15 notes x 2 speed x 2 tune x 2 type x 7 participants). The data was transcribed into IPA (International Phonetic Alphabet) reflecting what the participants verbalized. The dataset was then coded for segments belonging to onset, nucleus or coda. The coded dataset was analyzed using R.

Results

First, majority of the syllables were produced with the nucleus [a] (87.3 %, 803 out of 919 tokens). The dominance of the [a] vowel was constant regardless of the kinds of variable (speed, tune, style, or type). Second, participants mainly produced [r] (n = 369) or [t] (n = 250) as the onset consonant. Figure 1 shows the order of produced syllables (*scale* with 8 syllables, and *arpeggio* with 7 syllables) on the x-axis, and the count data on the y-axis. As shown in Figure 56.1, [r] was preferred in the scale condition while [t] shows no preference between scale and arpeggio (Fig. 56.1a). In the style variable, [r] is preferred for legato playing, whereas [t] is preferred by staccato (Fig. 56.1b). Speed and tune did not show any tendency.

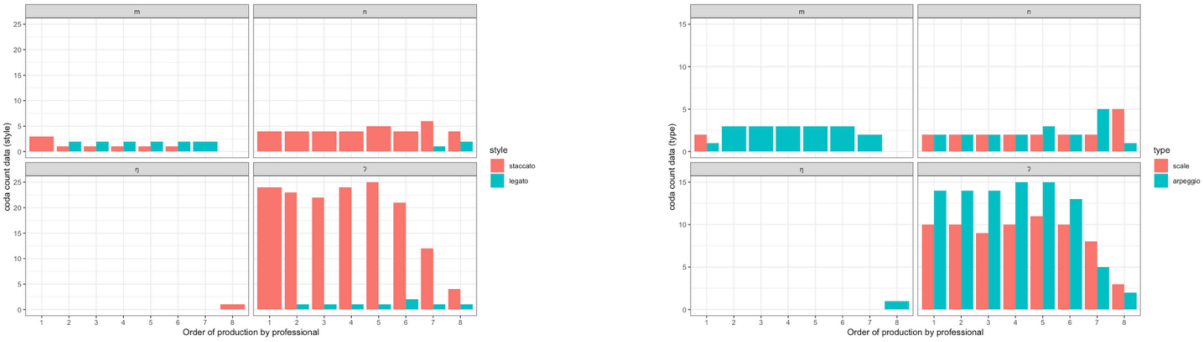


(a) Onset by type

(b) Onset by style

Figure 56.1: Onset by type and style

Third, we found four types of codas: [m, n, ŋ, ʔ] (n = 222). Three quarters (73%) of the codas were the glottal stop [ʔ]. Syllables with a glottal stop were mainly produced when the style is staccato. In the type variable, arpeggio had slightly more tokens than scale throughout.



(a) Coda by type

(b) Coda by style

Figure 56.2: Coda by type and style

Discussion

We found distinctive patterns in onset or coda were found, showing that coronals [r] and [t] are preferred as a tool to express music notes, especially when music notes are skipped (arpeggio), or when music notes were not played connected (staccato). For the nucleus, the dominance of [a] vowel was found. As [a] is the most sonorous segment in the sonority hierarchy, using [a] to represent music notes is expected. The absence of [e] and [u] in our data is intriguing.

The articulation of [e] requires small opening of the mouth, and fronting of the tongue with small oral space in front of the tongue; such a setting may create a dispreferred combination for representing music notes.

Conclusion

This study shows how the iconicity of music notes is represented by syllabic structures. By moving beyond the perception studies (Kolinsky et al. 2009, e.g.), we demonstrate how participants perceive musical notes when they need to be represented to language.

57

Going above and beyond

Iconic pitch and gesture extension in Hul'q'umi'num'

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University of Victoria

This paper is component of a larger research project studying how gestures coordinate with speech in Hul'q'umi'num' (Central Salish, British Columbia). Specifically, we look at properties of prosody and gesture that elders use while telling stories. These are supralinguistic elements of storytelling that are not typically represented when stories are simply written on a page. Storytelling is a fundamental part of traditional and modern life of Hul'q'umi'num' speakers, and narratives are central to the curriculum in language classes. Hul'q'umi'num' learners want to learn to tell stories in a way that sounds and looks like their elders; in order to do that, we must first describe all pieces of how elders tell stories.

Hul'q'umi'num' storytellers utilize a stylistic technique called *rhetorical lengthening* (RL) in which a syllable is **extended and held** at a higher pitch (Gerdts, Johnny, and Kye 2024). In transcriptions, this is indicated by periods between vowels, e.g., '*'a.a.a.*' Gerdts, Johnny, and Kye found that RL is used in Hul'q'umi'num' with specific semantic elements or for specific pragmatic meanings. I pose that many of these are iconic in nature. For example, RL is seen on motion verbs (*huye'* 'depart'; *taal* 'go away from shore') to indicate a **far distance**, on action verbs to express **continuation or duration** (*'ulhtun'* 'eat'; *xeem* 'cry'), or on quantifiers (*qux* 'many'; *mukw* 'all') to emphasize *quantity* (Gerdts, Johnny, and Kye 2024). I investigate whether these drawn-out vowels are also accompanied by iconic **gestures** that are **suspended or physically extended**, i.e. held or moved far from the centre of the storyteller's body. I use existing video recordings from the Hul'q'umi'num' database which includes media from around 15 elders recorded from the 1990s–2010s. Videos and transcripts are time-aligned in ELAN (Max Planck Institute for Psycholinguistics, The Language Archive 2021), coded for many features including direction of motion, handshape, and repetition, and annotated with a brief description of the gesture (Webb 2022, cf.). Transcripts and videos are scanned and flagged for RL, repetitions of words or phrasal fragments, and commonly rhetorically lengthened words found in Gerdts et al (2024).

Preliminary results indicate that speakers use extended and/or suspended gestures with rhetorically lengthened **verbs** like 'go,' 'cry,' **adjectives** like 'big,' 'long,' and **quantifiers** like 'many,' 'all.' These results indicate that Hul'q'umi'num' storytellers make use of iconicity in both gesture and speech, taking advantage of the ability that co-speech gesture affords to express meaning **simultaneously**. Gerdts et al. did not find instances of iconic RL with adjectives like 'big,' 'long' in the story they studied, but this use of RL and gesture were frequent in the narratives I studied.

Figure 57.1: Extended gesture and RL with 'big' (RP LW[1] 89.10:39-10:41)
(89) hay 'ul' 'uw' **thi.i.i.**
They would be so **big**. *(referring to fish)*

Gesture and RL can also be used to contribute supplementary meaning not found explicitly in the syntactic content of the sentence. For example, a speaker may use RL and an extended gesture to add the meaning of 'many [items]' even when there is no plural marking. An example of this is given in Figure 57.2.

Figure 57.2: Extended gesture and RL indicating "many" (ET BP 7.0:50–51)
(7) ts'**a.a.a**y'hwtus
√ts'uy'hw=t=us
√dry=tr=3sub
She dried **a lot of them**. *(referring to berries)*

In Figure 57.2, the RL and gesture help to indicate many berries that were being dried, as captured in the translation, though there is no plural marking on the verb. In this way, gestures can serve to add an element to the story that is **not present in the speech**. Hul'q'umi'num' speakers are likely able to attend to the supplementary information added by RL and extended gestures due to their familiarity with how iconic RL and gestures are used more commonly in conjunction with speech.

My full paper covers how iconic RL and gestures are linked, both in simultaneous and supplementary uses, and explores any differences between the various uses and accompanying words. This helps us understand the artistry of elders' speech. Hul'q'umi'num' teachers and learners have been utilizing theatre in their language journeys (Sadeghi-Yekta 2019; Sadeghi-Yekta 2020), and so understanding all parts of elders' performances can add more strategies to language learning toolboxes. Hul'q'umi'num' is an endangered language, with less than 30

[1]The link redirects to the full story the example is taken from. The figure caption indicates that the gesture takes place at timestamp 10:39, and in line 89 of the accompanying transcript.

fluent L1 speakers and around 1,000 learners; it is crucial to dial into aspects that will facilitate language learning, as well as make telling stories fun and engaging.

58

A tale of two grammars

A cophonological analysis of iconic phonology

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Reduplication is a cross-linguistically common morphological device, often employed to encode iconicity. In Cantonese, reduplicated adjectives are frequently analysed as functioning to add vividness or sensory depiction (Tsou 1978; Bodomo 2008). For example, the acoustic syllabic shape of the reduplicated elements in *laap*^{3}*-laap*^{3}*-ling*^{3} ("sparkling") vividly depicts light reflecting off a surface. However, cases like *jam*^{1}*-jam*^{1}*-dung*^{3} ("gloomy-cold") appear to carry fixed lexical meaning rather than simply active sensory depiction, and function more like normal intensifiers. This raises two fundamental questions: Are they really the same grammatical category? How can we formally distinguish between iconic depictives (where the reduplicated form functions as an ideophone) and prosaic reduplication (where the same form is purely a grammatical device) when their surface structures are identical?

To resolve this ambiguity, I propose that syllable fusion, a connected-speech process in Cantonese that systematically merges two syllables into one within specific prosodic boundaries, serves as a diagnostic tool. The hypothesis is that true ideophones must preserve their syllable count to maintain their iconic form, whereas prosaic words should be subject to regular phonological reduction.

An acceptability judgement task was conducted with 23 native Cantonese speakers. Participants rated the naturalness of fused forms on a 7-point Likert scale across 9 categories (N = 45 items). A Linear Mixed-Effects Model revealed a clear categorical split. Seemingly vivid adjectives like *laap*^{3}*-laap*^{3}*-ling*^{3} strongly resisted fusion (*Mean* ≈ 3.2/7), showing no statistical difference from pure onomatopoeia (p = .88). In contrast, seemingly prosaic adjectives like *jam*^{1}*-jam*^{1}*-dung*^{3} readily permitted fusion (*Mean* ≈ 4.4/7), patterning significantly with prosaic grammatical reduplication (p < .001). Furthermore, when ideophonic roots were de-ideophonised into simple verbs, fusion became acceptable (p < .001), showing that resistance is tied to the iconic depictive function rather than simply phonological shape.

Using cophonologies within Stochastic Optimality Theory (StOT; Boersma and Hayes 2001), I argue that iconic depictives trigger a specific Depictive-Cophonology where Faithfulness constraints (Uniformity) outrank Markedness (No-Hiatus), with a large ranking distance causing categorical blocking. Conversely, prosaic items are evaluated by a Default-Cophonology where Markedness outranks Faithfulness, but with overlapping ranking distributions that account for the gradient acceptability observed in the data. The probability distributions in Figure 2 formally capture the shift from categorical blocking to gradient acceptability. Within

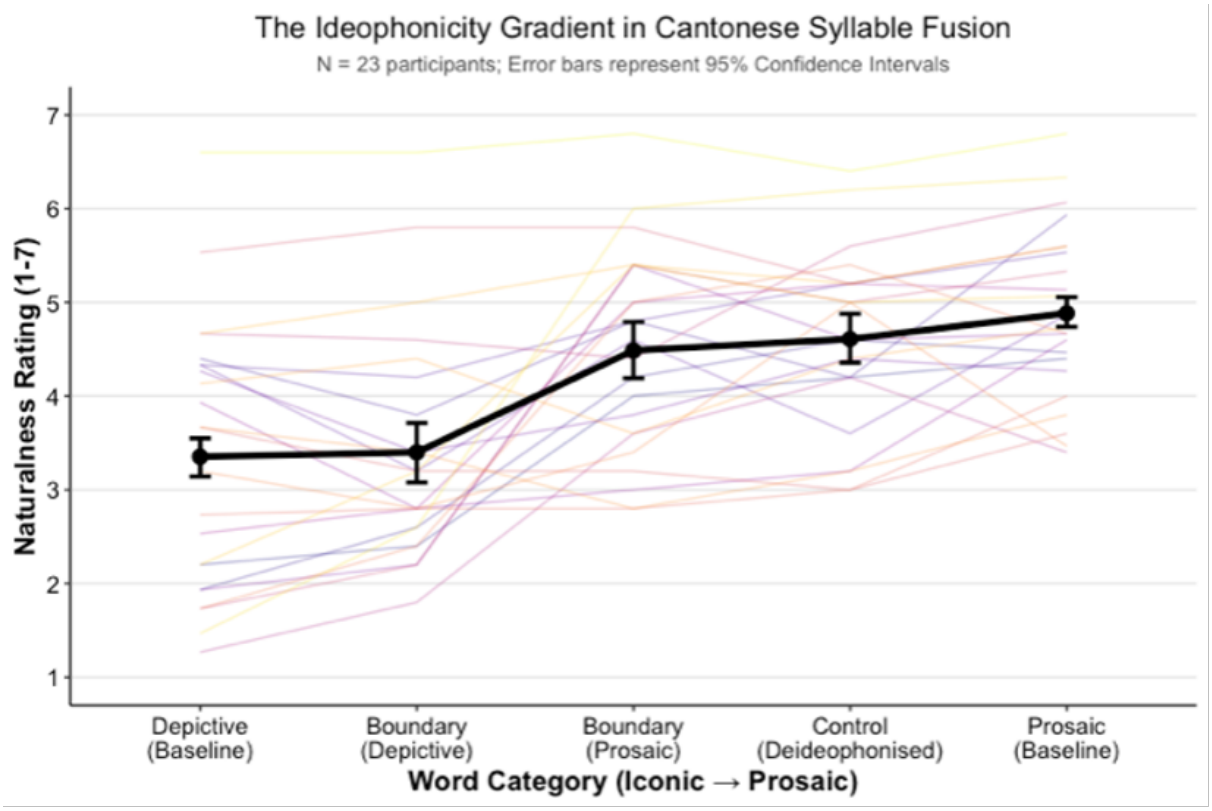

Figure 58.1: Acceptability ratings showing the categorial divide (N = 23)

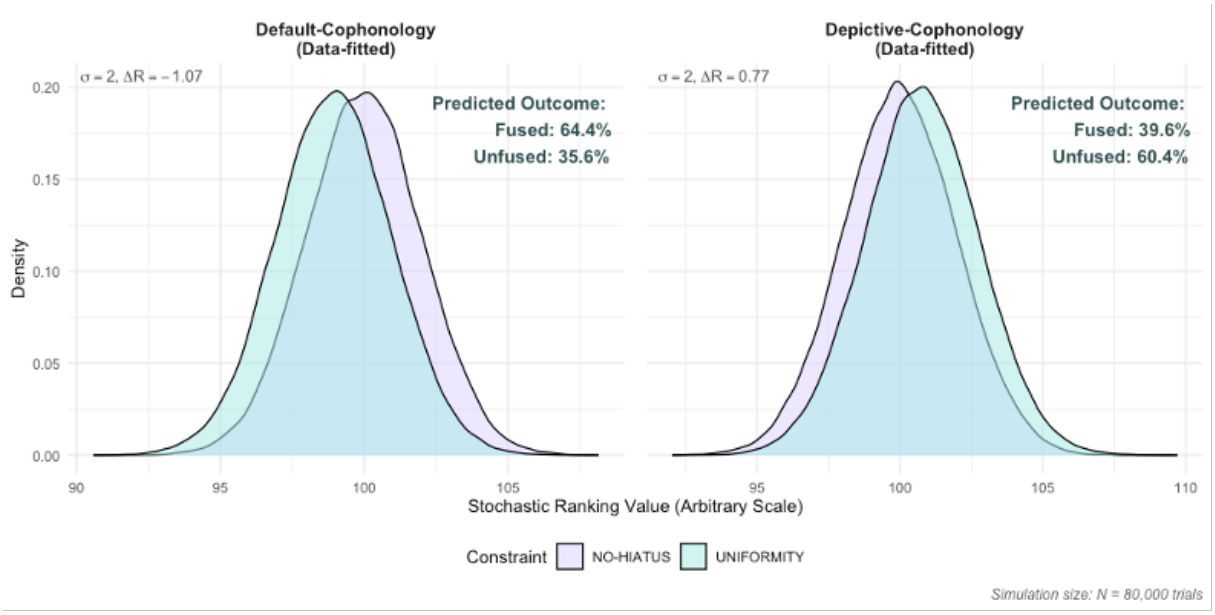

Figure 58.2: Stochastic OT simulation results fitted to the experimental mean ratings

a Distributed Morphology framework, these cophonologies are formally triggered by a functional head, Depict0, which also licenses the reduplicant during vocabulary insertion. Consequently, when the same roots undergo de-ideophonisation and are categorised under a verbal head, the structure loses both the reduplicative requirement and the resistance to phonological reduction. This study demonstrates that phonological integrity is not a random occurrence but a grammatically encoded property of iconicity.

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Finding iconic patterning in situated communicative practice

A Peircean semiotic approach to iconicity

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Drawing on a Peircean semiotic framework, this paper empirically explores the ways in which we dynamically create "iconicity" or the relational similarity between a sign and its object in communicative practice. A major focus is placed on how "icons are incorporated into indexes" in the process of "rhematization" in which "a contrast of indexes is interpreted as a contrast in [icons]" in the act of conjecture (Gal and Irvine 2019, p. 19). In this study, the notion of iconicity is defined as the semiotic relation of resemblance or similarity, which is interactionally created with repetitions and parallelisms, as well as synchronized acts of gesturing, simultaneous laughter, or other multimodal expressions. By "conjecture," I refer to the act of "making guesses or hypotheses" about sign relations that we perceive in communicative practice (Gal and Irvine 2019; Parmentier 1994).

My point is to argue that research on iconicity should be extended to the investigation of pragmatic patterns called "poetic" structures (Silverstein 2004) in which iconic-indexical relations play a crucial role. "Poetic" structures, which highlight and expand the "poetic function" of language (Jakobson 1960), interactionally emerge in cross-turn parallelisms and other "imitative" acts of interactants. In the end, implications of this study are discussed with reference to the "adaptive function" that derives from the creation of iconic-indexical patterns from evolutionary perspectives (See Chartrand and Bargh 1999; Dunbar 2021; Enfield and Sidnell 2022, among others).

For the purpose of illustration, I analyze two sets of interaction taken from a recorded conversation and a talk show on the radio in which interactants tell stories about their own group stereotypes. The first one derives from a video-recorded conversation between two Americans in Japan in which they talk about "what surprised you?" In analyzing the data from a semiotic perspective, I illustrate what social psychologists call the "chameleon effect" by which they unconsciously imitate each other both verbally (i.e., syntactic parallelism) and non-verbally (i.e., gaze and posture). Analytically focusing on the simultaneous occurrences of social laughter in the interaction, I show the way in which they share previously acquired knowledge and stereotypes about Americans (e.g., "large and loud") by using cross-turn parallelisms, which exemplifies the incorporation of iconic relations into an indexical process. At the same time, it is suggested that they interactionally promote social cohesion as group members of American expatriates in Japan.

The second data set is taken from the radio program All Things Considered broadcast on March 19 in 2021 on the National Public Radio. The report is entitled "A Sociologist's View on the Hyper-Sexualization of Asian Women in American Society" in which two Asian women, Ailsa Chang and Nancy Wang Yuen, discuss the tragic event of the "spa shooting" in Atlanta, Georgia. The tragedy refers to the one in which eight people, including six Asian women, were shot to death by a 21-year-old white man. In the talk, they collaboratively and collectively remember "sexual stereotypes of Asian women," which are co-constructed with adjectives such as "submissive, fetishized, exoticized, servile" or noun phrases such as "exotic lotus flowers, dragon ladies, temptresses", among others. By analyzing the interaction in terms of a semiotic process, I reveal "poetic" structures in the second data in which sexual stereotypes about Asian women are co-constructed. Based on the analysis, it is argued that the morpho-syntactic parallelisms between Chang and Wang Yuen show the process of "rhematization" in which indexical icons are created in shifting the grounds of sign relations in and through interaction (Gal and Irvine 2019; Silverstein 2004).

Implications of this study are discussed at the end, by emphasizing the usefulness of the Peircean semiotic approach to iconicity adopted in this paper. Specifically, the findings in this study suggest that the creation of an iconic relation in an indexical process may promote social cohesion as group members, which is called the "adaptive function" in evolutionary terms. In sum, the incorporation of icons into indexes in situated communicative practice can [strengthen] "intra-group identity and [clarify] intergroup relations" (Bietti, Tilston, and Bangerter 2019).

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Icons at work

Image, diagram, and metaphor in children's "support" postcards

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This paper examines what Japanese children's drawings reveal about their understanding of the civic proposition "tax supports society" (税は社会を支える). I relate iconicity—Peirce's image (surface resemblance), diagram (structural resemblance), and metaphor (conceptual/embodied resemblance) (Peirce 1998)—to mode choice (mono-verbal, mono-visual, multimodal) and to verbal information load, in a focused corpus of 112 postcards submitted to a competition that realise support theme. Iconicity and mode choice are treated as orthogonal: any poster may realise "support" as image/diagram/metaphor while using words, pictures, or both. Each postcard is multi-labelled for iconicity, coded for mode choice, and analysed for Japanese token counts obtained by morphological parsing of all verbal strings (headlines, labels, speech bubbles) appeared on the postcard.

The study uses iconicity as a window on children's conceptual construal: images typically index object-level grasp (e.g., coins,realistic school buildings), diagrams index a relational/system grasp (e.g., foundations, block towers), and metaphors index an analogical/enactive grasp (e.g., hands/people/trees "supporting.") (Elleström 2015). Guided by Peirce's icon classes and Elleström's account of cross-modal iconicity, the study register three theory-driven hypothesis: (H1) image-based solutions invite more verbal specification to assert the support relation; (H2) diagrammatic solutions externalise that relation in layout—reducing prose but retaining labels (Larkin and Simon 1987, cf.); (H3) metaphoric solutions—especially embodied or cross-modal—enact support, co-occurring with multimodal layouts and lower token counts. We test icon-class × feature distributions with χ^2 (Fisher's exact where sparse) and evaluate token counts with simple ordinal/logistic models on pre-specified bins.

Descriptively, the 112 cards align with these expectations: image-dominant entries cluster with mono-verbal layouts and higher token counts; metaphor-dominant entries are mostly multimodal and use fewer tokens; diagram cases sit between. I do not claim causal effects at this stage; rather, I provide a compact, replicable protocol for mapping how forms of resemblance distribute across mode choices and how much language each tends to invite.

The study treats children's posters as traces of conceptualisation strategies—images name entities, diagrams model relations, metaphors enact relations and scenarios—and details how iconicity correlates with mode choice and verbal load. Methodologically it offers an orthogonal coding scheme plus a reusable Japanese tokenisation pipeline for children's artefacts. Em-

pirically it establishes a baseline for how children reproduce a civic concept in visual media, setting up a scalable reception study to test these patterns statistically.

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