

Μέθοδοι γραφῆς· παρὰ ἑλθούσια, ἐνεστῶσαι (... καὶ μέλλουσαι;)	Μέθοδοι
نظم الكتابة بين الماضي والحاضر (... والمستقبل؟)	الكتابة بين الماضي والحاضر (... والمستقبل؟)
Sistem nyuriet: kelunia tew, jaka' tew... (...ngan peliney?)	Sistem nyuriet: kelu
書寫系統：過去，現在 (... 和未來?)	書寫系統：過去，現在 (...)
Schriftsystemen: Verleden, heden (... en toekomst?)	Schriftsystemen: Verle
Writing systems: Past, present (... and future?)	Writing systems: Past, pre
Kirjoitusjärjestelmät: ennen, nyt (... ja tulevaisuudessa)	Kirjoitusjärjestelm
Сysteme d'écriture: passé, présent (... et avenir?)	Сysteme d'écriture: passé, présent (... et avenir?)
Schriftsysteme: Vergangenheit, gegenwart (... und zukunft?)	Schriftsysteme
(?...) תאריך, עבר, הווה, עתיד	(?...) תאריך, עבר, הווה, עתיד
लिपि पद्धति: अतीत, वर्तमान (... और भविष्य?)	लिपि पद्धति: अतीत, वर्तमान (...)
文字体系：過去，現在 (... そして未来?)	文字体系：過去，現在 (...)
Parálan ning Pámanyúlat: Nápun, Ngéni (...at Búkas?)	Parálan ning Pámanyú
포기 체계: 과거, 현재, (...미래?)	포기 체계: 과거, 현재, (...미래?)
ಖುಡ್‌ಇಗ್ಗಿ ಕಾಙಲೂನ: ಬಸಾಙ್‌ಗಿ, ಔಜಿಜಿಕ್ಕಿ (... ಅಬಸುಙ್ ತುಙ್‌ಗಿ?)	ಖುಡ್‌ಇಗ್ಗಿ ಕಾಙಲೂನ:
Sistemas de escritura: Pasado, presente (... ¿y futuro?)	Sistemas

Writing systems: Past, present (... and future?)

AWLL's 11th International Workshop on Writing Systems

29-31 August, 2017

Nanzan University, Nagoya, Japan

Association for Written Language and Literacy
 Ассоциация письменного языка и письменности
 Ένωση για τη γραπτή γλώσσα και τη βασική εκπαίδευση
 书面语言和识字协会
 Association for Written Language and Literacy

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Local organizers

Terry Joyce (Tama University, Japan)

Hisashi Masuda (Hiroshima Shudo University, Japan)

Chikako Fujita (Nanzan University, Japan)

Scientific committee

Terry Joyce (Tama University, Japan)

Lynne Cahill (University of Sussex, UK)

Martin Neef (TU Braunschweig, Germany)

Hisashi Masuda (Hiroshima Shudo University, Japan)

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AWLL gratefully acknowledges Nanzan University's funding support for this first AWLL workshop to be held in Asia

Day 1 [Tuesday, 29th August 2017]

- 08:45 – 09:00 Registration
- 09:30 – 09:45 Opening remarks
- 09:45 – 10:45 Distinguished speaker: Florian Coulmas
- 10:45 – 11:15 Break
- 11:15 – 12:15 Oral session 1
- 12:15 – 13:15 Lunch
- 13:15 – 14:30 Poster session 1
- 14:30 – 16:00 Oral session 2
- 16:00 – 16:30 Break
- 16:30 – 17:45 Asian writing systems symposium
- 17:45 – 18:30 Transfer to workshop reception venue [*La source IZUMI*]
- 18:30 – 20:30 Workshop reception

Day 2 [Wednesday, 30th August 2017]

- 09:00 – 09:45 Keynote presentation 1: Dorit Ravid
- 09:45 – 10:45 Oral session 3
- 10:45 – 11:15 Break
- 11:15 – 12:15 Oral session 4
- 12:15 – 13:15 Lunch
- 13:15 – 14:30 Poster session 2
- 14:30 – 16:00 Oral session 5
- 16:00 – 16:30 Break
- 16:30 – 17:30 Oral session 6
- 17:30 – 18:15 AWLL business meeting
- 18:15 – 19:00 Transfer to workshop dinner venue [*Nagoya International Hotel*]
- 19:00 – 21:00 Workshop dinner

Day 3 [Thursday, 31st August 2017]

- 09:00 – 09:45 Keynote presentation 2: David Roberts
- 09:45 – 10:45 Oral session 7
- 10:45 – 11:15 Break
- 11:15 – 12:00 Panel discussion
- 12:00 – 12:15 Closing remarks

Day 1 [Tuesday, 29th August 2017]

- 08:45 – 09:00 **Registration**
- 09:30 – 09:45 **Opening remarks**
- 09:45 – 10:45 **Distinguished speaker**
- 09:45 – 10:45 Florian Coulmas: The Diversity of Writing Systems Past and Present – some general considerations
- 10:45 – 11:15 **Break**
- 11:15 – 12:15 **Oral session 1**
- 11:15 – 11:45 Mira Valkama: How to segment writing into comparable units?
- 11:45 – 12:15 Dimitrios Meletis: What is a *grapheme*? Do we need it? Re-evaluating one of grapholinguistics' core notions
- 12:15 – 13:15 **Lunch**
- 13:15 – 14:30 **Poster session 1**
- Ann Wehmeyer: Phonography in Japan's Earliest Text, *The Kojiki* (712)
- Yukiko Nishimura: Emoji as semi-grapheme: Their functions in Japanese digital writing
- Szu-Yu Ruby Chen: Based on Electronic Texts to View the Role of Literacy: Past/Present
- Dustin Lau: Functional processing units in handwriting Chinese characters
- Martin Evertz: The history of the graphematic foot in the writing systems of English and German
- 14:30 – 16:00 **Oral session 2**
- 14:30 – 15:00 Natalia Elvira Astoreca: The typologies of Ancient Mediterranean Scripts
- 15:00 – 15:30 Anna P. Judson: Orthographic variation as evidence for the development of the Linear B writing system
- 15:30 – 16:00 Karenleigh A. Overmann: Literacy as Cognitive Change Emerging from Material Engagement
- 16:00 – 16:30 **Break**
- 16:30 – 17:45 **Asian writing systems symposium**
- Proximity and distance: Focusing on the Chinese, Japanese and Korean writing systems
- 16:30 – 16:45 Hye Pae (chair): Introduction: Written language, East-Asian scripts, and cross-linguistic influences
- 16:45 – 17:05 Alexandra Gottardo, Poh Wee Koh, and Xi Chen: Chinese: Roles of phonological and morphological awareness for word reading in English and Chinese
- 17:05 – 17:25 Terry Joyce and Hisashi Masuda: Japanese: Its multi-script nature and implications for word processing
- 17:25 – 17:45 Hye Pae: Korean: The Korean language, the Hangul script, and word reading
- 17:45 – 18:30 Transfer to workshop reception venue [La source IZUMI]
- 18:30 – 20:30 **Workshop reception**

Day 2 [Wednesday, 30th August 2017]

- 09:00 – 09:45** **Keynote presentation 1**
- 09:00 – 09:45 Dorit Ravid: The two orthographies of Modern Hebrew: historical change and current phenomena
- 09:45 – 10:45** **Oral session 3**
- 09:45 – 10:15 Rachel Schiff, Shani Levi-Shimon, and Dorit Ravid: Hebrew Aleph in psycholinguistic, linguistic and historical perspectives
- 10:15 – 10:45 Robert Crellin: Vowel representation in Semitic languages: between language structure and socio-cultural adoption and adaptation
- 10:45 – 11:15 Break
- 11:15 – 12:15** **Oral session 4**
- 11:15 – 11:45 Keisuke Honda: Phonetic complementation in the Japanese writing system: Insights from a comparative perspective
- 11:45 – 12:15 Terry Joyce and Hisashi Masuda: From conventional to non-conventional forms of Japanese orthographic representation
- 12:15 – 13:15 Lunch
- 13:15 – 14:30** **Poster session 2**
- Peter Backhaus: The spell of language change: How grammaticalization affects orthography (and vice versa)
- Takako Kawabata: Pictograms as a means of communication: How the use of symbols and pictures supports the interpretation of a given space
- Kyle Sasaoka: Cultural attitudes toward Mandarin Chinese Romanization in Taiwan: The case of Wade-Giles, Hanyu and Tongyong Pinyin
- Bruce Wiebe: On the level: how phonological and other assumptions impact orthography development
- 14:30 – 16:00** **Oral session 5**
- 14:30 – 15:00 Michael Flynn: Creel and Boodberg; DeFrancis and Sampson
- 15:00 – 15:30 Anurag Rimzhim, Avantika Johri, Damian Kelty-Stephen, and Carol Fowler: Functionally Alphabetic Nature of Aksharic Orthographies of South Asia
- 15:30 – 16:00 Benjamin K. Tsou: Future prospects on the logographic cultural circle in Asia
- 16:00 – 16:30 Break
- 16:30 – 17:30** **Oral session 6**
- 16:30 – 17:00 Lynne Cahill: Investigating Early English Writing
- 17:00 – 17:30 Liliana Tolchinsky and Cristina Castillo: Linguistic patterns of spelling in dictated words and spontaneous text composing in Catalan throughout elementary school
- 17:30 – 18:15** **AWLL business meeting**
- 18:15 – 19:00 Transfer to workshop dinner venue [Nagoya International Hotel]
- 19:00 – 21:00** **Workshop dinner**

Day 3 [Thursday, 31th August 2017]

09:00 – 09:45	Keynote presentation 2
09:00 – 09:45	David Roberts: Tone orthography in African languages: past present and future
09:45 – 10:45	Oral session 7
09:45 – 10:15	Jey Lingam Burkhardt and Jürgen Martin Burkhardt: Spoken and now written: Orthography development of endangered Sarawakian languages
10:15 – 10:45	Susanne Borgwaldt: 3arabi - an alternative to literacy acquisition in an L2?
10:45 – 11:15	Break
11:15 – 12:00	Panel discussion
12:00 – 12:15	Closing remarks

Sundry workshop information

AWLL11's venue is Nanzan University's D Building (Department of Psychology and Human Relations). A map of the route map from Yagoto Nisseki (八事日赤) Station is available at the workshop website (<http://faculty-sgs.tama.ac.jp/terry/awll/workshops.html>). From the main entrance, please follow the central concourse to D Building (while still passable, some buildings along the course are currently covered due to construction work). Although D Building has two entrances, AWLL11 participants are asked to enter by the ground-floor entrance at the back of the building (from the main entrance side), where the reception area for workshop registration will be located. The local organizers would be most grateful if participants would prepare the exact amount in cash for the workshop registration fee (7,000 yen) and costs of two evening gatherings (6,000 yen each, if attending), to facilitate the workshop registration process on the first morning.

Most of the workshop sessions will be take place in the ground-floor lecture hall, but the two poster sessions will be in room D41 (where food and drinks are not permitted). Please note that the regular oral presentation slots are for 30 minutes (inclusive of 5-10 mins for questions and answers at the presenter's discretion). A laptop running Windows 10 with an English version of PowerPoint will be available for oral presentations, and presenters are asked to load their presentation files in advance of their presentation sessions. The panel boards for the poster presentations will be 180 cm in height and 90 cm in width and presenters are free to utilize that space as they wish.

Lunches on the two full workshop days (29th and 30th) will be served in the student cafeteria building, close to D Building, which also has a small convenience store and drink vending machines. The workshop reception (day 1), which will be buffet style, will be held at the *la source IZUMI* restaurant, which is approximately 5 mins on foot from Nanzan University. The workshop dinner will take place at the *International Hotel Nagoya* (名古屋国際ホテル) in Sakae, which is approximately 40 mins (on foot and via subway) from Nanzan University.

Even though Nagoya (and most of Japan) is turning out to be rather hot this summer (so please be prepared!), we are very much looking forward to welcoming everyone to AWLL11 at the end of August!

Terry, Hisashi, and Chikako

Distinguished speaker**The Diversity of Writing Systems Past and Present – some general considerations**

Florian Coulmas

IN-EAST Institute of East Asian Studies, University of Duisburg-Essen, Germany

This paper takes issue with the most obvious, but nonetheless remarkable fact that there are many different writing systems. It will briefly refer to the now discredited monogenesis hypothesis, review some of the reasons why writing systems became obsolete in the past, and discuss the diversity of writing systems in the world today with a view to what it might be good for and how it relates to the diversity of languages. The theoretical question to be discussed is whether writing systems improve or deteriorate over time and, if there is an affirmative answer either way, whether there is, potentially or in reality, a best writing system. To pursue this question, the paper explores some of the ways in which two economic notions, 'functional utility' and 'path dependency', can fruitfully be applied to writing systems and their development.

How to segment writing into comparable units?

Mira Valkama

University of Helsinki, Finland

The term grapheme has been used in at least two different meanings: the analogical and referential grapheme concepts (Kohrt 1986). Both the analogical and the referential grapheme definition are underspecified in terms of segmentation. The analogical definition is incomplete because the explicit segmentation strategy in the definition (the smallest contrastive unit) doesn't correspond to what is usually meant by graphemes. The referential definition, on the other hand, doesn't specify how a linguistic unit is chosen as the basis of segmentation (the phoneme is not relevant in all writing systems). These ambiguities lead to difficulties e.g. in how to treat diacritics and in comparing writing systems and classifying them.

This paper explores different ways of segmenting writing and suggests that various segmentation strategies are relevant to the study of writing systems. These strategies can be based on purely graphic properties, the linguistic value of written sequences, linearity of arrangement or decipherment and conventional segmentation. Identification strategies of written units and possible terminology will also be discussed. The analysis has been affected at least by the following writings: Kohrt (1986), Gallmann (1986), Rezec (2009), Sampson (1985), DeFrancis (1989), Faber (1992) and Unicode Glossary (2016). The hypotheses have been tested with examples from Latin script and Thai script based writing systems. Additionally Arabic, Chinese, Korean and Sanskrit orthographies have been considered. Though many of the presented ideas are reformulations and expansions of previously suggested concepts, this paper provides a compilation of different viewpoints on segmentation of writing in order to generate discussion about what kinds of concepts could facilitate a fuller analysis of writing systems.

What is a *grapheme*? Do we need it? Re-evaluating one of grapholinguistics' core notions

Dimitrios Meletis

Department of Linguistics, University of Graz, Austria

Grapheme is a controversial and ambiguous concept within grapholinguistics. Numerous researchers have argued against it (cf. Daniels 1991), some for it (cf. Herrick 1994), and many have not employed it at all (cf. Neef 2015). If it is addressed, a distinction is commonly made between two contrasting conceptions: one assumes that it is the main function of graphemes to refer to phonemes, while the other argues that written language – including the grapheme – is (relatively) independent from speech and should be analyzed in its own right (cf. Bazell 1956; Kohrt 1986). However, this simplistic juxtaposition seemingly fails to grasp the complexity of the matter and entails a number of conceptual and terminological problems. In my presentation I will aim to address and discuss these issues.

I will argue that the misleading reductionist analogy between phonology/phonetics and graphematics/graphetics as well as the lack of commitment to one of the views listed above have contributed to a false hierarchizing within grapholinguistics. This has e. g. led to the ambiguity of terms such as *allography*, referring both to material ($|a|$ and $|a|$) as well as functional variation ($\langle ph \rangle$ and $\langle f \rangle$ for $/f/$). Therefore, a consistent distinction between graphetic and graphematic units seems inevitable: by postulating a central graphetic unit termed *basic shape* (cf. Rezec 2013), the grapheme is relieved of its duty of being both functional and material.

Furthermore, I will address the challenge of finding a conception of *grapheme* that holds across various types of writing systems (cf. Lockwood 2009). Can e.g. Chinese and German graphemes be compared? How does comparison inform our understanding of the grapheme? And can the grapheme further our understanding of what is at the core of all writing systems?

I will close my talk with refined terminological suggestions for grapholinguistics and a possible answer to the question if there is indeed a need for the concept of *grapheme*.

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Phonography in Japan's Earliest Text, *The Kojiki* (712)

Ann Wehmeyer

University of Florida, USA

Much of the *Kojiki* (712 CE), a compendium of myth, song, and early history, is written in a form of irregular Classical Chinese, termed *hentai kanbun*. Certain parts of the text, however, such as songs, proper names, and other lexemes, employ phonograms to represent specific Japanese words. The current study surveys all of the passages in the *Kojiki*, apart from the songs, that are written in phonograms with an eye toward determining the rationale for doing so. Previous studies have offered explanations that rely on context, such as Inui (2002), or function (Morita 1961), but these studies have not addressed all of the phonographically written items. Inui (2002:92-93) observes of the *Kojiki* text that phonograms are used to write nouns, verbs, members of a compound, and also postpositions, case particles, verbal suffixes, and emphatic particles. He finds it of particular interest that all of these latter instances are found in quoted passages of conversation, or in the text surrounding such passages, and in this respect, he argues, the *Kojiki* resembles the partial *senmyōgaki* (imperial proclamation) style to be found in certain other early texts. Morita (1961:396 ff.), on the other hand, applies speech act theory to explain the rationale for phonogram use in the *Kojiki*. She observes that, apart from the songs, phonograms were used to write proper names, rhythmic passages, and utensils or other terms that pertain to sacred ritual. These passages and terms appear in speech acts such as oaths, blessings, purifications, and spells. Such acts had a spiritual power that would be activated only through oral recitation, and it was for this reason that they were written phonographically. While the conclusions in these studies are persuasive, what of the phonographically written lexemes, such as all of the mimetic words, that are not to be found in passages of quoted conversation or their vicinity? Is there any rationale that can link such cases and explain the decision to write them phonographically, and not logographically? These are the questions this study will seek to answer.

Emoji as semi-grapheme: Their functions in Japanese digital writing

Yukiko Nishimura

Toyo Gakuen University, Japan

Originating in Japanese technologically-mediated communication, emoji have become popular worldwide and attracted considerable attention, as reported in a number of media articles (such as <http://blog.oxforddictionaries.com/2015/11/word-of-the-year-2015-emoji/>). As of March 2017, Unicode Consortium lists 2,623 emoji (an increase from 2,389 in their previous version; <http://www.unicode.org/emoji/charts/full-emoji-list.html>). Surprisingly, however, very few linguistic studies on emoji can be found to date. This study attempts to clarify how emoji are used in Japanese digital writing and considers whether and how they qualify the requirements to constitute the writing system in Japanese. From diary blogs on everyday topics on a huge blog ranking and linking site, those authored by Japanese women (in their 20's to 60's), who are found to be more frequent emoji users than men (Nishimura 2015), and their source representations are investigated as primary data.

Emoji appear in conjunction with or embedded in digital texts in ways that function differently from textual elements. Their functions, though overlapping, can include: (1) to indicate/add writers' emotions, gesture, attitudes and/or stance (😡 for anger), (2) to replace lexical items ideographically (🚗で行った “went by car”) and phonographically (すぐに🐸 “frog” emoji is read as “kaeru” meaning “to return soon”), and (3) to signal belongingness to the blogging community without much denotational content, as a form of “phatic communion” (Malinowski 1923 (1936)).

Broadly, emoji are part of language, as can be pictographs. Obviously, due to its small number, current emoji cannot fully express the range of our thoughts and ideas and does not qualify full graphemes. Instead, I suggest that they are semi-graphemes, having some properties of grapheme and playing specific roles, some of which might otherwise be unavailable in text-only digital writing. These aspects of emoji use should be explored in order to reach a better understanding of contemporary digital communication.

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Based on Electronic Texts to View the Role of Literacy: Past/Present

Szu-Yu Ruby Chen

Chung Yuan Christian University, Taiwan

With the rapid growth of communication technology, the new genre of literacy has occurred. While living along with the information superhighway, people gain more alternatives to interact with each other either verbally or literally. Is it possible that basic writing and reading activities, such as traditional handwriting letters, being gradually replaced by online texts, images or sounds in this 'digital literacy' age? To answer this question, the researcher employed textual analysis in qualitative method and adapt slightly from Sebba (2012)'s socio-cultural model, based on framework of New Literacy Studies (Gee, 1990), in which the notion that orthographies are situated in social contexts is supported. Also, Lee's (2007) multiscriptual and multimodal practices will be employed to examine online texts collected from one source: online messages. This research aims at exploring the traditional literacy and 'digital literacy' by looking at examples collected online, and further develops a full understanding of 'new literacy' in this generation. Through investigating the relationship between basic literacy and new literacy, the findings of this study not only build a new perspective, but also contribute to broader issues of the new genre in the field of literacy in these days.

Keywords: New literacy, digital literacy, socio-cultural model, orthography

Functional processing units in handwriting Chinese characters

Dustin Lau

Hong Kong Polytechnic University, Hong Kong

Studies that investigate the writing process mostly involve observing the writing errors produced by dysgraphic patients suffered from strokes who have premorbid normal writing abilities. Through analyses of substitution, addition, deletion and transposition errors, researchers hypothesized the functional writing units used in their writing process. Previous studies observing Chinese stroke patients' writing errors suggested that logographemes and radicals are functional writing units in Chinese. However, it is unclear whether developing learners of Chinese also use logographemes and radicals as functional writing units. The current study investigated normal Chinese children's handwriting process in a pseudo-word copying task using an android tablet. Forty grade one and forty grade five children studying in mainstream schools were recruited. They were instructed to copy in random order a total of 36 pseudo-characters composed by joining two radicals, either containing free logographemes that can stand alone as real character or bound logographemes that cannot. Result shows that among grade five children, when the stimuli contain free logographemes, the inter-stroke intervals located at the logographeme boundaries are longer ($p < .0001$) than intervals not located at the boundaries after controlled for distance traveled. Such result was not significant when the logographemes are bound ($p > .05$). Result also reveals that high frequency radicals were copied faster than low frequency radicals. Similar findings were observed among the grade one children except that the logographeme effect is also significant even when the stimuli contain bound logographemes. We suggest that the longer inter-stroke intervals illustrate a result of the retrieval and planning of the successive functional writing units in the writing process. The difference between grade one and grade five possibly implied on developmental trend. Finally, the result confirms that both radicals and logographemes are functional writing units used by children in "spelling" Chinese.

The history of the graphematic foot in the writing systems of English and German

Martin Evertz

University of Cologne, Germany

Suprasegmental graphematics holds that there are units in alphabetical writing systems comprising more than one segment. While units such as the graphematic syllable and the graphematic word seem to be well established, the graphematic foot was only recently proposed (cf. Evertz & Primus 2013, Evertz 2014, 2017). This talk provides further insights into this unit by discussing diachronic data from English and German.

There are two phenomena that make the graphematic foot especially visible: graphematic geminates in English and German (e.g. *mitten* Engl. a type of glove/ Germ. ‘in the middle’) and the silent <e> in English. Both phenomena coded segmental information in earlier stages of the languages, i.e. spelling geminates coded phonological geminates and the end-<e> in English coded schwa. At some time, phonological geminates in both languages and the word-final schwa in English disappeared. That rendered the original functions of these spelling devices obsolete. However, instead of vanishing, graphematic geminates and the end-<e> acquired new functions connected to the graphematic foot (cf. Evertz & Primus 2013, Evertz 2014).

Interestingly, the phonological segments, which were coded by the discussed spelling devices, developed because of suprasegmental conditions: geminates and the word-final schwa played a major role in the development of the vowel quantity systems of both languages, which is connected to syllable and foot structure (cf. Hickey 1986, Charles 1989, Minkova 1991, Maas 2006, Britton 2012, Ritt 2012).

In today’s systems, the graphematic foot bidirectionally corresponds to the phonological foot and thus helps the reader to gain information about the phonological foot and syllable structure of a word, cf. figure 1 for a summary.

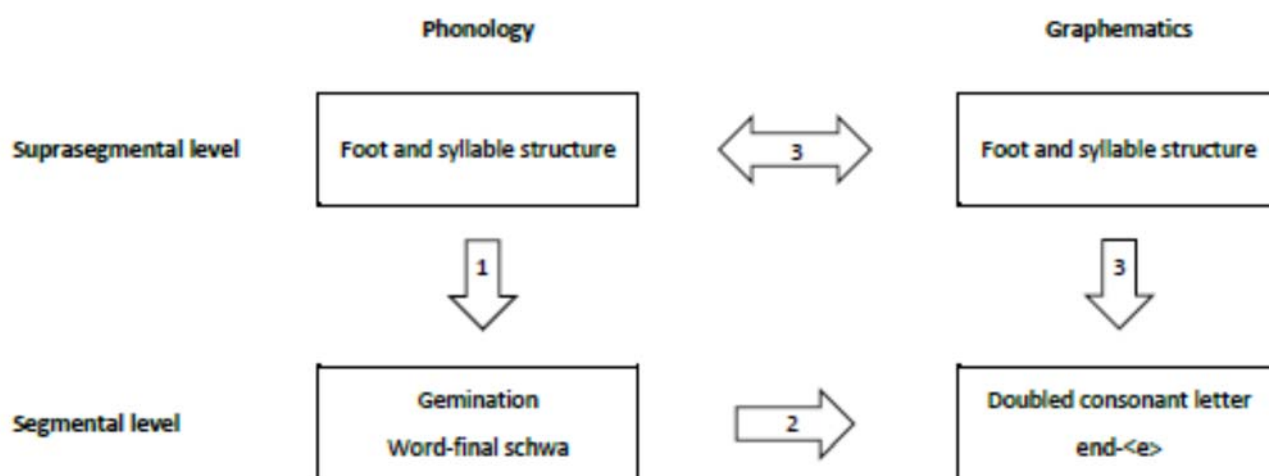


Figure 1 Relationships between suprasegmental properties in phonology and graphematics and their segmental manifestations. The numbers represent the chronological order; 3 represents today's system.

This new diachronic approach is able to capture some hitherto unclear data. In addition, it may not only enhance our understanding of the unit graphematic foot but it may also help to understand how and why suprasegmental units developed in writing systems in the first place.

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The typologies of Ancient Mediterranean Scripts

Natalia Elvira Astoreca

University of Cambridge, UK

When studying the writing systems that were used around the Mediterranean in Antiquity, we see all kinds of writing systems and scripts that belong to many different typologies. In this paper we present three kinds of categorizations that try to gather the different ways in which these systems have been described. The first one responds to the technique used for writing (linear, cuneiform, iconic), the second to the writing direction (dextroverse, sinistroverse, boustrophedon, vertical, etc.) and the third to the type of signary used (alphabets, abjads, syllabaries, abugidas, logograms, etc.). The variety of typologies is impressive, even with the geographical and chronological restriction used in the study: the Mediterranean in the 2nd and first half of the 1st millennium BCE. However, problems arise when trying to categorize “mixed” systems, like the Iberian semi-syllabary, for example. The aim of this talk is to show how the evidence matches or not these categories and to arise a reflection and a debate of their suitability in the case of Ancient writing systems.

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Orthographic variation as evidence for the development of the Linear B writing system

Anna P. Judson

Gonville & Caius College, University of Cambridge, UK

This paper will use the Linear B syllabary as a case-study to explore the ways in which studying a writing system's orthographic conventions may shed light on the history of the system's development.

Linear B was used in the administration of the palatial centres of Late Bronze Age Greece and Crete (c.1400-1200 BCE) and records an early Greek dialect known as 'Mycenaean'. The writing system's structure and orthographic conventions permit some flexibility in the spelling of particular terms or phonological sequences: for instance, since Linear B's phonographic signs represent only open syllables, different strategies are possible in the representation of consonant clusters (e.g. the sequence /dwo/ can be represented by a single sign *dwo* or by a sequence of two signs, *do-wo* or *du-wo*, with two possible choices of the 'dummy' vowel in the first CV sign); it is also possible to record certain phonological sequences more or less precisely (the sign *a*, for example, can represent /a/, /ha/, or /ai/, while the signs *a₂* and *a₃* specify /ha/ and /ai/ respectively).

This paper will investigate the orthographic conventions in use in the Linear B writing system, focusing in particular on the representation of sequences (such as those mentioned above) where orthographic variation is permitted, and will demonstrate that synchronic variation is extremely common or even the norm in many of these cases. Investigating the interactions of the various factors which underlie this variation – from broad motivations such as the reduction of ambiguity or greater efficiency in writing, to those more specific to the Mycenaean administrative records, such as the representation of particular lexical items or morphological elements – will shed light on the ways in which a writing system's context of use may shape the process of its development.

Literacy as Cognitive Change Emerging from Material Engagement

Karenleigh A. Overmann

Center for Cognitive Archaeology, University of Colorado, USA

Literacy, a key concept in the study of writing systems, has been examined by both neuroscience and semiology. Yet reconciling these two perspectives to consider how literacy might emerge from systems of written signs has been challenging (e.g. Harris, 1995). Drawing on the material and textual records of Mesopotamia, a new analysis proposes that literacy emerges from the sustained interactivity of brains, bodies, and materiality: psychological processes like object-recognition and language; behaviors and skills like handwriting and hand-eye coordination; writing surfaces and implements and the form of written characters (Overmann, 2016). Seen through the lens of material engagement theory (Malafouris, 2013), the manuovisual stimulation inherent in handwriting influences psychological functionality and script form over generations of sustained, collaborative effort. Change in psychological processing enables the materiality of writing to be manipulated into novel forms that stimulate further change in psychological processes and behaviors. Literacy represents the attainment of a cultural phenotype—a person whose body and brain are trained to interact in a specific way with a particular material form, itself elaborated over time to elicit specific behavioral and psychological responses. The phenotype remains fairly easily acquired, likely because it passed through the psychological capabilities and behavioral capacities of many previous individuals. Understanding literacy as a phenomenon emerging under specific conditions of sustained material engagement may serve to highlight important differences between writing systems: those that constitute functional writing and reading and those that are truly literate.

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AWLL11 Asian writing systems symposium**Proximity and distance: Focusing on the Chinese, Japanese and Korean writing systems**

Notwithstanding their geographical proximity, the spoken and writing languages of Chinese, Japanese and Korean differ considerably. Touching on both the language-universal and script-specific aspects of these three writing systems, this symposium consists of four short presentations; an initial overview followed by separate talks on the pivotal characteristics of each writing system.

Introduction: Written language, East-Asian scripts, and cross-linguistic influences

Hye K. Pae

University of Cincinnati, USA

This talk provides an overview of the writing systems, scripts, and orthographies of Chinese, Japanese, and Korean. It first emphasizes both the common square-block configuration, which yields a certain degree of visual similarity, and the internal structures of sub-lexical units and words, which underlie their dissimilarities. The talk also highlights how cross-linguistic research can inform models and theories of word processing.

Chinese: Roles of phonological and morphological awareness for word reading in English and Chinese

Alexandra Gottardo¹, Poh Wee Koh², and Xi Chen³

¹Wilfrid Laurier University, Canada; ²Florida State University, USA; ³Ontario Institute for Studies in Education, University of Toronto, Canada

Given the stark differences in typology and the inner structural features of English and Chinese, this talk focuses on the unique contributions of phonological and morphological awareness to word reading within English and Chinese as well as across the two languages, with evidence from monolinguals and Chinese-English bilinguals in China and Canada.

Japanese: Its multi-script nature and implications for word processing

Terry Joyce¹ and Hisashi Masuda²

¹Tama University, Japan; ²Hiroshima Shudo University, Japan

A fundamental characteristic of the Japanese writing system is its multi-script nature, which undoubtedly contributes to its reputation for being extremely complicated. After introducing the component scripts—kanji, hiragana, katakana, and rōmaji—and how they are essentially used in complementary ways that simultaneously afford considerable levels of orthographic variation, this talk also touches on both the unique opportunities and challenges for investigations of Japanese visual word processing.

Korean: The Korean language, the Hangul script, and word reading

Hye K. Pae

University of Cincinnati, USA

The Korean script embraces the characteristics of phonemic, syllabic, and alphasyllabic writing systems, with regular phoneme-grapheme correspondences based on systematic unions of consonants and vowels. Highlighting the roles these unique features have for reading and cross-linguistic transfer, this talk introduces the results of experiments that examined both external graphic features, by manipulating format (block vs. linear), space (syllabic vs. random), and orientation (typical vs. inverted), and internal structures, by varying size, shape and intraword consistency (typical vs. case alternations).

Pae, Hye K. (Ed). (forthcoming). *Writing systems, reading processes, and cross-linguistic influences: Reflections from the Chinese, Japanese and Korean languages*. Amsterdam: John Benjamins.

Keynote presentation**The two orthographies of Modern Hebrew: historical change and current phenomena**

Dorit Ravid

Tel Aviv University, Israel

Hebrew is a century-old language that still carries with it the traces of its 4,000-year-old past in its lexicon, morphology, and orthographic system(s). Now the native language of 3rd and 4th generation native speakers, it has one of the longest written records compiled in the last two millennia, and deriving from ancient historical periods during which Classical Hebrew was a spoken, living language. This talk will focus on the roots of the discrepancy between Modern Israeli Hebrew phonology and its classical ancestry. Consonant and vowel neutralizations of historical phonological distinctions have blurred the phonological underpinnings of Hebrew morphology. These phenomena provide us with a unique opportunity to examine the current inconsistent and often opaque linkage between current Hebrew phonology, its orthography, and the manifestations of current morphology in writing.

The talk will introduce the two orthographies of Hebrew, which make use of both letters and diacritic marks (*nikud*). The universally used (though opaque) non-voweled Hebrew orthography has 22 letters, of which 18 designate consonants alone, while the other four – אהוּי – have a double function of standing for both consonants and vowels. The transparent, voweled orthographic version of Hebrew fully represents the phonological values of both consonants and vowels by using *nikud* diacritic marks, originally designated to represent medieval Hebrew phonology. This orthography is however very restricted in usage. The talk will show how these two orthographies participate in the phenomena of homography and spelling errors deriving from homophony, and how the rich morphology of Hebrew resolves these orthographic issues.

The last part of the talk will focus on אהוּי AHWY *matres lectiones* ‘mothers of reading’, the most complex and inconsistent orthographic category in Hebrew, designating both vowels and consonants and conditioned by morpho-phonological considerations.

Hebrew Aleph in psycholinguistic, linguistic and historical perspectives

Rachel Schiff¹, Shani Levi-Shimon¹, and Dorit Ravid²

¹Bar-Ilan University, Israel; ²Tel Aviv University, Israel

The Hebrew letters אהרי termed *matres lectiones* ‘mothers of reading’ (Bendavid, 1967; Coulmas, 1989) have the highest token frequency in Modern Hebrew. They are also an unstable orthographic class, serving a double consonant/vowel function since post-Alexandrian Mishnaic Hebrew. Phonologically, אהרי represent a continuum from consonants to vowels; morphologically, they can serve as both root and function letters; and they are restricted orthographically, with many inconsistencies and ambiguities challenging Hebrew speakers and writers (Bolozky, 1997; Ravid, 2012).

We report a multi-faceted psycholinguistic study of the אהרי letter Aleph א in root role. Aleph does double duty designating *e* and *a* as a vowel letter, and the glottal stop, an unstable phonological entity (Blau, 1981), as a consonant letter. This instability is accompanied by orthographic restrictions on Aleph distributions: as a vowel letter, it is restricted to the end of the syllable. As a consonant letter, it is restricted to the beginning and middle of the word. Thus, the psycholinguistic perception of Aleph is unstable in both speech and writing.

Two dictionary-based databases were constructed to determine the phono-morpho-orthographic habitat of Aleph in Modern Hebrew. One consisted of all 137 roots containing Aleph, coded by root position (initial, medial and final). A second database included all 1537 verbform stems derived from the combination of these roots with 31 temporal patterns in the seven *binyanim*. Aleph manifestations in the second database were coded phonologically for degree of vocality from consonant to vowel, root position, structural root type, and *binyan* patterns associated with these roots. Two frequency measures were constructed – the frequency of verbforms containing Aleph and the morphological family size of verb families with Aleph-based roots. Results indicate a high entropy of Aleph across all degrees of vocality, with larger morphological families entailing more variegated morpho-phonology and thus constituting a challenge to learning Hebrew spelling.

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Vowel representation in Semitic languages: between language structure and socio-cultural adoption and adaptation

Robert Crellin

CREWS project, University of Cambridge, UK

The particular prominence of the tri-consonantal root structure of Semitic languages is often given as a reason for the adoption of a system of writing, in the case of Phoenician, Hebrew etc., that in principle limits or omits entirely the graphical representation of vowel phonemes (e.g. Coulmas 2003: 113–14; Sampson 1985: 85). Yet there are notable counterexamples of Semitic languages where vowels are well represented, including Akkadian cuneiform and the Ge'ez alphasyllabary, showing that the link is not a necessary one. This paper seeks to trace the complex relationship between language structure and the socio-cultural environment of a given language and script that might affect the evolution of its writing system by examining the writing system of neo-Punic, examining the strategies used for the representation of vowels, both before and after the adoption of the Latin alphabet, as well as motivations for the strategies adopted. The paper assesses the effect of phonological structural developments, notably the loss of pharyngeal consonants, and socio-cultural factors, namely the cultural and political superiority of another language with different writing system (in this case Latin). Comparison is made with Maltese, also written in Latin script, which shares certain phonological similarities (such as pharyngeal dropping), as well as parallels in its cultural history, since it underwent long periods as a low-status language. The paper aims to open the door to investigation of further non-structural political and cultural motivations for the adoption of a consonant-only writing system for Phoenician and Ugaritic in the second millennium BCE.

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Phonetic complementation in the Japanese writing system: Insights from a comparative perspective

Keisuke Honda

Imperial College London, UK

In writing systems with a large amount of logography, it is common to use an orthographic device known as ‘phonetic complementation’. It is implemented by adding phonograms to a logogram to indicate part or whole of the phonological content of the logogram’s referent. Examples of phonetic complementation are particularly prevalent in the writing systems of the ancient Near East (e.g. Akkadian, Egyptian, Luvian, Parthian), pre-Columbian Mesoamerica (e.g. Mayan, Epi-Olmec) and Imperial China (e.g. Kitan, Jurchin). In this presentation I will address the underexplored topic of phonetic complementation in the highly logographic writing system of Japanese. In the literature it has been suggested that the Japanese writing system has, both historically and presently, employed some variations of phonetic complementation in its mixed use of *kanji* logograms and *kana* phonograms (e.g. Ikeda 2007, Vance 2014). To examine this notion, I will analyse three types of *kana* usage, namely *okurigana*, *mukaegana* and *furigana*. Each type will be discussed with reference to its historical and contemporary uses and compared with similar instances of phonogram usage in other writing systems. Based on the typology of phonetic complementation in Mayan (Mora-Marín 2008), *okurigana* and *mukaegana* will be treated as partial phonetic complementation, with the former being graphically postposed and the latter graphically preposed to *kanji*. On the other hand, *furigana* will be described as a unique kind of complete phonetic complementation, characterised by its functional versatility and graphic superposition on *kanji*. In addition, it will be argued that the treatment of *okurigana* requires further consideration of linguistic and social factors related to the development of the Japanese writing system. This point will be illustrated by comparing the use of *okurigana* with that of phonetic complementation in Akkadian.

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From conventional to non-conventional forms of Japanese orthographic representation

Terry Joyce¹ and Hisashi Masuda²¹Tama University, Japan; ²Hiroshima Shudo University, Japan

After acknowledging that the Japanese writing system actually consists of multi-scripts—kanji hiragana, katakana, rōmaji, and Arabic numerals—descriptions usually continue to explain the basic orthographic conventions underlying how these multi-scripts are employed together. However, a major characteristic of the Japanese writing system, which undoubtedly contributes to its complexity, is that while it is possible to discern general conventions, they are also rather nebulous in nature, and, essentially, challenge the very notion of orthographic representation.

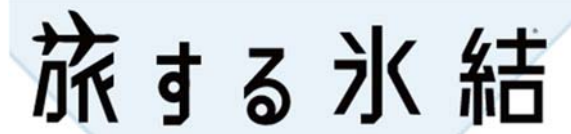
This presentation offers some reflections of examples along the continuum from conventional to non-conventional representations. For instance, while the word-play link to ‘men’s club’ is common to both 麵’s クラブ /men’s(u) kurabu/ and 麵の倶楽部 /men no kurabu/ (attested names for ramen noodle restaurants), the former’s use of apostrophe-s is phonologically closer to the English phrase, but the latter involves an ateji representation, where the component kanji also evoke a rough gloss for ‘club’ as ‘together’ + ‘fun’ + ‘place’. Other examples include the playfulness behind the combination of 春夏秋冬 ‘spring’ + ‘summer’ + ‘winter’ to represent 商い /akinai/ ‘business’, based on the pun that 秋 /aki/ ‘autumn’ is missing /nai/ from the list of four seasons. Mixed-script representations are particularly common for hybrid words. For example エモい /emo-i/ ‘emo; sad; melancholic’ combines an katakana abbreviation of ‘emotion’ and i-adjective ending, while there are alternative kanji orthographic representations (下種, 下衆, 下司) for the stem of ゲスい /gesu-i/ ‘sleazy; vulgar; low-life; shabby’ (both included on a best 10 list of new words for 2016; <http://dictionary.sanseido-publ.co.jp/topic/shingo2016/2016Best10.html>). Moreover, non-conventional representations are very common within the domains of advertisement, such as the embedded IPA within 月 (Fig. 1) and the embedded airplane image within the kanji 旅 (Fig. 2).



/izayoi no tsuki/

moon of 16th night [IPA beer brand-name]

Figure 1.



/tabi-suru hyōketsu/

hyōketsu [liqueur brand-name] to travel

Figure 2.

The spell of language change: How grammaticalization affects orthography (and vice versa)

Peter Backhaus

Waseda University, Japan

Grammaticalization is the diachronic process by which lexical items acquire grammatical functions and gradually lose their original meaning. The present paper aims to extend the scope of grammaticalization research to the level of writing. Presenting examples from German and Japanese, I illustrate how grammaticalization interacts with the written output level of two typologically and orthographically non-related languages.

An example discussed from German is the term *aufgrund* ‘because of,’ a causative preposition that originates from the spatial preposition *auf* ‘on’ and the noun *Grund* ‘ground, basis.’ The compound spelling here both reflects and cognitively enforces the coalescence of the two morphemes into one. A comparable case from Japanese is the verb *miru*, which as a full verb means ‘to see.’ However, when attached to the connective form of another full verb V, it functions as an auxiliary that modifies V as ‘have a go/try doing V.’ Here, too, the grammaticalization of the term is reflected on the written level: When used as a full verb it is spelled in Kanji (commonly used for lexical items), whereas when used as an auxiliary it is normally written in Hiragana (used for grammatical items). Of special note is that both examples involve a loss in ‘graphemic weight’ (non-capitalization and deletion of space in *aufgrund*, lower number of character strokes for *miru*), which corresponds to the loss in phonemic weight that is commonly observed in grammaticalization processes.

The analysis is complemented by a look at official spelling guidelines, which show some contrary tendencies for the two languages. The two main conclusions are (1) that grammaticalization is a phenomenon whose written output shows some noteworthy similarities across different writing systems, and (2) that the pathway of grammaticalization can be manipulated through spelling reforms.

Pictograms as a means of communication: How the use of symbols and pictures supports the interpretation of a given space

Takako Kawabata

School of Oriental and African Studies, University of London, UK

The media of written languages have changed from tablets to papyrus, paper and digital media. Writing scripts have also changed from hieroglyphs to modern scripts in order to deliver longer and more complicated messages to wider audiences. With the development of digital technology, numerous people can access the Internet and text messages on social network services such as Facebook, Twitter, and WhatsApp. With several people using these online platforms, the use of emoticons (emoji) is popularising. It can be argued that the emoticons have now become a totally different script of written communication. However, the use of symbolised pictures such as emoticons is neither a new phenomenon nor limited to online communication; those not using the Internet and social media have also been exposed to symbols and pictograms such as road traffic signs, map symbols and hazard communication symbols in public spaces. Considering linguistic landscapes, we can find extensive use of logos, designs, pictures, photos and pictograms on the streets. In Japan, pictograms were used to assist people with limited Japanese reading competence for the 1964 Tokyo Olympic Games; they have been redesigned and developed for the second Tokyo Olympic Games scheduled in 2020. The pictograms delivering messages to the wider public play an important role in our communication in fast-growing multicultural and multilingual societies. In this presentation, I explain how pictograms, symbols, logos and pictures are used along with other writing systems in the Japanese linguistic landscapes and analyse the benefit of using pictograms with the survey-data collected from non-native speakers of Japanese. Furthermore, I discuss how the use of the pictograms will change our written communication and linguistic landscapes in Japan in the future.

Cultural attitudes toward Mandarin Chinese Romanization in Taiwan: The case of Wade-Giles, Hanyu and Tongyong Pinyin

Kyle Sasaoka

Spoken language is indeed one of the ways that allow individuals and groups to express identity or ethnicity. Writing systems however cannot be overlooked as a medium that one may attach cultural or ethnic value. Thus far, much of the research dealing with language attitude has centered on spoken language. This study is designed to fill this gap to uncover matters of attitudes toward writing systems; in particular Romanization systems for Mandarin Chinese in Taiwan. A matched-guise test was designed to investigate attitudes that Taiwanese would most likely attribute to various Romanization systems in use, including Wade-Giles (WG), Hanyu Pinyin (HP), and Tongyong Pinyin (TP). The matched-guise test was constructed using analysis of the prevailing political discourse related to Romanization systems in Taiwan. The judges included 52 Taiwanese university students pursuing studies in various academic fields. In this way, the degree to which Taiwanese individuals relatively outside the political discourse hold attitudes toward WG, HP and TP can be better determined. The quantitative data from the matched-guise test revealed that judges viewed Wade-Giles to be significantly more traditional than the other Romanization systems. In addition, there were tendencies to associate WG, HP and TP with certain groups or ideologies (outsider vs. local, views on the national status of Taiwan, and those who are more likely to use traditional vs. simplified Chinese characters). In light of these findings, implications can be made with regard to cultural attitudes toward Romanization systems in Taiwan.

Key Words: Romanization, matched-guise test, language attitude, sociolinguistics, Wade-Giles, Hanyu Pinyin, Tongyong Pinyin

On the level: how phonological and other assumptions impact orthography development

Bruce Wiebe

SIL Nigeria, working mainly from Canada

Different phonological assumptions (aspects of structuralism (Burquest 1998) vs. stratal OT (successor of lexical phonology) (Snider 2005, 2014)), with related psycholinguistic and procedural assumptions, lead to divergent views on the best phonological level for orthographic representation, and on basic orthography development issues such as morphophonemic vs phonemic orthography, beginning vs. mature reader orthography, and morphophonemic-variation-as-problem for orthography. At a big picture, accessible level, I examine these assumptions and their implications for orthography development.

Psycholinguistic assumptions include: *How does the user perceive meaning, at the morpheme or word level? What best serves the user, writing user perception or user production? Procedural assumptions include: Who should the orthography be developed for, native speaker or non-native learner? What aspect of communication should we write, meaning, sound, or both (*and which is priority)? *What part of an utterance should be written consistently, morpheme or word? The paper assumes certain choices (it is beyond the scope of the paper to defend them), leaving open the starred ones.

I then explore the above two phonology-theoretic assumptions, with their differing intermediate levels between underlying and surface, the phonemic form of structuralism and the lexical form of stratal OT. The available levels and unawareness of their existence or differences limits the possible orthographic solutions for the developer. The following indicates something of how they compare and contrast:

Forms	Structuralist-based processes	Stratal OT processes
surface		
↑	allophonic	postlexical
phonemic		
↑	morphophonemic	postlexical
lexical		
↑	morphophonemic	lexical
underlying		

We conclude that under structuralist and certain accompanying assumptions, the basic orthography issues mentioned are problems with no consistent solution, but under stratal OT (or lexical phonology) and certain accompanying assumptions, they are all false issues or non-issues. Orthography testing of different phonological levels is needed (I have begun in English).

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Creel and Boodberg; DeFrancis and Sampson

Michael Flynn

Carleton College, USA

There are (at least) three questions one might ask about a writing system:

1. Why do the characters look the way they do?
2. What information is recoverable from the characters?
3. How do users of the system use the information available in the system?

In this paper, I will first focus on the rather combative exchange of views between Herrlee Glessner Creel and Peter Boodberg in the 1930's. Creel and Boodberg were both, I will argue, asking the first question: Why do Chinese characters take the form that they do? I will suggest that Boodberg's harsh comments on Creel's proposals were powerfully influenced by the linguist Leonard Bloomfield, who had adopted a strong verificationist position, then the prevailing view of the nature of scientific inquiry. There were also misunderstandings, such as on what Creel intended by the word "ideogram", misunderstandings that were carried over to the debate in the 1980's between John DeFrancis and Geoffrey Sampson.

DeFrancis borrowed much from Boodberg, sometimes without appropriate attribution, and in any event he was asking a different question, namely the second one above. For DeFrancis, Chinese characters represent phonetic information, and claimed in fact that no writing system for human languages could represent anything else. This view has been (uncritically) adopted by many observers, such as Boltz and others, and, for Japanese, Unger and even by the distinguished historian Sir George Samson. Geoffrey Sampson, in his books about writing and occasional replies to DeFrancis and Unger, has resisted the "only phonetics" stance and suggests moreover that studies of the third question, about how readers (and writers) actually use the system, illuminated by psychological and neurological research, might contribute to an evaluation of writing systems. In this he is joined by Taylor and Taylor, and this makes them an heir of Herrlee Creel.

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Functionally Alphabetic Nature of Aksharic Orthographies of South Asia

Anurag Rimzhim^{1,2}, Avantika Johri⁴, Damian Kelty-Stephen⁴, and Carol Fowler³

¹Central Connecticut State University, ²Haskins Laboratories, ³University of Connecticut,

⁴Grinnell College, USA

Structural properties of languages constrain the design of their orthography and shape reading processes (Frost, 2012). Research on reading in different writing systems has addressed how reading differs for orthographies with varying linguistic and orthographic features. We will discuss findings from visual word recognition experiments in Hindi, which has both similar features to other writing systems and its own unique features.

Hindi, and other Brahmi-derived orthographies of South and Southeast Asia, are generally categorized as alphasyllabaries because they have both syllabic and alphabetic characteristics (Rao, et al., 2012). Akshars (roughly CnVs), not letters, are generally identified as the basic orthographic units for Hindi readers (Rao, et al., 2011). However, Rimzhim, Katz and Fowler (2014) distinguished typological from functional orthographic units, and proposed that Hindi is typologically aksharic, but is functionally primarily alphabetic.

We report results of experiments using “transposition effects” to identify functional orthographic units for Hindi readers. Previous results on readers of other writing systems reveal less accurate, slower lexical decisions to letter-strings such as PSATE (a transposition from PASTE) than PKOTE (a control string). Such effects reveal the flexible position coding of written units (e.g., ‘A’ and ‘S’ in PASTE), and are found among readers of many alphabetic orthographies (e.g., English) but are absent or reduced in other orthographies (e.g., Katakana, Hangul).

Our rationale was that larger transposition effects for letters versus akshars should imply that letters are more salient functional units than akshars for Hindi readers. In three experiments, we transposed the following orthographic units: consonants (C’s) and vowels (V’s) and their combinations: C and Cə, V and V, V and Cə, C and V, C and CV, Cə and CV, and CV and CV. Accuracy analysis showed a larger transposition effect for letters over akshars. Results highlight that letters are functional orthographic units for Hindi readers.

Future prospects on the logographic cultural circle in Asia

Benjamin K. Tsou

City University of Hong Kong, Hong Kong

Written languages in the world have evolved primarily from phonetic and logographic writing systems. The pre-dominant mode of development has been towards phonetic writing systems, if the initial system is not phonetic, while the sustained hybrid system such as that found in Japanese raises interesting questions on its justification. The Vietnamese Chuc Nam writing system has evolved from a basically logographic system to a purely phonetic writing system in the last century. Similarly, Korean has also apparently replaced its logographic writing system with Hangul. Furthermore, to some extent, the development of Pinyin, the ancillary phonetic writing system in Chinese could also reflect a global trend toward phoneticization. Does this suggest the likely demise of the long established logographic circle in Asia and why?

The nature and functions of the logographic writing system for Chinese and in the other typologically different languages in what is sometimes called the logographic cultural circle deserves to be reviewed in the light of these key questions. We shall re-examine the logographic radical system and linguistic as well as cognitive issues relevant to ease of communication (*entropy*), and word structure (*word boundary demarcation*) on the one hand, and, on the other, socio-culturally salient issues, such as ethnicity and nationalism, shifting balance between Sinitic and English lexical substrata, and threshold literacy (minimal number of Hanzi, kanji, or hanja) as well as the use of Quadri-morphemic/syllabic Idiomatic expressions (QIEs).

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Investigating Early English Writing

Lynne Cahill

University of Sussex, UK

Many of the earliest examples of written language from the British Isles are in Latin, the language of the law and religion at the time. Examples of early written vernacular English are somewhat more sparse, and mostly restricted to a handful of well-known religious and literary texts. What we know about the writing of early English is therefore mostly based on a very small sample written by a very small number of people.

Charters (legal documents detailing mostly property transactions) dating from the twelfth to the sixteenth century are in existence in abundance and, although many of the earliest examples were written in Latin, they provide a potentially extensive source of alternative early written English. The digitisation of large corpora of charters generated much excitement among historians, who found that they could search vast databases for information about the people and places documented in the charters. However, from the perspective of linguists, these digitised charter collections proved to be a disappointment, since they involved not the original language of the charters but the calendar entries (summaries of the content) written long after the original charters and using standardised spellings and vocabulary.

In this paper I will report on a pilot study that produced digital images and full scholarly transcriptions of a small selection of sixteenth century charters written in English. The charters examined are from two different collections: the Yarburgh Muniments from Yorkshire and the WARD 2 collection from Essex.

This study of a small sample shows the extent to which there is spelling variation both within and across documents. I focus on a few specific features including the variable use of <y> and <i>, the doubling of consonants, the use of <s>, <c> and <k> and the use of capitalisation and punctuation.

Linguistic patterns of spelling in dictated words and spontaneous text composing in Catalan throughout elementary school

Liliana Tolchinsky¹ and Cristina Castillo²

¹Departament de Lingüística General, Universitat de Barcelona; ²Departament de Didàctica de la Llengua i la Literatura, Universitat de Barcelona

Learning to spell requires going beyond grapheme-phoneme correspondences, it entails developing an orthographic lexicon where the interconnected components that make up the word ‘lexical quality’ (Perfetti, 2007) are stored and can be accessed. That is, the representation of its meaning (or multiple meanings), grammatical category, morphological and morpho-phonological behavior. Studies have shown that when children are composing a text they select words they feel they are able to spell. Thus, text-embedded spelling is more accurate than spelling of dictated words (Bigozzi, Tarchi & Pinto, 2016).

We examined the effect of writing task -- text composing and dictation -- on the linguistic patterns of spelling in Catalan, a synthetic inflectional language with a rich inflectional and derivational morphology represented by a moderately transparent orthography. Spellers must resort to morphology, word-contextual rules or lexical knowledge to spell accurately; straightforward phonographic mapping is insufficient.

Participants were 180 bilingual Catalan/Spanish speakers from 1st, 3rd and 6th grade in elementary school that had Catalan as language of instruction. Children wrote a descriptive text on a given topic and 20 isolated words on dictation. The words selected for dictation were controlled for frequency and orthographic difficulty. Spelling errors in the two tasks were classified as phonographic, orthographic, lexical and morphological, according to the knowledge children need to produce an accurate spelling.

Results show that spelling performance in texts outperformed performance in the dictation task, children produced comparatively less errors in the written composition than in the dictation. However, the pattern of spelling errors was similar in the two tasks. Phonographically- and morphologically-based spellings are mastered earlier than spellings requiring lexical or orthographic knowledge, that were predominant until sixth 6th grade. Findings will be discussed in the light of processes of vocabulary learning and the mediation of linguistic typology on patterns of spelling.

Keynote presentation**Tone orthography in African languages: past present and future**

David Roberts

Independent researcher, Togo

This paper begins by tracing the history of tone orthography in African languages, beginning with Bishop Crowther's Yoruba orthography, through the earliest attempts at standardization and the phonological approach espoused by Pike, to the greater emphasis on quantitative experimentation that has emerged since the 1970s.

To illustrate contemporary research, the paper reports the results of a recent cross-linguistic experiment with 308 participants speaking ten Niger-Congo languages in five countries. We measured oral reading speed, accuracy and comprehension on tone-marked and -unmarked versions of four texts, as well as writing accuracy. The results reveal a remarkable variance between the languages that is attributable to the impact of both demographic and linguistic variables, although the former frequently overshadow the latter.

The paper concludes by identifying several topics towards which future experimenters could profitably turn their attention: the quantification of phonological and orthographic depth, experiments with grade 1 children, eye movements and visual crowding, a broadening geographical range, and non-Roman scripts.

Spoken and now written: Orthography development of endangered Sarawakian languages

Jey Lingam Burkhardt¹ and Jürgen Martin Burkhardt²

¹Sunway University, Malaysia; ²Universiti Putra Malaysia, Malaysia

Orthography or graphization of unwritten languages has been both a historical moment for hitherto oral communities as well as a point of heated discussion and argument. On the other hand, to date there are many endangered languages in Sarawak which are unwritten.

This talk reports and reflects on best practices of various orthography development seminars of languages in Sarawak, particularly in developing a unified orthography for clusters of spoken varieties. The main point of the talk is to suggest a framework which includes tried and tested maxims for graphization of unwritten languages. This is an extension of William Smalley's maxims for orthography development.

Three community based orthography projects are discussed; namely the Bidayuh, the Kelabit and the Berawan; where the orthography development was either phonologically based (Bidayuh), community based (Kelabit) or based on an eclectic approach (Berawan). The data obtained are a result of our personal involvement in the respective community's language development projects. The emphasis of the talk will be on the development of a unified writing system of the Berawan language cluster which has three mutually intelligible varieties which have been unwritten until January 2017.

3arabi - an alternative to literacy acquisition in an L2?

Susanne Borgwaldt

University of Bamberg, Germany

Between January and July 2016, more than 150000 refugees in Germany were enrolled in government funded German-as-foreign-language classes (*Integrationskurse*). Approximately 15% of these learners, most of them from Syria, Iraq, Iran, and Afghanistan, were nonliterate in their L1 and were attending classes, that combine learning German and learning how to read and write in the Roman alphabet (*Alphabetisierungskurse*).

For someone non-literate in their L1 it is particularly challenging to acquire literacy in an L2. However, approaches to first achieve literacy in the L1 and later in the L2 exist in Germany only for speakers of languages like Turkish or Portuguese, that use the Roman alphabet, and not yet for speakers of Arabic or Pashto, i.e., languages that use the Arabic abjad.

Yet, Arabic can also be written with Roman characters: *3arabi* (*arabic chat alphabet, arabizi*) uses an augmented Roman alphabet including numbers. For example, *heart* - /qalb/ is written traditionally as “قلب”, in *3arabi* as “*8alb*”. *3arabi* is mainly used by younger well-educated speakers in online communication, both in the Middle East and in the Arabic diaspora. *3arabi* is a very transparent orthography, based on local dialects, in contrast to Arabic written with the traditional abjad, based on fuṣḥa, the “formal Arabic” (e.g. Maamouri 1999).

We suggest that non-literate Arabic L1 speakers who learn German as L2 would benefit from a teaching approach where the Roman alphabet is used as a means to first achieve literacy in the L1 Arabic, and later on in the L2 German. The focus of this paper is purely linguistic in nature, i.e. to describe and discuss the development of a modified version of *3arabi*, whose design features (e.g. Venezky 2004) could assist new learners learning to read and write in their L1 Arabic and subsequently transfer the literacy skills to the L2 German.

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This final section of the AWLL11 programme + abstracts file provides explanations about the translations of AWLL11's theme - Writing systems: Past, present (... and future?) - featured within the programme cover design, together with acknowledgements to everyone who kindly contributed by providing the translations. The examples are arranged alphabetically according to language.

Μέθοδοι γραφῆς· παρεληλυθυῖαι, ἐνεστῶσαι (... καὶ μέλλουσαι;)

Méthodoi graphês: parelēluthuîai, enestôσαι (... kaì méllousai?)

Ancient Greek – Greek alphabet [Calibri font]

Robert Crellin: CREWS project, University of Cambridge, UK

نظم الكتابة بين الماضي والحاضر (... والمستقبل؟)

Nudhum al-kitabah: bain al-madhi wa al-hadhir (...wa al-mustaqbal)

Arabic – Arabic script [written from right to left]

Rizwan Ahmad: Qatar University, Qatar

Sistem nyuriet: kelunia tew, jaka' tew... (...ngan peliney?)

Berawan Long Jegan [Borneo] - Roman alphabet [Garamond font]

Jey Lingam Burkhardt: Sunway University, Malaysia

書寫系統：過去，現在 (... 和未來?)

Shūxiě xìtǒng: Guòqù, xiànzài (... hé wèilái?)

Chinese - traditional characters [Kaiti font]

Sau-Chin Chen: Tzu Chi University, Taiwan

Schriftsystemen: Verleden, heden (... en toekomst?)

Dutch – Roman alphabet [Calibri font]

Anneke Neijt: Radboud Universiteit Nijmegen, The Netherlands

Writing systems: Past, present (... and future?)

English – Roman alphabet [Gentium Plus font]

Terry Joyce: Tama University, Japan [workshop theme proposer + cover design concept]

Kirjoitusjärjestelmät: ennen, nyt (...ja tulevaisuudessa)

Finnish – Roman alphabet [Futura PT font]

Mira Valkama: University of Helsinki, Finland

Systèmes d'écriture: passé, présent (...et avenir?)

French – Roman alphabet [French script MJ font]

Natalia Bilici: University of Luxembourg, Luxembourg

Schriftsysteme: Vergangenheit, gegenwart (... und zukunft?)

German – Roman alphabet [Times New Roman font]

Martin Neef: Technische Universität Braunschweig, Germany

מערכות כתב: עבר, הווה (...ועתיד?)

ma'arxot ktav: avar, hove (... ve-atid?)

Hebrew – Hebrew script [written from right to left]

Dorit Ravid: Tel Aviv University, Israel

लिपि पद्धति: अतीत, वर्तमान (... और भविष्य?)

lipi padd^hati: atiit, vartamaan (...aur b^havishya?)

Hindi – Devanagari [Nirmala UI font]

Anurag Rimzhim: Central Connecticut State University & Haskins Laboratories, USA

文字体系: 過去, 現在 (...そして未来?)

Moji taikai: Kako, genzai (... soshite mirai?)

Japanese – Japanese writing system [MS Minchō font]

Chikako Fujita: Nanzan University, Japan [programme cover artwork]

Parálan ning Pámányúlat: Nápun, Ngéni (...at Búkas?)

Kapampangan [Northern island of Luzon in the Philippines] – Roman alphabet [Gill Sans MT]

Michael Pangilinan: Institute for Kapampangan Research and Kulitan Studies, Philippines

표기체계: 과거, 현재, (...미래?)

Pyogichegye: Gwageo, hyeonjae, (... mirae?)

Korean – Hangul [Dotum font]

Kwangoh Yi: Yeungnam University, Korea

খুৎইগী কাঙলোন: মমাংগী, হৌজিক্কি (... অমসুং তুংগী?)

Khutigi kanglon: Mamānggi, hawjikki (... amasung tunggi?)

Manipuri [north-eastern India] – Bengali script [Kalpurush ANSI font]

Hanjabam Surmangol Sharma: Manipur University, Manipur

Sistemas de escritura: Pasado, presente (... ¿y futuro?)

Spanish – Roman alphabet [Century font]

Magdalena Jimenez Naharro: Università Degli Studi Roma Tre, Italy