Creel and Boodberg

Michael Flynn
Linguistics Department
Carleton College
Northfield, Minnesota, USA
mjflynn at carleton.edu

This paper has been submitted to *Written Language and Literacy*.

(2018) [It was never reviewed]

Creel and Boodberg

Abstract

In this paper, I re-examine the famous exchange between Herrlee Creel and Peter Boodberg about the nature of Chinese characters. The standard view of this argument is that Creel's position is untenable, and it is almost universally rejected by subsequent observers. However, I will show in this paper that this attitude toward Creel's work is mistaken. For Creel, an ideogram is a symbol intended to access a lexical entry via its meaning. Seen in this way, he is one of the first westerners to develop a very plausible and maybe even correct view of the nature of the characters.[1]

key words: ideogram, pictogram, semasiogram, morpheme, Chinese character

Creel and Boodberg

1. Some important definitions

It will likely come as no surprise to readers of this paper that commentary on the Chinese *hanzi* and Japanese *kanji* has become a terminological quagmire, and so I will begin by defining some important words. A **pictogram** is a symbol for which there is a structure-preserving mapping, a kind homomorphism if you like, between features of the symbol and features of a representative referent. For a pictogram like this

it makes sense to ask what part of an airplane is represented by, say, the left edge of the symbol. Also, I follow Sampson (1985), citing Haas (1976), in calling a symbol **semasiographic** if it is meaningful but has no fixed linguistic interpretation, even given a language. So a semasiogram like this

[1] I would like to thank the Association of Written Language and Literacy, especially its president Terry Joyce, for giving me the opportunity to present this paper at their 11th International Workshop in Nagoya, Japan in August, 2017. Thanks also to members of the Association for their comments at that meeting. I have benefited from correspondence on the paper with Mark Hansell, Insup Taylor, and Geoffrey Sampson. Of course, errors that remain are my responsibility.

can be read equally well as "no smoking" or "smoking is prohibited" or "don't smoke here" or any number of other readings.

Semasiograms are often pictograms, and for good reason. They are intended to be used in cases where the language of the intended audience is not known. So our pictogram of the airplane above can be correctly articulated as 'airport', 'vliegveld', 'kuukou', etc.

It's worth observing that though semasiograms are often pictograms, these are distinct concepts. The recently deceased rock star Prince, a Minnesota native, once changed his name to a glyph that has no associated phonology:

It has a meaning or at least a non-linguistic referent, but no fixed linguistic form, and so is a semasiogram. To refer to the guitarist in spoken language, fans had to come up with a description that could pick him out, such as "The Artist Formerly Known As Prince" or "TAFKAP", or anything that would effectively denote the man.[2] It has been argued that the glyph is a pictogram, but, inspired by this example we can easily invent a clearly non-pictographic semasiogram. Here is a symbol that for the next little while I take as my unpronounceable name:

η

So for the next few minutes you should refer to me as "The Professor Formerly Known as Michael Flynn" or "TPFKAMF" or "the guy I met last night who likes uni" or whatever you can use to pick me out.

Of course there are also pictograms that are not semasiograms. Some *kanji* are this way:

人

In Japanese, this form has fixed linguistic interpretations, 'nin' or 'hito' meaning *person* and thus it is not semasiographic. That *kanji* are not semasiograms has long been noted by many observers, including neuroscientists like Iwata (1984). We will return to the neuroscience of Chinese characters near the end of this paper.

---

[2] "Since Prince has changed his name to an unpronounceable glyph, tickets for his two-night stand at the Palladium were billed as *Art. Frmly Knwn as Prince*. Calling for encores, the crowd chanted *We want* followed by two high whoops." (from http://www.filmbug.com/db/25996 accessed May 17, 2017)

The vast majority of Chinese characters are not pictograms, though which ones are is sometimes a matter of individual imagination. In his feverish book *A B C of Reading*, Ezra Pound told of the French artist Henri Gaudier-Brzeska.

> Gaudier-Brzeska, who was accustomed to looking at the real shape of things, could read a certain amount of Chinese writing without ANY STUDY. He said, "Of course, you can *see* it's a horse" (or a wing or whatever).
>
> Pound, Ezra (1934) *A B C of Reading*
> (p. 7; capitals and italics in the original)

I've tried this little experiment with my brainy Carleton College students. Which one of the following means *horse*?

島 点　長　馬　鳥　所

I'm afraid they don't do very well. In any event, it's clear that almost all *kanji* are neither pictographic nor semasiographic. I will discuss what they are below, but let's first turn to Boodberg and Creel.

2. Boodberg and the phonetic principle

Peter A. Boodberg (Pyotr Alexeievich Budberg) taught at the University of California, Berkeley, from 1932 until his death at age 69 in 1972. He is remembered by students as "a courteous and compassionate gentleman to whom harshness, meanness and condescension were all equally alien – indeed repellant." (Schafer (1974), xix) But he does not come off that way in print. In a reply to Herrlee Creel, the context for which I will discuss shortly, he wrote:

> To invite anyone to accept similar interpretations as the correct 'ideographic' analysis of Chinese writing is, to put it mildly, to incite him to disregard the laborious gains of scholarship of the past two thousand years and to make sinology a subject fit only for Kindergarten instruction. (Boodberg (1940/1979:409))
>
> Had Professor Creel not refrained altogether from analyzing a considerable percentage of graphs included in the notes, the number of monstrosities would have been over-whelming. All of those characters not only can, but have been, explained as phonetic logograms. To ignore those explanations and to substitute for them the charades that appear on almost every page of the book in order to build up a case for 'ideography', is unforgivable. (1940/1979: 408 fn.)

It is not easy from today's standpoint to get a coherent exegesis of Boodberg's position, since I think it is in some cases inconsistent, but the general thrust of his arguments seem clear enough, and there is a good hint of it in the passages just quoted. We will see that Creel wanted to explain the form of Chinese characters by appealing to the meanings of the parts, but it is this that Boodberg objected to.

> The term 'ideograph' which is so widely used by both laymen and scholar is, we believe, responsible for most of the misunderstanding of the evolution of writing. The sooner it is abandoned, the better. We would suggest the revival of the old term 'logograph'. Signs used in writing, however ambiguous, stylized, or symbolic, represent *words*. If we associate with a graph several related words, unable to determine which of them it is supposed to represent exactly, this does not mean that the graph *represents* the 'idea' or 'concept' behind those words. Whatever be the significance of these vague terms in psychology, in linguistics they mean absolutely nothing. Linguistic science deals first and last with the word, its only reality. The 'disembodied word' which is what is generally meant by 'idea' or 'concept' does not exist for the linguist. (Boodberg (1937/1979:366)

So far as I can make out, the argument is *a priori*. The reason one cannot explain the shape of characters by appealing to the meaning of the parts is because meanings (ideas, concepts) do not exist. Boodberg doesn't say so, but it seems clear that the source of this is the influential linguist Leonard Bloomfield, in the grip of physicalism[3] [4]:

> such terms as 'idea' are merely misnomers for linguistic events (Bloomfield (1936: 93)
>
> Non-linguists (unless they happen to be physicalists) constantly forget that a speaker is making noise, and credit him, instead, with the possession of impalpable 'ideas'. It remains for linguists to show, in detail, that the speaker has 'ideas', and that the noise is sufficient– for the speaker's words act with a trigger-effect upon the nervous systems of his speech-fellows. (93)
>
> If we are right, then the term 'idea' is simply a traditional obscure synonym for 'speech-form', and it will appear that what we now call 'mental' events are in part private and unimportant events of physiology and in part social events (responses which in their turn act as stimuli upon other persons or upon the responder himself), namely acts of speech. (95)

---

[3] In his 1938 paper, Creel does not mention Bloomfield, but attributes Boodberg's view to the adoption of behaviorism.

> Despite his verbal renunciation of psychology, Professor Boodberg has stated his case in the terms of a definite psychological school, that of Watsonian behaviorism… Although it sprang up as a popular school only after the World War, and for a time "took on the dimensions of an intellectual revolution" [footnote suppressed] behaviorism is so dead today that Dr. G. Frederic Kuder tells me that it would be difficult to find a single psychologist in the United States, the country of its origin and chief popularity, willing to call himself a thorough-going behaviorist. (Creel 1938 273)

This is the year of the appearance of B.F. Skinner's monumental *The Behavior of Organisms* (1938) and two decades ahead of *Verbal Behavior* (1957)!

[4] In a discussion of the Creel-Boodberg dispute from a disciplinary perspective, Lurie (2006) also mentions Bloomfield's role. But rather than noting the 1936 paper which I think Boodberg was relying on, Lurie attributes Bloomfield's influence to his 1933 book *Language*.

Boodberg seems a little reluctant to completely adopt the severity of Bloomfield's position, since he (i.e. Boodberg) does describe characters as consisting of a "semanteme" and a "phoneme", a "phono-semanteme". I am not able to understand exactly what Boodberg intends by "semanteme", but it appears that some parts of characters are, or represent, semantemes:

> It will become apparent that linguistically, both form an unbreakable unit SP [Semanteme and Phoneme], the phono-semanteme, which, as we have said, is the only reality for the linguist. In the graphic representation of the phono-semanteme, the semantic element can be gradually reduced to a minimum and eventually be eliminated, but no power on earth can disembody the graph phonetically while it remains in existence as a sign of communication. (1937:367fn.7)[5]

Let me try to paraphrase this, with an example. Consider the character

姉

which in Japanese means 'elder sister' with the Chinese or *on* reading 'shi' and the Japanese or *kun* reading 'ane'. (We set aside some irrelevant complexities here.) A common analysis of this takes the left side of the character 女, meaning *woman,* as the "semantic" and the right side 市, Chinese reading 'shi', meaning (irrelevantly) *city* as the "phonetic". Boodberg's contention, I think, is that in this combination of a semantic and phonetic, the phonetic is by far more important, and in fact, one can easily anticipate the weak, ontologically suspicious, semantic part fading away, giving rise perhaps to a simplified character 市 'shi', meaning *elder sister*, which in turn is stripped of its (irrelevant) meaning and rendered as something like し or even "shi". What's important, essential, about characters is their sounds. Take the sound away and you are left with nothing.

Though it is not completely clear, and may not have been completely clear to the participants themselves, I think the debate between Boodberg and Creel (as we shall see) is in large part addressed the question of why Chinese characters look the way that they do. Why, for example, does the character for 'home' 家 have two parts, 宀 and 豕 (*pig*)? A charming domestic picture of a pig under a roof, you (and Creel) might say. But Boodberg asserts, 豕 is "undoubtedly phonetic in 家" (Boodberg 1937/1979: 375). For Boodberg, it seems that the parts must represent good, observable, phonetics. To ask why a part is there, ask what it sounds like, or better, what it sounded like when the character was invented.

---

[5] In his 1989 book, DeFrancis writes something very similar to this, which isn't referenced even though Boodberg is referred to frequently elsewhere:

> It is my contention that in Chinese the syllabic element P, such as that in the overwhelmingly preponderant SP characters, must be viewed as the grapheme, the indispensable phonetic unit without which the system would not work. Whole characters are frames or lexemes, secondary units that in a reformed system of writing could be dispensed with entirely, along with the semantic element S. DeFrancis (1989:115)

3. Boodberg's heirs, and (in)directness

I need hardly say that many people picked up this ball and ran with it. One prominent scholar, particularly relevant to my topic here, is John DeFrancis:

> "The failure to discern that Chinese characters are an extremely bad example of phonetic writing, but phonetic writing all the same, has led to a mistaken view of the Chinese writing system that can only be labeled as the Ideographic Myth." (DeFrancis (1984:130)

I will turn to the so-called Ideographic Myth in a moment, but first I want to observe what appears to be a subtle but important shift in the question that is being asked, a shift that I believe will be fatal to the DeFrancis, but not the Boodberg, position. While Boodberg and Creel argued about why characters look the way they do, DeFrancis is making a claim about what information is recoverable from the characters as they appear today, or at least in 1984. Boodberg could claim that a character's form is determined by the phonetics of its parts, but since the time of the character's invention all that information has been lost, and it must be read in some other way. For example, the character could be borrowed by speakers of another language, and thus all correspondence between the form of the character and the phonetics of the host word it represents would be unavailable. This scenario is not a problem for Boodberg, but for DeFrancis it would force a change to a view that there are two ways to interpret the characters, one phonetically and the other not.

Most of the time, the purpose of reading is to recover meanings intended by the writer, and so I will call a symbol of a writing system "direct" if it maps directly onto some representation of a meaning without first apprehending the phonology associated with the symbol.[6]

Direct: symbol → meaning → phonology
Indirect: symbol → phonology → meaning

This is oversimplified somewhat, but it will do for now. So, for Defrancis (1984), Chinese writing is indirect. (Indirectness in the sense of this paper is sometimes also called "obligatory phonological recoding".[7]) Many others embraced the idea that Chinese characters were at least mostly or perhaps even always indirectly interpreted. Boltz (1994), acknowledging his debt to Boodberg, writes:

---

[6] The "direct" vs. "indirect" terminology I take from Baron (1977).

> We may get from print to meaning either directly – as when we use pictures or maps, and possibly when we read a sentence like *I saw the son* – or indirectly, through sound, as when we first read a word we have only heard before. ((Baron 1977: 176; quoted in Coltheart 2005:8)

This terminology is not uniform across researchers, so care is required when reading other authors. The important point is that the direct pathway can access a meaning without first constructing a phonological representation, as Creel requires. For a clear discussion of a more elaborate and more adequate model, which nevertheless shares the property of a direct mapping to semantics, see Coltheart (2005).

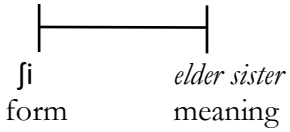
[7] It is important to note that a character might be directly interpreted in the sense of this paper and still the accessing of the phonology could be obligatory. It would just be contingent on the prior accessing of the meaning.

> More than a century and a half ago, Du Ponceau … set forth an eloquently expressed and clearly reasoned "dissertation" on the Chinese system of writing wherein he showed that claims about the exotic, even bizarre, nature of the Chinese script, and its ostensible "ideographic" basis, are naïve and untenable, and that Chinese writing, like writing everywhere, is simply a graphic device for representing speech. (1994, vii)

> …each Chinese character is in fact conventionalized sign that makes a certain combination of sounds, usually a word (more technically, a *morpheme*), visible, and, when read, it is re-translated into that combination of sounds, which *then* [emphasis added] is understood as having an associated meaning. (1994:9)

4. The nature of morphemes

We saw above that Boodberg recommends the term *logograph* for symbols like Chinese characters, because they represent words. Here Boltz suggests that characters represent morphemes. It's important to note that neither of these assertions in themselves settle the question of the (in)directness of the characters. This is because morphemes (and words) are complex entities. A morpheme is a form associated with a meaning.[8] So the morpheme associated with the character 姉 looks something like this[9]

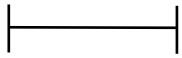


Varying the example a bit, we can ask, for example, if other languages have a word for what English speakers mean by 'pig'.

---

[8] It might be better to say that morphemes are forms which have a function, since there are items that we are inclined to call morphemes that have clear functions but no apparent meanings, such as the thematic vowels in Romance languages (Anderson 1992:53), the augmenting formative in imperatives in some Bantu languages (Inkelas and Zoll 2005:31-2), or the stem forming vowel /a/ in Dakota (Shaw 1980:33). But for our purposes here we will stick with forms and meanings, since the point I wish to make applies to meaningful morphemes.

[9] I use Japanese in this and all other examples, unless otherwise noted. I represent meanings with italics, but any representation would do. For example, we could represent the meaning of 'elder sister' as ^**eldersister´** as in Montague (1973) which indicates a function from world-time pairs to sets. But this is rather fancy, and it isn't necessary here for us to commit to any particular method of representation. In this example I have also used the International Phonetic Alphabet to represent the phonetics of the morpheme so as to emphasize its form, but henceforward I will simply use an alphabetic version of the form. It should be kept in mind that by form we mean the phonology and not the written form of the word.



	form	meaning
English:	'pig'	*pig*
Dutch:	'varken'	*pig*
Japanese:	'buta'	*pig*

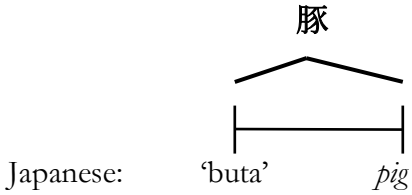
On the terminology we're considering here, if the character for *buta* in Japanese is direct, we get

豚 → *pig* → 'buta'

but if it is indirect, we get

豚 → 'buta' → *pig*

For people who have learned Chinese characters, or tried to as I have, it's intuitive that *kanji,* for example, map to both phonology and semantics, since sometimes the learner can remember the phonology but not the semantics, or vice versa. If this is so, then the picture we are looking at is like this, where a character maps onto both phonology and semantics, but independently. There are two routes to the phonology of a character, and thus this model is called the "dual-route" theory of reading. For elaboration and discussion, see Coltheart (2005).



Gradually, as skill improves, it seems like the character comes to represent both phonology and semantics simultaneously, but this should not obscure the complexity of the morpheme. If these two routes and their destinations from the character are realized in different neural pathways, we'd expect to see cases where once excellent readers, because of some brain trauma, fail to recover either the phonology or the semantics for a character, but not both. And we in fact find such cases, as we will discuss below.

5. Creel and ideograms

Herrlee Glessner Creel (1904-1994) was Professor of East Asian Languages at the University of Chicago from 1936 to 1974. When he retired he was the Martin A. Ryerson Distinguished Service Professor in Far Eastern Language and Civilizations, and the Creel Center for Chinese Paleography

at the University is named for him. Creel's scholarship was wide-ranging. Among the topics in his 1937 book *The Birth of China* are the rise of cities, warfare, religion, literature, and marriage. But for us of course it is his remarks on Chinese characters, remarks that drew the ire of Peter Boodberg, that are of primary interest.

I am going to argue in this section that what Creel meant by "ideogram" is a graph that is interpreted directly, that is, it is mapped directly to the meaning edge of a morpheme.[10] The reason this hasn't been perfectly obvious from his publications of now eighty years ago is that he did not have a good handle on what meanings are, which is not really surprising given the intellectual context in which he was working, as we observed above. Indeed, the very idea of mapping to the meaning edge of a morpheme is, so far as I am aware, introduced in this paper. Furthermore, we will see that there is some fuzziness in his handling of the notions of meaning and morpheme, and it seems to me that Boodberg was correct in judging some of Creel's analyses as being rather far-fetched. Even so, I will maintain that the most accurate up-to-date construal of Creel's view is that Chinese characters are symbols that are directly mapped to the meaning edge of morphemes. That's what Creel thought an ideogram is.

It must be said that Creel is not completely clear or consistent when he writes of the "ideographic element" of a character, but it is certain that ideography involves elements that are not phonetic. He sometimes describes characters as being a "graphic representation of thought" (Creel 1936:85), but other times he is clearly trying to explain the form of a character in terms of meaningful parts. For example, there is a direct exchange between Boodberg and Creel about the character we noted above for 'horse':

馬

They both agree that this character derives from an archaic pictogram of a horse.

> While the horse's legs and tail continue to be clearly reproduced, the primitive picture of the head is supplanted by a graph which represents nothing but the *eye* of the animal, now with a flowing *mane*, now without. (Boodberg (1937:352 p.386 in Boodberg (1979)); quoted by Creel (1938:283).

For Creel, the replacing of the representation of a head with an eye (目) is standard procedure and he cites other cases where he thinks this happens. For Boodberg, the addition of the character for 'eye' is phonetic.

---

[10] Coltheart (2005) observes that Ferdinand de Saussure appears to be the first to suggest the "dual-route" model of reading, which was just outlined above. Perhaps not coincidentally, Saussure also uses the term 'ideograph':

> We read in two ways: a new or unknown word is spelled out letter by letter; but a common, ordinary word is embraced by a single glance, independently of its letters, so that the image of the whole word acquires an ideographic value. (de Sassure 1959:34)

(The word in the original French is 'idéographique'.) De Saussure thinks this is quite useful, as it distinguishes words that sound alike, but have different meanings. It appears that de Saussure thought that words can be interpreted directly, in the sense of this paper.

But at other times it appears that Creel is making a claim about how characters are processed:[11]

> We [English speakers] have specialized on the representation of sounds; the Chinese have specialized on making their writing so suggestive to the eye that it immediately calls up ideas and vivid pictures, without any interposition of sounds. (Creel 1937:159)

A charitable interpretation, construing "ideas and vivid pictures" as meanings in our terms of Creel's description of Chinese writing would be that he thinks it is direct, i.e. that characters map to a meaning directly, or as we might say, connect directly to the meaning edge of morphemes, instead of being routed through a phonological interpretation. But DeFrancis does not see this possibility (1984:141):

> … the statement is absurdly false, as can be attested by any reader of this book who has not studied Chinese. Simply look at the characters sprinkled throughout the work and note how many or few immediately call up ideas and vivid pictures without any interposition of sounds.

This is an unfortunate misinterpretation.[12] Creel definitely did not believe that most Chinese characters were pictograms. In his 1936 paper "On the Nature of Chinese Ideography, he writes

> On the other hand, Chinese is not, and was not three thousand years ago, a pictographic language in the sense that it consisted of writing by means of pictures all or most of which would be readily understood by the uninstructed. (Creel 1936:91)

He also definitely did not believe that Chinese characters were semasiograms. In *The Birth of China* (165), he notes that many characters, such as 来 (*come*), are formed by the "rebus principle", in which a character meaning one thing is used to represent a completely different meaning simply because the words for those two meanings sound alike. He could not make this argument unless he believed that the ideas called forth by the character were rigidly connected to a form. In his 1936 paper, he says about this case

> For instance, the very common character *lai* 来 'come' is actually a pictograph of a stalk of growing grain. But although it occurs numerous times in the Shang bone inscriptions, it

---

[11] We should note here that this remark appears in a book intended for a general audience, and thus we may be inclined to give Creel some license for drama. He writes in the Preface (1937:11):

> This book is not written for specialists… My aim, in writing it, has been to make it readable, and as interesting as possible, for the general intelligent reading public.

[12] DeFrancis entertains another interpretation, that the ability to "grasp an idea" from the character is limited to those who have been "instructed". But he thinks this makes Creel's statement "inanely true" on the grounds, it appears, that all readers of all writing systems, once instructed, can do this. I think DeFrancis is badly confused here. The issue isn't whether skilled readers readily construct or recall vivid pictures when they read. It is rather whether or not they do so by first accessing a phonological representation. Creel says no, DeFrancis says yes. As we will see, this is not such an easy question to answer, but in any event, there is nothing "inane" about it.

> always, according to Lo Chen-yu, stands for the abstract verb, never for the object of which it is a picture. (Creel 1936: 93)

The character is linked to a form, 'lai' without which the rebus will not work. He also discusses examples of compound characters.

> The tenth and last character in this sentence is pronounced *shih*; it means 'house' or 'building'. The Shang form was
>
> 
>
> .
>
> Here we have illustrated a new and important principle for the formation of characters. The dome shaped outer line represents a house and, strictly speaking, it should be sufficient to convey the idea. But the Shang people had many words for various kinds of houses and buildings, and *they wished it to be quite clear which word was meant* [emphasis added]. The sound of the word intended here was like the sound of the character which is drawn inside the house. What they did was to take the pictograph meaning 'house' and a character having a sound identical with or very similar to the ancient equivalent of *shih*, and combine them into a character which indicates 'a word meaning house and pronounced *shih*. The modern form is composed of the modern equivalents of these two elements, 室. (1937:169)

But if Creel knew that few characters were pictograms, and that characters are rigidly linked to a phonetic form, what could he possibly mean by saying that the characters call up ideas and pictures "without any interposition of sounds"? He must mean that characters can link to the meaning edge of a morpheme. Today, I think we would be reluctant to identify meanings with thoughts or pictures, since it seems thoughts are broader than meanings, i.e. people can think things which are not the meanings of any expression in an external language, and certainly the meaning of 'pig' is not a picture of a pig. Creel is clearly struggling with what it is exactly that characters "call up". In fact we today might well struggle with this ourselves. I've construed the meaning of a word like 'pig' as a function from worlds and times to sets, but I don't insist on this. What's important in all of this is that Creel consistently emphasizes that characters map to mental representations without first accessing phonology. This passage from the 1936 paper is typical:

> It [Chinese writing] has been described as a system of ideography. It has been hailed as something unique among the literary languages of the world, a system by which ideas are presented to the mind by visual images, with little assistance from the phonetic principle. (1936:105)

And later in the same paper:

> And as for writing, there are some to whom the procedure of representing thought directly to the mind of the reader through images will seem less artificial than the procedure of phonetic writing, in which the representation of sound is interposed. (1936:144)

It is crucial and perhaps worth re-emphasizing that Creel thought every character had a fixed linguistic representation, in whatever language the characters are used to write. Meanings may be

common across languages, and in those languages they are linked to particular forms. [13] The meaning *pig* maps to 'varken' in Dutch, 'buta' in Japanese, 'pig' in English. He almost always gives the phonological representation of a character. For example, "Again, Professor Boodberg tells us that 東 *tung,* 'east' …" (1938:278). This example is typical, and shows he did not think characters were semasiograms. He knows characters map to specific linguistic forms, but they link to meanings "without the interposition of sounds". He must mean the characters are directly interpreted, in our sense, i.e. they map to the meaning edge of morphemes.

This should not be obscured by the observation that some of Creel's analyses of particular characters seem a bit of a stretch, something that was sure to infuriate Boodberg. For example, he observes that the character for *curtain, perfume bag* is 幃 which he analyzes as 韋 "barrier, protection, made of 巾 cloth." (1936: 148) Maybe. But my *kanji* dictionary[14] gives the *on* reading for 幃 as I (IPA /i/), the *on* reading for 韋 also as I (with the meaning *leather*) and the *on* reading of 巾 as KIN, meaning *cloth*. So it seems at least possible that 韋 is a phonetic in 幃.[15] In fact, in the 1938 paper Creel owns up to some over-extensions:

> As a result of five years of further study since the first writing of my paper "On the Nature of Chinese Ideography", I now believe that at that time I was not sufficiently conscious of the bearing of phonetics on some of the important problems in the development of Chinese writing. I made, in my thinking if not my statements, the same mistake that is made by too ardent partisans of phonetic interpretation, in seeking to claim too much. (1938: 289)

Though we may be doubtful, with Boodberg, of some of Creel's analyses, what's important for my purpose here is the kind of thing he thought Chinese characters are.

Summarizing, it is useful to anachronistically construe the dispute between Boodberg and Creel as being about whether or not semantic representations can be accessed directly, without a prior phonological analysis.

Direct: character → meaning → phonology
Indirect: character → phonology → meaning

For Boodberg, direct interpretation is impossible or at least theoretically suspect, since meanings themselves are theoretically suspect, a stance he adopts from Bloomfield. DeFrancis follows

---

[13] This point is stressed by McDonald (2009), though he does not ascribe such a position to Creel, writing "Chinese characters are and always have been interpreted in relation to a particular language…" (2009:1193)

[14] Spahn, Mark and Wolfgang Hadamitzky (eds.) (1996) *The Kanji Dictionary*. Tokyo: Charles E. Tuttle Company.

[15] Professor Sampson kindly pointed out to me that "韋 and 幃 are perfect homophones in Mandarin (wei2) and as far as anyone can tell always have been." (personal communication September 16, 2017)

Boodberg, though I have to confess that I am uncertain about his reasoning. Creel, on the other hand, sees characters as mapping directly to meanings, without the "interposition of sound".

6. morphemes, again

The failure to appreciate the complexity of morphemes is fairly widespread, and so I want to pause here to stress and elaborate this point. English has what we might call "regular rules of spelling" which allow those who have learned the system to make reasonably good predictions about the phonology of a word they have not seen before. For example, the letter <c> sometimes maps to /s/ and sometimes to /k/, but which one is largely determined by the following vowel. If the vowel is mid or high front vowel, i.e. /e/ or /i/, <c> maps to /s/. Otherwise, it maps to /k/. So, seeing a new word like <cinon> will likely induce the guess /sɪnan/, and <canin> will likely induce /kænɪn/.[16] Nonsense syllables, like the famous *wug*[17], are pronounceable. However, there are many other words which are exceptional, in that their pronunciation does not follow from the regular rules: they are irregular. A good example is *aisle*.

How does one read such a word? It could be that one just memorizes that the phonology associated with this written sequence is /aijʌl/, and the morpheme is thus retrieved. (This is sometimes called "addressed phonology" (Patterson 1982)). But it could also be that the sequence is mapped first to ^**aisle'** i.e. the meaning of 'aisle' or, as we would say, the meaning edge of the morpheme associated with 'aisle', and is thereby linked to its pronunciation in advance of a determination of the phonology. Patterson and Hodges (1992) suggest that access to meanings facilitates oral reading of irregulars since it biases the reader to the irregular phonology against the competing regular phonology. That's why readers who have compromised access to meaning tend to over-regularize. The point I want to stress here is that if words like 'aisle' are directly mapped to their meanings, this does not make them semasiograms, since ^**aisle'** has a fixed linguistic interpretation, namely, of course, 'aisle'.

Studies of patients with acquired reading disorders have long revealed strong evidence for both direct and indirect access, because there are people who lose one pathway or the other but not both. Surface dyslexics have severe deficits with words like 'aisle', but not regular pseudowords words like 'wug'. They are thus, to a first approximation, limited to the indirect path. Phonological dyslexics have the reverse problem, reading words like 'aisle' but not 'wug'. They have lost the ability to assemble a phonological representation using regular rules of spelling. Another way to put this would be to say that phonological dyslexics can no longer access lexical entries via phonology. They must access lexical entries in some other way, for example, via meanings, and then can gain the phonological representation. 'Aisle' (and irregulars like it) must read directly.[18]

---

[16] The situation is actually a bit more complicated. For some elaboration, see, for example, Venezky (1999:116ff.)

[17] Berko (1958) showed that children can productively produce novel plurals of nonsense words, such as replying "wugs" to the question "This is a wug. Now there are two. There are two ___"

[18] The literature on this issue is vast, and my description here is simplified. The point is that items in a writing system could map to a morpheme without first building a phonetic representation. I am arguing there that Creel is proposing that Chinese characters do just that. Of course it could turn out

7. Creel's heirs

I argued above that Creel was an early champion of the idea that Chinese characters are directly interpreted. It is in this sense that Geoffrey Sampson and Insup Taylor are heirs of Creel's view. This would probably come as a surprise to Sampson. Sampson and Chen (2013) is primarily an argument against Boltz (1994) which we mentioned earlier. But there is a brief introductory section on the debate between Boodberg and Creel (Sampson and Chen 2013: 257):

> Creel argued that the script was purely 'ideographic'; indeed he seems to have believed that, as used in the Classical period, it did not represent utterances of a spoken language at all (Creel 1936:125). Boodberg by contrast held that all complex Chinese graphs were phonetically motivated…Both of these accounts seem misguided. In Creel's case it is not necessary to argue this at length, because probably no knowledgeable scholar would support his account today. Suffice it to say that we do believe that written Chinese was created as a system for recording utterances of the contemporary spoken Chinese language.

This is a badly misleading characterization, surprising, I think, for someone of Sampson's usual carefulness and stature. When we look at what Creel actually wrote, I believe we can see that the point he was trying to make was quite different from what seems to Sampson. Creel is arguing against the view expressed by Karlgren[19] about the literature of the Chou dynasty that "these old texts are the natural reproduction of the spoken language". "It is the opinion of the writer," Creel says, "that this is impossible, that the language of the old texts could not have functioned as a spoken language." (Creel 1936:125)

Sampson agrees that writing systems can lose "touch" with the associated spoken language, so the real question here is whether or not this happened during the Chou dynasty. Personally, I have no opinion on this issue. But whatever the case, it does not follow that Creel thought the writing system was not connected in some direct way with the language. He writes, "there is nothing, however, to preclude the possibility that conversations, like everything else, were reduced to the literary style when written." (Creel 1936:126) Furthermore,

> But to return to our question – why, if all this be true, have so many competent Occidental scholars held Chinese writing to be chiefly an attempt, dismally unsuccessful, to represent sounds? (Creel 1936:126)

Sampson and Chen (2013:258):

> It is perhaps natural for Western scholars, whose native languages are all written alphabetically, to assume that a script adequate for comprehensively recording the utterances of a spoken language must necessarily be based on a phonetic principle…and, in the extreme form in which Boodberg and Boltz express it, we do not believe that the assumption is true of Chinese script.

---

that this view is not true, and thus Creel would be mistaken. But his proposal is definitely not incoherent.

[19] There is no nearby reference in Creel's text, but I believe he is referring to Karlgren (1926).

I think it is striking how similar the views of Sampson and Creel, properly understood, are. They both deny that the interpretation of Chinese characters is necessarily indirect, in the sense of this paper. Both think that a Chinese character is rigidly connected to a phonological form, given a language, that is, neither thinks that Chinese characters are semasiograms. Sampson's way of expressing these things is more up to date, but apart from that it is very difficult to see a difference between them.

I think it is largely true, as we have seen, that many people who write about Asian writing systems tend to be aggressive and dyspeptic or prone to exaggeration. Here are three more:

> Japanese orthography shares with English the distinction of being the worst of its class, except that instead of being the worst of a good lot, it is the worst of a bad lot. Hannas (1997:27)

> Those sounds [of Japanese], simple and few in number, are very well suited to notation by an alphabet, and it is perhaps one of the tragedies of oriental history that the Japanese genius did not a thousand years ago rise to its invention. Certainly when one considers the truly appalling system which in the course of centuries they did evolve, that immense and intricate apparatus for recording a few dozen little syllables, one is inclined to think that the western alphabet is perhaps the greatest triumph of the human mind. Sansom (1931:138)

> The complex Japanese language and its writing system are inventions of the devil, designed to prevent the spread of the gospel. Attributed to Francis Xavier (1506 - 1552), Spanish Jesuit Missionary in Japan. Taylor and Taylor (1995:279)

But in my personal experience the two book-long surveys of Chinese, Korean, and Japanese by Insup Taylor and M. Martin Taylor (written mostly by Insup Taylor) are refreshing exceptions. The tone is relaxed, and the comments frequently informal but often very insightful. This may be due to Insup Taylor's intimate knowledge of Chinese, Korean, and Japanese. For example,

> Flipping through a dictionary, I found another character 湿 whose meaning 'damp' I know, especially because it has the water radical on the left, but whose sound I do not remember in any of the three East Asian languages. (2014: 414-5)

They do not mention Creel, but if I am right about the proper interpretation of Creel's work, the Taylors are clearly in agreement with him.

> The meaning of a morpheme is directly and instantly extracted from one distinctively shaped Kanji, but it is indirectly and slowly extracted, through letter-to-sound conversion, from a sequence of Kana or Romaji. (Taylor and Taylor (2014:301)

8. neuropsychology

In this paper I have tried to show that Herrlee Creel's view of ideograms has been widely misunderstood, partly because he didn't quite have the vocabulary he needed to make his position clear, and partly because his detractors were strongly influenced by a now discredited view of the

nature of scientific inquiry. I have suggested that Creel thought that most Chinese characters can map directly to the meaning edge of morphemes. The evidence for this is that a.) he insists that characters connect to meanings without "the interposition of sound" and b.) that characters have fixed linguistic forms, i.e. they are not semasiograms. This view is shared by, among others, Sampson and the Taylors.

If this interpretation and its ramifications are correct, it of course does not follow that the view is true, i.e. it is still possible that Creel, Sampson, Taylor, and others are mistaken, and that it turns out that in fact characters must access phonological forms before accessing meanings.

The neuropsychological literature on this issue is vast, and I don't think consensus has emerged about direct and indirect mappings. For reviews, see Coltheart (2005) and Barron (1986). Here I will only describe a few cases that support the Creelian position, keeping in mind that this issue is by no means settled.

In a 1984 paper, Makoto Iwata describes a patient who lost the ability to read kanji but the ability to read kana was completely preserved, because of what appears to be the loss of the pathway to the morpheme's meaning edge.[20]

> The alexia for Kanji of this patient was of the semantic type. The patient might be able to find one of the multiple homographic phonetic values of the given Kanji letter, but could not attain the correct phonetic value because of a lack of semantic comprehension. (1984:292)[21]

This case is especially interesting since it indicates that kanji map to both edges of a morpheme, but kanji, alas for this patient, are phonetically ambiguous, often with multiple *on* (borrowed from Chinese) and *kun* (native Japanese) readings, with each of those readings corresponding to perhaps several different meanings.

For another indication of a direct link from a character to the meaning edge of a morpheme we turn to Chinese. We might expect to find a case where a lesion results in someone who can understand a character but is unable to recover its phonology. Exactly such a case is described by Yu and Butterworth (1992). LSJ had damage to the parietal-temporal-occipital junction.

> However, he felt he knew the meaning of 5,570 characters marked by ticks [in a dictionary], which he failed to pronounce. Apparently, LSJ retained in his vocabulary 6,060 characters whose meaning he still knew (though not all precisely). Thus, only for 8% of his total reading

---

[20] For an updating of Iwata's analysis, which does not affect the point made here, see Sakurai (2004).

[21] As I mentioned earlier, Iwata also observed the kanji cannot be semasiograms, except that he calls them ideograms.

> Although the word 'ideogram' is commonly used for morphograms, it is not only inappropriate but also misleading because most of the so-called ideograms have established phonetic values and have to be pronounced, not arbitrarily but according to these phonetic values. (1984:290)

To which, if I am interpreting Creel correctly, he replies, but ideograms have established phonetic values! This is part of the "quagmire" I referred to at the beginning of this paper.

> vocabulary could LSJ get the correct pronunciation (490/6060 = 0.08). This showed that knowledge of the sound of characters could be dissociated from knowledge of meaning. (1992:362)

See also, Weekes and Chen (1999) for a description of a case in which access to meanings but not pronunciations is compromised in a Chinese speaker.

Finally, as an indication that direct access may be more widespread than Creel thought, and maybe universal, I mention an interesting case reported by Hanley and McDonnell (1997) of an English speaker who suffered a lesion in the left temporal lobe. PS's ability to read aloud words was severely compromised, even though his comprehension of those same words was perfect. Given the definition of one member of a homophone pair, such as "to measure how heavy an object is" PS could write the appropriate word easily, but not the other member of the homophone pair, in this case "way". Hanley and McDonnell write, "The conclusion must be that PS is spelling via a direct link (that bypasses phonology) between the semantic system and the orthographic output lexicon" (1997:28)

9. conclusion

Herrlee Creel thought that ideograms are graphs that can directly access the meaning edge of morphemes, though he struggled some with the terminology. He thus stands at the beginning of the movement to turn scholars' attention away from idealized and romanticized notions of the nature of Chinese characters to a focus on how they represent the languages they are used to write.

For example, Umberto Eco reports that Francis Bacon had a view of Chinese characters that is close to, but importantly distinct from, Creel's conception.

> For Bacon, then, Chinese ideograms were examples of signs which, though arbitrary and conventional, stand directly for a signified notion without the mediation of a verbal language. (1995:213)

This made Chinese writing a candidate for a perfect language, where symbols reveal the true nature of things. (See also Arika Okent (2009) especially the chapter on *John Wilkins and the Language of Truth*.) It is Bacon's view and terminology that may have confused subsequent critics of Creel. As I have argued in this paper, Creel's belief could be summarized exactly by Eco's report of Bacon's view, except that instead of "verbal language" Creel said "sound", a very different thing.

Bibliography

Anderson, Stephen R. (1992) *A-Morphous Morphology*. Cambridge: Cambridge University Press.

Baron, J. (1977) Mechanisms for pronouncing printed words: use and acquisition. In D. LaBerge and S.J. Samuels (eds.) *Basic Processes in Reading: Perception and Comprehension.* Hillsdale: Erlbaum.

Barron, Roderick W. (1986) Word recognition in early reading: A review of the direct and indirect access hypotheses. *Cognition* 24: 93-119.

Berko, Jean (1958) The Child's Learning of English Morphology. *Word* 14.2-3.150-177.

Bloomfield, Leonard (1933) *Language.* Chicago: University of Chicago Press.

Bloomfield, Leonard (1936) Language or Ideas? *Language* 12:89-95.

Boltz, William G. (1994) *The Origin and Early Development of the Chinese Writing System.* New Haven: American Oriental Society.

Boodberg, Peter A. (1937) Proleptical Remarks on the Evolution of Archaic Chinese. *Harvard Journal of Asiatic Studies* 2. 329-372. Reprinted in Boodberg (1979).

Boodberg, Peter A. (1940) "Ideography' or Iconolatry? *T'oung Pao* 35.4.266-288. Reprinted in Boodberg (1979).

Boodberg, Peter A. (1979) *Selected Works of Peter A. Boodberg.* Compiled by Alvin P. Cohen. Berkeley: University of California Press.

Coltheart, Max (2005) Modeling Reading: The Dual-Route Approach. In M.J. Snowling and C. Hulme (eds.) *The science of reading: A Handbook*. Oxford: Blackwell.

Creel, Herrlee Glessner (1936) On the Nature of Chinese Ideography. *T'oung Pao* 32.85-161.

Creel, Herrlee Glessner (1937) *The Birth of China*. New York: Frederick Ungar Publishing Co.

Creel, Herrlee Glessner (1938) On the Ideographic Element in Ancient Chinese. *T'oung Pao* 34.265-294.

DeFrancis, John (1984) *The Chinese Language: Fact and Fantasy.* Honolulu: University of Hawaii Press.

DeFrancis, John (1989) *Visible Speech: The Diverse Oneness of Writing Systems.* Honolulu: University of Hawaii Press.

De Saussure, Ferdinand (1959) *Course in General Linguistics*. Wade Baskin, translator. New York: McGraw-Hill Book Company.

Eco, Umberto (1995) *The Search for the Perfect Language.* (James Fentress, trans.) Oxford: Blackwell Publishing.

Haas, W. (1976) (ed.) *Writing Without Letters.* Manchester: Manchester University Press.

Hanley, J. Richard (1997) Are Reading and Spelling Phonologically Mediated? Evidence from a Patient with a Speech Production Impairment. *Cognitive Neuropsychology* 14.1.3-33.

Hannas, William C. (1997) *Asia's Orthographic Dilemma.* Honolulu: University of Hawaii Press.

Inkelas, Sharon, and Cheryl Zoll (2005) *Reduplication: Doubling in Morphology.* Cambridge: Cambridge University Press.

Iwata, Makoto (1984) Kanji versus Kana: Neuropsychological correlates of the Japanese writing system. *Trends in Neuroscience* 290-3.

Karlgren, Bernhard (1926) *Philology and Ancient China*. Oslo: Instituttet for Sammenliguende Kulturforskoing.

Lurie, David B. Language, writing, and disciplinarity in the Critique of the "Ideographic Myth": Some proleptical remarks. *Language and Communication* 26:250-269.

McDonald, Edward (2009) Getting over the Walls of Discourse: 'Character Fetishization' in Chineses Studies. *The Journal of Asian Studies* 68.4.1189-1213.

Montague, Richard (1973) The Proper Treatment of Quantification in Ordinary English. In J. Hintikka, J. Moravcsik, and P. Suppes (eds.) *Approaches to Natural Language: Proceedings of the 1970 Stanford Workshop on Grammar and Semantics.* Dordrecht: D. Reidel Publishing Company, Reprinted in Richard Montague, *Formal Philosophy.* New Haven: Yale University Press.

Okrent, Arika (2009) *In the Land of Invented Languages.* New York: Spiegel and Grau.

Patterson, K. (1982) The relation between reading and phonological coding: Further neuropsychological observations. In A.W. Ellis (ed.) *Normality and pathology in cognitive function.* London: Academic Press.

Patterson, K and J. Hodges (1992) Deterioration of word meaning: implications for reading. *Neuropsychologia* 30:1025-40.

Plaut, David, James McClelland, Mark Seidenberg, and Karalyn Patterson (1996) Understanding normal and impaired word reading: computational principles in quasi-regular domains. *Psychological Review* 103.1.56-115.

Sakurai, Yasuhisa (2004) Varieties of alexia from fusiform, posterior inferior temporal and posterior occipital gyrus lesions. *Behavioral Neurology* 15.35-50.

Sampson, Geoffrey (1985) *Writing Systems.* Stanford: Stanford University Press. (2nd edition 2015 Sheffield: Equinox Publishing Ltd.)

Sampson, Geoffrey and Zhiqun Chen (2013) The reality of compound ideographs. *Journal of Chinese Linguistics* 41.2.255-272.

Sansom, G.B. (1931) *Japan: A Short Cultural History.* Stanford: Stanford University Press.

Schafer, Edward H. (1974) Peter A. Boodberg, 1903-1972. *Journal of the American Oriental Society* 94.1.1-7. Reprinted in Boodberg (1979).

Shaw, Patricia (1980) *Theoretical Issues in Dakota Phonology and Morphology.* New York: Garland Publishing, Inc.

Skinner, B.F. (1938) *The Behavior of Organisms.* New York: D. Appleton and Company.

Skinner, B.F. (1957) *Verbal Behavior*. New York: Appleton Century Crofts, Inc.

Taylor, Insup, and M. Martin Taylor (1995) *Writing in Literacy in Chinese, Korean, and Japanese*. Amsterdam: John Benjamins Publishing Company.

Taylor, Insup, and M. Martin Taylor (2014) *Writing in Literacy in Chinese, Korean, and Japanese*. Revised edition. Amsterdam: John Benjamins Publishing Company.

Venezky, Richard L. (1999) *The American Way of Spelling*. New York: the Guilford Press.

Weekes, Brendan and Hui Qin Chen (1999) Surface dyslexia in Chinese. *Neurocase* 5.2.161-172.

Weekes, Brendan Stuart, Wengang Yin, I Fan Su, and Mary Jane Chen (2006) The Cognitive Neuropsychology of Reading and Writing in Chinese. *Language and Linguistics* 7.3.595-617.

Yu, Wengang and Brian Butterworth (1992) Deep and Surface Dyslexia in Chinese. In *Language Processing in Chinese*, H.C. Chen and O.J.L. Tzeng (eds.). Amsterdam: Elsevier.