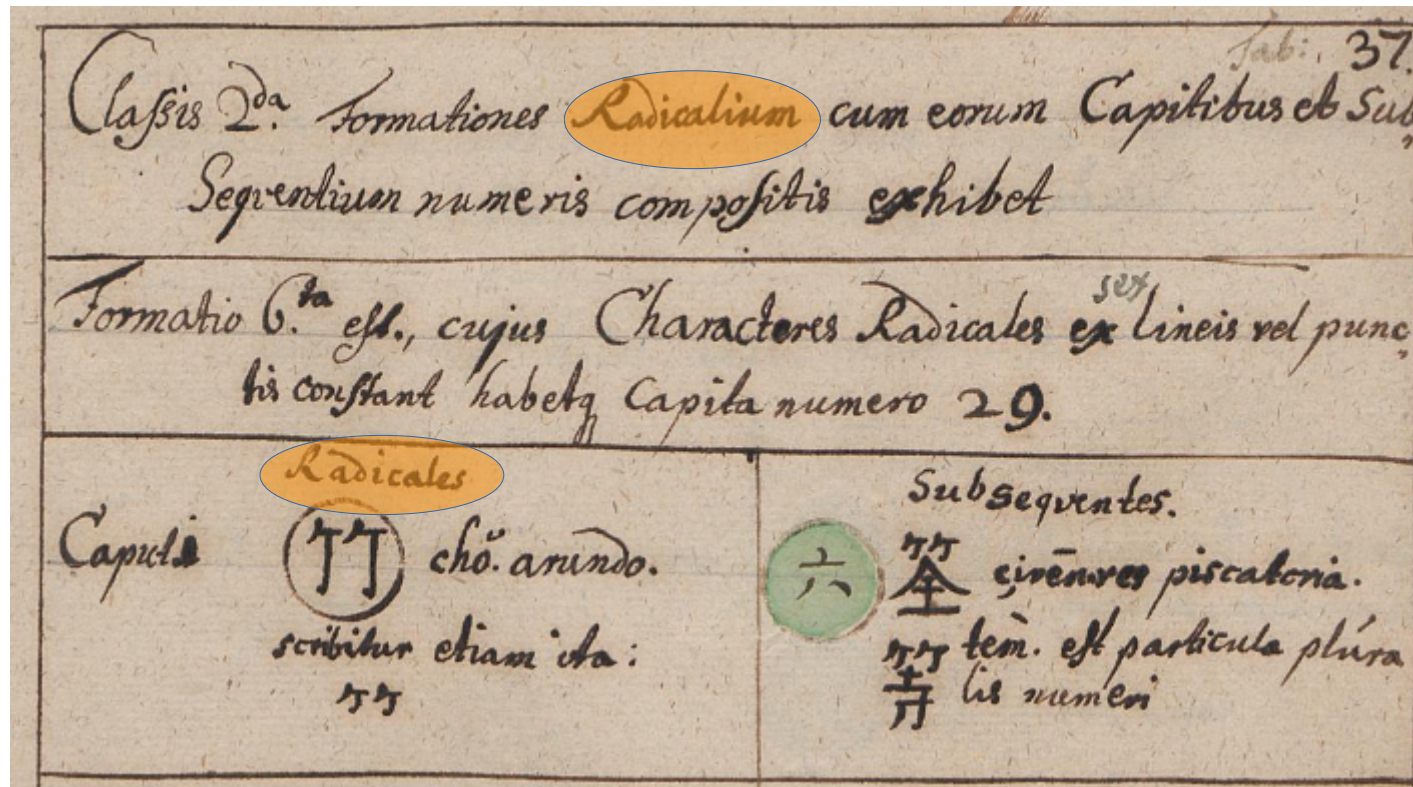# Radical misconceptions:
On the background of European ideas about *bùshǒu* 部首

(Wolfgang Behr, AOI, UZH; with help from Dinu Luca, Taipei & Mårten Söderblom Saarela, MPIWG, Berlin)

1. China: *bùshǒu*

(1) 今敘篆文, 合以古籀. 博采通人, 至於小大, 信而有證. 稽譔其說, 將以理群類, 解謬誤, 曉學者, 達神恉. 分別部居, 不相雜廁.

"Now I have ordered the seal (*zhuàn*) graphs, aligning them with the ancient [graphs] and the [Scribe] Zhòu [graphs]. I have widely selected [glosses] from knowledgeable persons, down to the small and great [details], as long as they were trustworthy and had evidence. By investigating and compiling their theories, I intend to bring into order the groupings of types, to dissolve errors and mistakes, and to enlighten the scholars, such that they reach the subtle intentions. I have divided and differentiated [the graphs] into categorial sections (*bùjū* 部居), so that they are not jumbled up together." (Xǔ Shèn 許慎, ca. 58–147, *Shuōwén* postface)

(2)　此十四篇, 五百四十部也, 九千三百五十三文, 重一千一百六十三. 解説凡十三萬三千四百四十一字. 其建首也, 立一爲耑. 方以類聚, 物以群分. 同牽條屬, 共理相貫. 雜而不越, 據形系聯.

"This [work] comprises 14 chapters in 540 categories (*bù* 部), [featuring] 9.353 graphs, 1.163 'repeats' (variants), and analytic explanations of altogether 133.441 graphs length. When establishing the 'heads' (*shǒu* 首) for these, I set up *yī* 'one' as the beginning. In the process of gathering [graphs] according to the type, objects are separated by means of groupings. Those which are drawn together into one branch association, are linked together via their shared structural principles. Mixed, but not transgressing [the categories], they are strung together with one another on the basis of form (*xíng* 形, or 'of their semantic components'?))." (Xǔ Shèn 許慎, ca. 58–147, *2nd Shuōwén* postface)

➢ compound *bùshǒu* 'category head' first attested in Xú Kǎi's 徐鍇 (920–974) *Shuōwen jiězì xìzhuàn* 説文解字繫傳 [Commentaries attached to *Explanations of the pictographs and analysis of the logographs*] (Wáng and Qiū 2010:80)

➢ widely used only since the early Qīng period, e.g. in the *Sìkù quánshū zǒngmù* 四庫全書總目 [Bibliographical Summaries for the Complete Library of the Four Treasuries], where the editors use the phrase *bùshǒu zhī zì* 部首之字 'characters used at the head of a category' in their 'introductory summary' (*tíyào* 提要)

➢ *bùshǒu* occurs some 140 times throughout the main text of the *Kāngxī dictionary* in a formula signaling crossreferences, but only in one of the many prefatory sections (*Kāngxī zìdiǎn* 3:22 r.)

➢ the term ousted several competing terms such as *bùlèi* 部類 'categorial types', *bùtóu* 部頭 'category heads', *lèifù* 類符 'type symbols', *zìyuán* 字源 'graph originators' etc. (Wilkinson 2012: 34)

Ordering by shared semantic elements is not an innovation by the *Shuōwén;* classifier chains already used in

(a)   'Scribe Leisurly's' (shǐ Yóu 史游, *fl.* 48–33 B.C.) *Jí jiù piān* 急就篇 [Quick Progress Chapters]

(b)   the *Cāngjié piān* 倉頡篇 [Chapters of Cāngjié], itself a collection of earlier lexical lists, collated from quotations during the Qīng period and now extant in Hàn fragment versions retreieved at Níyǎ 尼雅, Dūnhuáng 敦煌, Yùmén 玉門, Jūyán 居延, Fùyáng 阜陽, Shuǐquan 水泉, plus those of unclear provencance recently ac- quired by Peking University (cf. Greatrex 1994, Fukuda 2004, Sūn Shūxia 2013; Lǐ Jìng 2014 [2016], Běidà jiǎn, 2015)

(c)   the long lost *Shǐ Zhòu piān* 史籀篇 [Scribe Zhòu's Chapters], tra- ditionally believed to have been compiled during the reign of King Xuān 宣 of Zhōu 周 (841–782 B.C.) (Park 2016).

Since the 17ᵗʰ century most major *artes minores* (*xiǎoxué* 小學) scholars use the term, e.g. Qián Dàxīn 錢大昕 (1728–1804), Duàn Yùcái 段玉裁 (1735–1815), Wáng Yún 王筠 (1784–1854), Huáng Shòufèng 黃壽鳳 (fl. 1801–50), Féng Guīfēn 馮桂芬 (1809–1874), Guī Wéncàn 桂文燦 (1823–1884), Yǐn Péngshòu 尹彭壽 (1830– ca. 1902), or Xú Dàozhèng 徐道政 (1866–1950) (cf. Chén Yān 2015: 59 and n. 5)

2. Early depictions of Chinese in Europe (cf. especially Schreyer 1992, Luca 2017)

In late antiquity the *Seres* are portrayed as a people conducting silent or in absentia trade, cf. Pliny (23–79)

(3)   *Seres mites quidem, sed et ipsi feris similes coetum reliquorum mortalium fugiunt, commercia exspectant. (...) oris sono truci, nullo commercio linguae... fluminis ulteriore ripa merces positas iuxta venalia tolli ab iis, si placeat permutatio.* (Nat. Hist. VI.20.54–55; VI.24.88, Luca 20–21)

"[T]he Chinese [= Seres], though mild in character, yet resemble wild animals, in that they also shun the company of the remainder of mankind, and wait for trade to come to them. (…) "[T]hey speak in harsh tones and use no language in dealing with travellers. ... [C]ommodities were deposited on the opposite bank of a river by the side of the goods offered for sale by the natives, and they took them away if satisfied by the barter."

Medieval Franciscan travellers such as Giovanni da Piano Carpini (d. 1252), Giovanni da Monte Corvino (1247–1328) don't mention Chinese language or writing, the only exception being William of Rubruck (ca. 1215–1270), who is the first Westerner to comment on the language and writing system (and the last one for almost three centuries!)

(King Louis IX of France dispatching Friar William, May 7, 1253)

(4)   *Isti Catai... loquendo multum aspirantes per nares.* (…)
        [S]cribunt cum punctorio quo pingunt pictores et faciunt in una
        figura plures litteras comprehendentes unam dictionem.'' (Rubruck
        XXVI.9 & XXIX.50)

        "[T]he Cathayans speak in a manner that involves much heavy
        breathing. (…)
        [They] write with a brush like those which painters paint and in a
        single figure they make several letters which form one word."
        (Dawson 1980: 171.172, Schreyer 3, Luca 26)

Roger Bacon, the "black friar" (ca. 1214/1220–1292/1294) and "doctor mirabilis" relies heavily on Rubruck in his encyclopedia. But under the influence of the medieval designation for charter monograms and *rotae* signs in Papal bulls, i.e. composite letter groups used in signatures of important documents (Häring 1955), he is the first person to us the word *characteres* instead of *figurae* for Chinese graphs within his theory of magic functions of signs, especially in cryptography (Friedrich 2003: 92–95, Grévin 2003)

(5) *Cathai orientales scribunt cum punctorio quo pingunt pictores, et faciunt in una figura plures literas comprehendentes unam dictionem, et ex hoc veniunt characteres qui habent multas literas simul; unde veri characteres et physici sunt compositi ex literis, et habent sensum dictionum.* (Opus majus I:389)

"The Eastern Cathayans write with a brush like those which painters paint and in a single figure they make several letters which comprehend one utterance. And from this arises the signs (*characteres*) which have many letters together; whence real and natural signs (*characteres*) are constructed from letters, and they have the meaning of words." (Luca 27, mod. auct.)

Building upon information by the Armenian monk Hayton of Corycos (Het'um, ca. 1245–1314) in his history dictated in 1306 to Niccolo Falconi, the German humanist Johannes Boehmus (Hans Böhm, 1485–1535) is probably the first scholar to point out that the Chinese characters are *fāngkuàizì* 方块字 'tetragraphs'

(6)   *[L]iteris utuntur Romanis quadratura similibus.* (*Omnium gentium mores, leges et ritus ...*1561: 112)

"Their lettres are aftre the facion of the Romaine, all in squares."
(William Watreman transl. 1555)

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Although Marco Polo (ca. 1254-1324) famously has very little to say about the Chinese script, he comments on the diversity of Chinese dialects, bound together by the unity of the writing system, which will become a topos during the following centuries:

(7)   *...in tutta la provincia di Mangi si osserva una sola favella e una sola maniera di lettere; nondimeno vi è diversità nel parlare per le contrade, come saria a dir Genovesi, Milanesi, Fiorentini e Pugliesi, che, ancor che parlino diversamente, nondimeno si possono intendere.* (Ms. Z, Ramusio, Navigazioni, 3: 249)

"...in the whole province of Mangi it is true one observes a single speech (*favella*), and a single way of writing; however, there is a diversity in speech (*parlare*) throughout the country, as you might say of the Genoese, Milanese, Florentines and the Apulians, whom, although they speak diversely, nonetheless are able to understand one another." (Luca 30, Rosenfield 3: 249)

This is the beginning of the "universality myth" (DeFrancis), the idea that Chinese writing is independent on speech, and potentially a universal sign system. The first clear articulation is found in Francis Xavier (1506–1552; *Emformação da Chyna, mamdada per hũu homem a mestre Framçysquo*):

(8) *Es cossa para mucho notar que los chynas y los japones no se entyenden quando hablan, porque son muy dyversas las lenguas; mas los japones que saben la letra de la Chyna, entyéndensse por escrytura, y no quando hablan.* (…) *cada letra de la Chyna synifyqua una cossa.* (MHJ 22, cf. Luca 32)
"It is very remarkable, while the Chinese and the Japanese do not understand one another when they speak, since their languages are very different from each other, the Japanese who are knowledgeable about the letters of China can make themselves understood in writing, though not by speaking. (…) the Chinese manner of writing is such that each character indicates one thing."

The emergent trope is elaborated upon very quickly by the French Jesuit Pierre Poussines (1609 –1686), who writes

(9)   *Nempe literae Sinicae non vocis humanae sonos varios, ut nostri literarum characteres, sed res protinus ipsas exprimunt, ideoque sunt innumerabiles. Discunt autem, qui Doctrinae nomen affect- ant, Iapones literarum istarum potestatem; hoc est, non quod verbum aut vocabulum indicent, sed quam rem designent.*

‘‘For the Chinese letters are not like the characters we use, which express the various sounds of the human voice, but they represent the things themselves, and so are innumerable. And those people in Japan who affect to be learned learn the signification of these letters, that is[,] the objects which they designate, not the word or name which they represent.''

… and repeated over and over in sources of the 17th-18th cc. Therefore learning Chinese characters should proceed via iconographic imitation

(10) *Sublevando autem Elementariorum, & Magistrorum labori hoc ex-cogitarunt compendium. Proponunt in tabula literas Sinicas, cuique imponendo pictam effi giem ipsius rei, quam significat. Exempli gratia, qui character homini designando institutus est, ei forma expressa hominis incumbit. Sic in caeteris. Inde fi t ut ad-moniti conspectu signi Iapones lectores, easdem quidem res cogitationi subjiciant, quas Sina scriptor in mente habuit…*

"And in order to make elementary instruction easier and the labour of teachers lighter, they have hit upon this compendious method. They set forth on a board the Chinese letters, putting upon each a picture of the thing which they signify—as, for example, they put a representation of a man upon the character which is fi xed on to signify a man, and so on. So the Japanese, when they read, have the representation to guide them, and in their minds they think of the thing which the Chinese who has written the character had in his mind..." (Luca 37)

Only rarely do we find comments on the sound of the language in this period from early Portuguese sources like from the Portuguese drago-man Duarte Barbosa (d. ca. 1546):

(11) *Hanno proprio il parlare, e del tono e proferire come è la lingua todesca.* (Stanley ed. 1866: 205)

"[The Chinese] have an idiom of their own, which has the tone and way of uttering like the German language." (cf. Luca 34)

· which is also found in Fernão Lopes de Castanheda (ca. 1500–1559)

(12) *...tem os Chins lingoa propria, & no tom da fala parecem alemães.*
(H*istória do descobrimento e conquista da Índia pelos portugueses*, 1866: 205)

"… now the Chinese have their own language, which has a tone as if it was German."

D'André Theuet fut telle l'apparence
Qui le premier cheminant l'vniuers
Courut Europe, Afrique, Asie immense.
Premieres pars de ce Monde diuers
Et vid encor l'autre terre quembrasse
Le Ciel vouté sous l'Antarctique Gond
Et le feist voir ainsi qu'il se compaße
Descrit et peint dedans son Globe rond

And, with an a more derogatory twist, in André Thevet (1516–1590):

(13)   *Ils ont en ce païs un langage tout particulier, ayans presque la prolation comme les Allemans, rude & brusque.*

"They have in this country a very particular language, and they have almost the same manner to enunciate as the Germans, harsh and abrupt."

(Luca 34)

In the 16th century, the "universality" idea first articulated w.r.t the relationship between Chinese and Japanese gets applied to the diversity of Chinese dialects as well by Portuguese Jesuits like Gaspar da Cruz (1520–1570)

(14) *E todavia é de saber que também usam de certos caracteres para escrever nomes que são ou parecem ser peregrinos. Esta é a causa porque em toda a China há muitas línguas, de maneira que uma se não entende à outra por fala ... e todos se entendem por escritura. Porque a letra que a todos signifi ca "céu," sendo uma só acerca de todos, uns a nomeiam de uma maneira e outros de outra, mas a todos igualmente signifi ca "céu."* (Tratado da Coises da China 187-88)

"But withal you must know that they also use certain characters (*caracteres*) to write names which are or seem to be outlandish. This is the reason why in all China there are many tongues, in sort that one man cannot understand another by speech ... yet they all understand each other in writing. For example, the character (*letra*) which signifieth 'heaven' to them all, being written in the same way by them all, some pronounce it one way, and others in another, but it signifi es 'heaven' equally to them all. (Boxer 161-2).

It is also in the 16th century that Chinese writing gets associated with Egyptian hieroglyphs, e.g. in Giovanni Lorenzo d'Anania (1545–1609), an Italian geographer and theologian. The combination with incipient theories about Egyptian hieroglyphs as "visible ideas" or "notions", independent of spoken language and thus violating the widespread "surrogationalist" theory of writing going back to Aristotle's *Περὶ Ἑρμηνείας,* which held that writing is a secondary code vis-à-vis the spoken language, established the basis for the long lived "emblematic" theory of Chinese writing.

(15) *...usano come gli antichi Egittij, lettere hieroglifi che: lequali scrivono: imitando la fi gura humana, da alto à basso, maravigliandosi molto di noi... & de gli Hebrei.* (Lorenzo d'Anania, Universale fabrica 205)

"[T]hey use, like the ancient Egyptians, hieroglyphic letters of the human figure, from top to bottom [and the Japanese] also marvel much at us and the Hebrews [i.e. those who write horizontally]." (Luca 81)

But it is only with Michele Ruggieri (1543–1607) towards the end of the 16th century that we get the first descriptions of Chinese tone and monosyllbicity, and isolating typology.

A page from the manuscript Portuguese-Chinese dictionary created by Ruggieri, Ricci, and Fernandez (between 1583-88)

(16) *Quanto al parlare è tanto equivoca che tiene molte parole che sig-*
nifi cano più di mille cose, et alle volte non vi è altra differentia
tra l'una e l'altra che pronunciarsi con voce più alta o più bassa
in quattro differentie de toni.

"[A]s for the spoken language, it is so ambiguous that it has many
words signifying more than a thousand things, and sometimes
there is no difference between one and the other than their being
pronounced with a higher or lower voice in four different tones."
(Luca 89)

(17) *Tutte le parole sono d'una sola sillaba; il loro scrivere più tosto è pingere; e così scrivono con pennello come i nostri pintori. Tiene questa utilità che tutte le nationi che hanno questa lettera, se intendono per lettere et libri, benché siano di lingue diversissime, il che non è con la nostra lettera. Per il che il Giappone, et Sian e Cina, che sono regni molto distinti e grandi, di lingua anco toto coelo diversa, se intendono insieme molto bene e l'istessa lettera potrebbe servire a tutto il mondo. Perciocché questa lettera ag che è posta per il cielo, noi li possiamo chiamare cielo ; il giappone ten , il siano d'altra maniera, il latino lo chiamerà* coelum *, il greco* οὐρανός, *il portughese* ceo *et altri di altro modo; simile dico di tutte le lettere. A questo agiuta che la lettera non tiene articoli, né casi, né numeri, né generi, né tempi, né modi, ma a tutto danno rimedio con certi adverbij che si dichiarano molto bene. Il più litterato tra loro è chi sa più let tere, e questi sono che entrano nei governi e nelle dignità.* (Schreyer 25-26)

"All words are of one syllable; their writing is more like painting, and so theywrite with a small brush like our painters. It has this advantage that all nations that have this letter can understand each other by writing and by books, no matter how different their languages, something our letters cannot do. For this reason Japan, Siam and China, three very different and great kingdoms with totally different languages, understand each other well and the same letter could serve the whole world. Thus, this letter ag which represents the heavens, we can call heavens ; the Japanese ten , the Siamese yet something else, the Roman calls it *coelum*, the Greek *οὐρανός*, the Portuguese *ceo* and others something else; the same goes for all the letters. Here it is an advantage that the letter has no articles, nor cases, nor numbers, nor gender, nor tenses, nor modes, but all this is remedied by certain adverbs which are easily understood. Who knows most letters is the most learned among them and these people become government offi cials and dignitaries."
(Luca 89-90, Ineichen)

> Around the same time the word "Mandarin" is first mentioned for *guānhuà* 官話 and conceptualized as *o seu Latin* ("their Latin") in a letter of Leonel de Sousa (*fl.* 1554– 58, Macau) of 15 January 1556.

> The Chinese writing system is linked to "ciphers or memory devices", which "serve only as reminders" first in José de Acosta's (1540–1600), *Historia natural y moral de las Indias* [The Natural and Moral History of the Indies]

> The writing system is blamed for the backwardness of the Chinese, and semiotic superiority of the alphabet, including Indian abugudas, is celebrated. The "whole science of the Chinese amounts to knowing how to read and to write", it is defective, like "letters and writing that the Mexicans used", "the memory aids and reckonings used by the Indians of Peru."

The absence of [r] and of consonant clusters is first noted in Nicolas Trigault's (1577–1628) expansion of Matteo Ricci's (1552–1610) *De Christiana expeditione apud Sinas suscepta ab Societate Jesu of* 1615, published in Augsburg:

(18) *...havendo loro caratteri assai dalli nostri differenti, nè potendo essi esprimere altri suoni se non quelli della lingua loro, e vi sono alcune delle nostre consonanti, come B. D. R. le quali nella lingua Cinese, non hanno lettera alcuna corrispondente, si che in vece di loro bisognava servirsi d'alcun'altro suono manco differente che sia possibile; dico suono, perche vocali, ò consonanti essi non hanno, servendosi per esprimere le cose, e parole di Ieroglifi ci, in cambio di lettere, hanno però alcuni suoni, che corrispondono in qualche parte alle vocali, e consonanti nostre. Di più non usano mai due consonanti senza vocale in mezo, e terminano le parole per vocale ordinariamente, tolte alcune poche, che fi niscono per M, & N.* (Trigault, Due Lettere, 12 [1613])

➢ proceeding from the constantly repeated observation, that the characters enabled communication between speakers of very different languages (like in the case of Japanese and Chinese) and thus had the potential to be developed into a universal cipher, these developments tied in nicely with theories of mute codes developed by 16th c. cryptographers and were quickly integrated into the Egypto-Chinese origins chronology controversies of the enlightenment (Hartman 1998, Li Wenchao 2008).

➢ at the same time, Chinese characters were regarded as a quasi-pristine ontological system more or less directly representing the lingua Adamica (Kim 2009).

➢ such theories were eventually combined into projects of a universal system of writing overcoming the Babylonian dispersal of languages with scholars such as Hermann Hugo (1588–1629; cf. Friedrich 2003: 103–108, Porter 2001)

- ➢ they culminated in Andreas Müller's (1630–1694) *Clavis Sinica* (Noack 1995, Osterkamp 2010), Gottfried Wilhelm Leibniz' (1646–1717) project of an *ars charactersitica* (Widmaier 1983, Kim 2008) and the christological reinterpretation of Chinese characters by the French figurists, notably Joachim Bouvet (1656–1730), Joseph de Prémare (1666-1736), and Étienne Fourmont (1683–1745) (von Collani 1981, 1985, Lundbæk 1991, Leung 2002, Friedrich 2003).

- ➢ it was the probably the idea of an independence of writing from language, of the possibility of genuine "ideography", which is at the heart of the widespread misconception that *bùshǒu* express the primary semantics of a character, while in most cases they are secondarily added elements, disambiguating homophonic or near-homophonic characters in the same way as "determinatives" or "classifiers" in other logographic writing systems such as Sumerian and Egyptian.

> nothing is "root-like" or "radical" about such a semantic determinative at all: its main purpose is to narrow down the range of possible lexical associations of a 'phonophoric' (*shēng(fú)* 聲符) in what then constitutes a homophonophoric (*xiéshēng* 諧聲) series during the reading process.

> that the lexical root information is carried by the phonetic component of a character is an insight already incipient with the proponents of the so-called 'right-component theory' (*yòuwén shuō* 右文説) first summarized by Shěn Guā 沈括 (1031–1095):

(19) 其類在左，其義在右. (MXBT 3:17)
      "The category is on the left, the meaning is on the right."

> But where did the far more common term radical for *bùshǒu* in European sources come from?

3. "Radicals"

P. Aluaro Semedo Portughese, della Comp.ᵃ di Giesu, Venuto a Roma
Procurator delle Prou.ᵉ del Giapone et della China, nell'an. 1642.
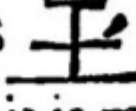
3.1 Character composition

The first mention in Europe that the Chinese characters were composites of a finite set of parts (strokes) is Álvaro de Semedo (1585/86–1658), which also explains the principle of recurring semantic elements in the script. This is the English translation of his book (1655; Portuguese original appears to have been published in 1630s; Mungello, *Curious Land*, 76–79)

Their letters are in all fixty thoufand, enrolled in their *vocabulary*, which they call, *Haipien*, and may be rendred a *great fea*. They the rs more briefe ; For to read, write, compofe, and underftand very well, about eight or ten thoufand letters will ferve the turne : and when they meet with any letters, which they call a *cold letter*, they have recourfe to their *vocabulary*, as we do, when we meet with a *Latin* word that we do not underftand. From hence it is evident, that he is moft learned amongft them, that knoweth moft letters; as amongft us he is the beft *Latinift*, that is moft verft in his *Calipines-Dixionary*. To form all thefe multitude of letters, they ufe only nine ftrokes, or touches of the pen : but becaufe thefe only would not be fufficient for fo great a fabrique, they do joine figures, or perfect and fignificant letters, one into another ; by which means they make other new and different ones, and of a different fignifi- cation. So this line——fignifieth one : croffed with another line ┼ ten,

cation. So this line———fignifieth one : croffed with another line ✚ ten, and having another ftroke at the bottome ⟁ fignifying the earth, and with another ftroke at the top of it ⟁ it ftandeth for King ; adding a ftroke on the left fide of it between the two firft ftrokes ⟁ it is taken for a precious ftone, and by adding certaine other lines, it is meant for a pearle : And this laft figure is every letter to have, that muft fignify a precious ftone, or any other ftone, that is of price and efteeme, although not

counted precious. So every letter which fignifieth any tree muft have joyned with it the letter, which fignifieth wood: and the letter that fignifieth mettall, muft be annexed to the figure which it is put to fignify, as Iron, Copper, Steel; yet this is no infallible rule.

They have alfo, in the compofition of their *Letters*, had refpect to their fignifications: and fo that fquare figure, which we fpake of before, to fignifie the *Sunne*, joyned with another very little different, ftanding for the *Moone*, is called *Min*, and fignifieth Brightneffe. Another which hath the likeneffe of a Portall, called *Muen*, fignifieth a gate: there is another which fignifieth a heart, to which it hath fome refemblance. Now if this letter be placed between the two perpendicular lines, which form the letter that ftandeth for a Portall, it fignifieth *Sadneffe* and *Affliction*, that is, a heart ftreightened and preft in a narrow doore: and every word of *Sadnefs* muft have a heart annexed to it.

.... hold in great efteeme: and they make more

3.2 The term "radical"

An appendix of unknown authorship was supposed to have been included in *Confucius Sinarum Philosophus* (1687), but it didn't happen. Lundbæk writes that it ought to have been composed between 1660–70.
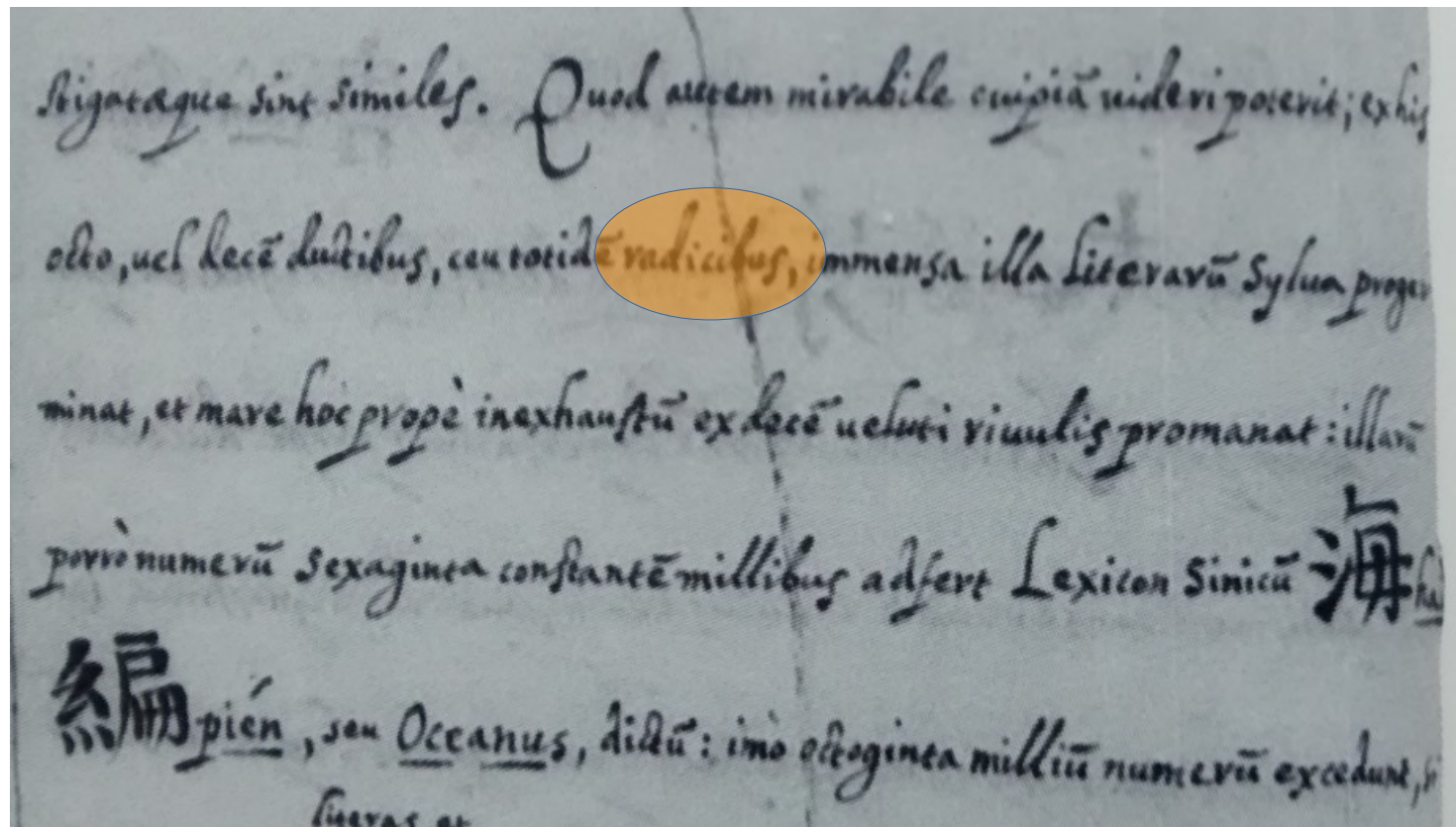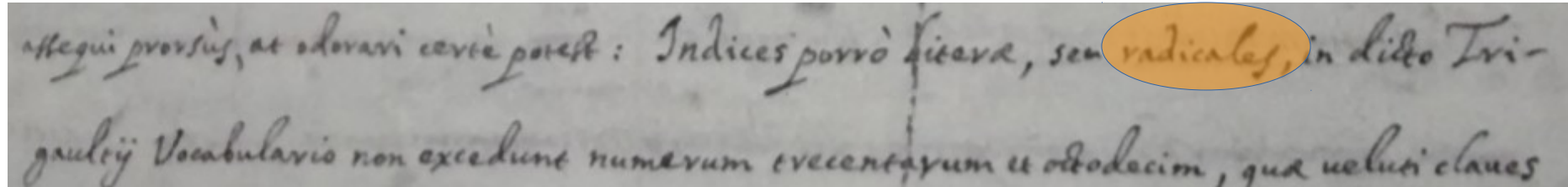
This text uses radix, apparently in two senses:

a. in the sense of the *basic strokes* that Semedo also talked about:

(20) "It is hard to believe, but actually it is from these eight to ten strokes or roots (*radicalibus*), that the forest of characters is gro-ing, it is by these brooklets that the inexhaustable sea of characers is fed. The dictionary called 海編 – the Ocean – contains 60,000 regular characters, and there are more than 80,000, if we also count old characters and variants of one and the same character written differently and with different strokes ...". (Lundbaek, *Trad. History*, 28-29)

b.   But the manuscript also talks about *literæ ... radicales*, which un-ambiguously seems to mean *bùshǒu*. The anonymous author is probably referring to Trigault's *Xī-Rú ěrmù zī* 西儒耳目資 (*Aid to the Eyes and Ears of Western Literati*), but he also mentions *Zìhuì* 字匯 on the same page, so he is definitely aware of the *bùshǒu*, which seems to be what he's talking about here:

(21) "Most Chinese characters are compound, being made up of two or more characters, one of which indicates a species or genus. By this means the reader may easily grasp the meaning of the character or at least, as it were, smell it out. In Trigault's there are lesst han 318 of these indices or radicals (*indices seu radicales*) that function as keys (*claues*) to the rest of the characters, having some kind of connection or affinity to them."

3.3 *clavis* (*clef, clefs* etc.) vs. *radicales*

- It seems that it was with Andreas Müller's (1630–94) *Clavis sinica* that Europeans first tried to identify some kind of radicals, but he aparently didn't use the word.

- Müller's successor Christian Mentzel (1622–1701) corresponded with Philippe Couplet (1623–93). Couplet used the word *radicales litterae* (like the Lundbaek Ms.) for the classifiers. Andreas Cleyer also sent Mentzel a list of radicals from Batavia in 1689, which regularly uses the word radicales. It was among the material taken to Poland after the war but is now electronically available from the Prussian State Library in Berlin:

Clavis sinica fol. *14r*

- Mattia Andrea Brollo (1648–1704) wrote a ms. Chinese dictionary, in China, in 1694, which arranged characters by radicalb ut it's not clear whether Brollo used the word "radical"; in the reproduced page in Busotti's recent study, the radical is simply named in Chinese as bu 部

- After they had experimented with "Chinese keys" in Berlin in the late 17th c., they worked on a Chinese dictionary in France in the early 18th c. The reason that the French scholars called the classifiers *clefs* is because *clavis sinica* was already a concept, and already for Müller apparently referred to a lexicographic arrangement of sorts. Although the radicals had been described in mss. and letters circulating in Paris for decades, Nicolas Fréret (1688–1749) presented the classifiers as something newly discovered with the help of Arcadio Hoang (1679–1716), who was in Paris at this time.

Most early missionaries who used the word *radicales* in the 16th c. were trained in Latin, Greek, and Hebrew. The first explicit comparison of Chinese with Hebrew I know of is to be found in an account of Christian martyrdom in Japan by the Franciscan friar Juan de Santa María (*fl.* 1599)

(22)   … *lo que nosotros dezimos en muchas palabras, dan ellos a entender con un rasgo, y aun con un punto, como vemos en los caracteres Hebreos.* (*Relación del martirio* … fol 3.)

"… what we say in many words, they suggest with a dash or a point, as we see in Hebrew characters."

There are the following reasons to believe that it was the Hebrew connection which determined the choice of the term "radical"

a. like Hebrew dictionaries were arranged by triconsonantal roots (*radices triliterales*), Chinese dictionaries were predominantly arranged by "radicals".

b. "the Chinese radical, a semantic element, is augmented with other quasi-inflectional graphical elements, in manner similar to the modifications which Hebrew roots might undergo (e.g. inflection, pointing, cantillation)" (Cook 2003: 350)

c. The system of Hebrew pointing, i.e. the use of *matres lectionis* to vocalize the triconsonantal root, reminded the missionaries of dots and strokes in Chinese characters.

This is sometimes seen even with other writing systems in China, cf. Juan de Palafox y Mendoza (1600–59), who never went to China, writing that

(23) *Todas las letras estan rodeadas de puntos arriva y abajo, como las Ebreas; que no son tanto letras como Geroglyficos.* (Historia de la conquista, 337–38)

   "All the [Manchu] letters are surrounded by dots in the front and back, as in Hebrew; they are therefore not letters as much as Hieroglyphs."