Chinese Character Teaching and Learning with Marginalized Radicals and Non-radical Components in a Character

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Abstract—Naming or indexing of a radical in a dictionary will foreground dominant meanings of a radical and, at the same time, marginalize the other meanings of a radical as well as the meanings of non-radical components in a character. More efforts should be made to go beyond the dominant meaning(s) of a radical to have a better knowledge of the marginalized meanings of a radical and to identify the meanings of non-radical components in a character. With the assistance of Oracle/Bone Script, Bronze Script, and Seal script, and reinstatement of the significance of the marginalized meaning(s) of radicals or non-radical components, the Chinese character teaching and learning process will be considerably improved and it will become a fungenerating experience.

Index Terms—Chinese character teaching and learning, dominant radicals, dominant meaning of a radical, meanings of marginalized radicals, meanings of marginalized non-radical components

I. INTRODUCTION

The Chinese character teaching and learning more often than not begins with strokes and radicals. Radicals play a crucial role in helping an adult learner learn Chinese as a second language. Naming or indexing of a radical in a dictionary will influence the visual attention and semantic understanding of an adult learner and foreground the dominant meaning of a radical, and at the same time marginalize the other meanings of the same radical. This kind of naming and indexing will sometimes exclude the secondary meanings of a radical or downplay the meanings of nonradical components in a Chinese character. The current state of Chinese character teaching and learning is mainly based on the dominant meanings of a radical or radicals. More efforts should be made to go beyond the dominant meaning(s) of a radical in order to have a better knowledge of the marginalized meanings of a radical and to identify the meanings of non-radical components in a character as well. Otherwise, the Chinese character teaching or learning will reach a plateau, and the meanings of many components in a character can only be partially understood, and as a result, Chinese character teaching and learning sometimes will become only a memory work of radicals and fail to become a fungenerating process which will stimulate and sustain adult learners' interest in learning Chinese characters. With the assistance of 甲骨文 Jiǎgǔwén 'Oracle/Bone Script', 金文 Jīn wén 'Bronze Script,' and 篆文 Zhu ànw án 'Seal script', and with reinstatement of the significance of the marginalized meaning(s) of a radical and a marginalized non-radical component in a character, the Chinese character teaching and learning process will be considerably improved and it will become a fun-generating experience.

II. DOMINANT RADICAL WITH DOMINANT MEANINGS AND MARGINALIZED RADICALS WITH MARGINALIZED MEANINGS

"Radical" here is an English term designated to mean both Chinese words 部首 bù shǒu and 偏旁 piānpáng, which are indexed in a Chinese dictionary and by which a reader can easily look up a word in a Chinese dictionary. Some radicals convey meanings, and some do not play a semantic role in a character. In most cases, one Chinese character in a Chinese dictionary has one and only one radical, under which many characters with the same radical are listed together for the convenience of being found in the dictionary.

In the history of the Chinese language, Chinese characters had undergone a drastic change, especially from 篆文 zhu ânw án 'Seal Script' to 隶书 $lish\bar{u}$ 'Official Script'. The change from Official Script to Seal Script is a change from picture-oriented or image-oriented scripts to completely stroke-oriented characters. A systematic formation of Chinese characters with only strokes is first realized in Official Script. Hieroglyphs, pictographs or images are no longer allowed to appear in the stroke-oriented Official Script. This change from Seal Script to Official Script or from image-oriented to stroke-oriented imposes two far-reaching effects on Chinese character teaching and learning:

1. Different pictures or images in Oracle/Bone Script, Bronze Script, and Seal Script will find their respective counterparts in different types of strokes or different components in Official Script. For example, different pictures or

2. The change from picture-oriented or image-oriented in Seal Scripts to stroke-oriented in Official Script is so drastic that many different pictures or images with different meanings are totally scarified in order to be transformed into the same radicals or the same components in characters and to serve the purpose of simplicity and reduce the number of different types of radicals. The pictures or images, originally different in shape and meaning, have to share the same radicals or components now. Therefore, many changes are often considered by the author of 象形字典 xiàngxing zidiǎn 'Dictionary of pictographs' (vividict.com, 2020) as mistakes. Take the radical 四点底灬 Sì diǎn dǐ 'four-dot bottom component' for example. It is often used to indicate 火 huǒ 'fire' as in the Chinese characters 热 rè 'hot',照 zhào 'illuminate',蒸 zhēng 'steaming',etc. Therefore,四点底灬 as an indicator for 火 huǒ becomes the dominant meaning of this radical. However, this same bottom component is also used to indicate 鸟爪 niǎozhǎo 'birds claw',鸟羽 Niǎoyǔ 'bird feathers',鸟尾 niǎowěi 'bird tail',鱼尾 yúwěi 'fish tail',马蹄 mǎti 'horseshoes'. (See

whether as a radical or neglected, and even fail to be identified in our teaching or learning if the marginalized meanings of a radical in a character fail to be identified. For example, β whether as a radical or as a non-radical component of a character, is often referred to as either "Moon" or "Meat" becomes a dominant meaning for the radical β yu è Actually, the radical β

carries many other meanings other than just "Moon" or "Meat." For example, in (Oracle/Bone Script) indicates a mine where ore carries the color of dark green (guoxuedashi.com, 2020). was later changed to 月 as in 青 qīng. Here "月" has nothing to do with "Moon" or "Meat." Another example of transformation

takes place with \mathbb{R} $f \not u$ in \mathcal{H} (Oracle/Bone Script) stands for a person (criminal), and \mathcal{H} in \mathcal{H} stands for a hand (capture), and \mathcal{H} in \mathcal{H} stands for a wooden cangue or wood square shackles (vividict.com, 2020) or a boat (guoxuedashi.com, 2020). The transformation from \mathcal{H} (a wooden cangue or wood square shackles) in \mathcal{H} to \mathcal{H} \mathcal{H}

'boat') in \mathcal{H} (Bronze Script), then to \mathcal{H} (舟 $zh\bar{o}u$ 'boat') in \mathcal{H} and finally to 月 $yu\dot{e}$ in \mathbb{R} fú, indicating that the person was captured and forced to wear a wooden cangue or wood square shackles (vividict.com, 2020). This change is considered also as an erroneous transformation both in vividict.com and chaziwang.com. However, even though this transformation is referred to as erroneous, it is carried out consistently on purpose to avoid creating a new radical or component for \mathcal{H} (a wooden cangue or wood square shackles or a boat) and to reduce the number of different types of radicals. This transformation of \mathcal{H} (舟 $zh\bar{o}u$, boat) into 月 $yu\dot{e}$ does not happen only in \mathcal{H} fú, and \mathcal{H} (舟 $zh\bar{o}u$ 'boat') is transformed into 月 $yu\dot{e}$ also in \mathcal{H} $yu\dot{e}$ also in \mathcal{H} $yu\dot{e}$ (\mathcal{H} $zh\bar{o}u$ 'boat') in \mathcal{H} (\mathcal{H} $zh\bar{o}u$ 'boat') in \mathcal{H} (\mathcal{H} $zh\bar{o}u$ 'boat') in \mathcal{H} (\mathcal{H} $zh\bar{o}u$ 'boat')

in \Im (Seal Script) and then to $\exists yu \ \hat{e}$ in $\textcircled{n} \ yu \ \hat{$

(Oracle/Bone Script) where indicates boat-shaped shoes which the courtiers used to wear when they went to see

their king or emperor (vividict.com, 2020). \blacksquare was first changed to n as in n and finally to n as in n as in n and finally to n as in n as in n and finally to n as in n as in n and finally to n as in n as in n and finally to n as in n as in n and finally to n as in n as in n and finally to n as in n as in n and finally to n as in n as in n and finally to n as in n and finally to n as in n and finally to n as in n as in n and finally to n as in n and finally to n as in n as in n and finally to n as in n as in n and finally to n as in n and finally to n as in n as in n and finally to n as in n as in n as in n and finally to n as in n as

has nothing to do with the dominant meaning of either "Moon" or "Meat." Nowadays, 朕 zh àn is simply a word used by an emperor to call himself. However, 朕 zh àn was first illustrated in Oracle/Bone Script as , including (a boat) (vividict.com, 2020 and guoxuedashi.com, 2020), (a helm, vividivt.com, 2020) or (a rod to caulk the seams of a boat, chaziwang.com, 2020) and ** (two hands). And as usual, ** was later changed to ** in ** (Seal Script) with (helm or rod) changed to **, and ** was finally changed to ** fin ** (Seal Script) with (vividict.com, 2020). If this meaning of being a helmsman were reliable, then it would remind us of Cultural Revolution when "Four Greatnesses - Great Teacher, Great Leader, Great Supreme Commander, Great Helmsman" became so popular nationwide in China. If we knew ** was originated from being a helmsman, we might have a different understanding why Great Helmsman was chosen instead of "Great Driver or Pilot" in Cultural Revolution. As a result, an association, whether intentional or unintentional, whether erroneously or fittingly, would be made between ** ** Duòshǒu 'helmsman' and ** huángd i 'emperor.' Here, this marginalized meaning of ** fin ** a "Boat" turns out to be much more fun than we expected.

Therefore, Chinese character teaching and learning sometimes should go beyond the dominant radicals and the dominant meaning of a radical so that it can reach for the marginalized radicals and the marginalized meanings of a "Standing" by $\vec{\mathcal{L}}$ lì as a radical is defined as example, (archchinese.com/chinese_radical_stroke_count.html, 2020) and Read and Write Chinese (Choy, 1990, p. 33). As a radical, it is called 立字旁 *lìz ìp áng*, under which all the characters which are said to bear the standard radical name 立 l i are listed together in a dictionary. However, about half of these characters with $\dot{\mathcal{D}}$ l i have nothing to do with "Standing." Only the characters with the radical $\vec{\Sigma}$ liconstituting the left part of these characters are related to "Standing." A large number of characters with $\dot{\Sigma}$ l iare related to $\dot{\mp}$ $x\bar{\imath}n$ instead, especially with $\dot{\Sigma}$ l iconstituting the top part of a character. However, the meaning of \hat{x} \hat{x} in the characters listed under this radical \hat{x} \hat{t} is marginalized by naming itself in a dictionary or by naming the radical $\dot{\mathcal{D}}$ 1 ionly as "standing." When we come to a Chinese character with the meaning of "辛" xīn instead of "standing," we might give it up in our character teaching or learning because it has nothing to do with "standing." Therefore, it is not a radical itself which marginalizes the other meanings of a radical, but it is the naming of a radical that excludes the other meanings of the radical " $\dot{\Omega}$ " $l\,i$ If we are still satisfied with the dominant meaning of a radical and refuse to de-marginalize the other meanings of a radical, our Chinese character teaching will not release any further information about the marginalized meaning of a radical and will not lead to a significant improvement in our character teaching to satisfy the needs and curiosity of an adult learner of Chinese as a second language. Consequently, the interest and curiosity of an adult learner will be short-lived. Therefore, the other meanings of a radical should be de-marginalized and our Chinese character teaching should be empowered with some knowledge about Oracle/Bone Script, Bronze Script and Seal Script. With the assistance of Oracle/Bone Script, Bronze Script and Seal Script, it is more likely that the meaning of a component in a character can be more fully or completely captured. For example, $\vec{\Sigma}$ lican be traced back to \vec{Y} or \vec{Y} in Oracle/Bone Script. \vec{Y} or \vec{Y} (Oracle/Bone Script) consists of ▼ (tattoo tool or knife), ♥ (half of * wood/tree, wooden handle) and — a kind of 指事符号 zhǐ shì fúhào 'reference stroke' denoting the action of tattooing or implement of punishment by a torture dagger (chaziwang.com, 2020). Therefore, $\hat{x} = x\bar{n}$ or even $\hat{x} = l$ is related to the criminals who were often marked with face tattoos and exiled for their punishment or related to crime, legal punishment or torture. ∇ in \mathcal{Z} (Oracle/Bone Script) and ∇ in \mathcal{Z} (Seal Script) mean a punished female slave (jiagumima.com, 2020 and 说文解字 Shuō wén jiě zì Shuo Wen Jie Zi) from where the meaning of 妾 Qiè 'concubine' was later developed. 事 in (Bronze Script) and (Seal Script) denotes "visiting a family member in a prison." (vividict.com, 2020). Later, \vec{n} is changed to the simplified Chinese character $\hat{\pi}$ $q\bar{\imath}n$ with 见 jiàn omitted. Y in **2** (Oracle/Bone) means a knife which was used to make a young slave's eyes blind so that he will be trusted in charge of luggage. \P was later changed to \P in \P (Bronze Script), to \P in \P (Seal Script) and finally to \vec{x} l \hat{t} in \hat{x} t \hat{t} \hat{t} \hat{t} \hat{t} \hat{t} \hat{t} \hat{t} \hat{t} as their component are even not included under the radical 立 l i They carry the meaning of crime, legal punishment or torture as in 宰 z $\check{a}i$, 辟 p i $\check{p}i$ \check{m} , 辨 biàn, 商 shāng, 辞 c í 撞 zhuàng, etc.

More examples of marginalized meanings of a radical are found in " $\mathbf{7}$ " or " $\mathbf{4}$ ". $\mathbf{7}$ or $\mathbf{4}$ is listed under a radical indicating $\mathbf{7}$ $d\bar{a}o$ 'knife' in a dictionary (Radicals Guide, P. 42, *The Contemporary Chinese Dictionary*, 2002). There is a controversial issue in $\mathbf{6}$ (Seal Script, $\mathbf{6}$ sè 'color'). The author in chaziwang.com (2020) indicates that $\mathbf{7}$ in $\mathbf{6}$ (Seal Script) is a knife which signifies a severance. Furthermore, as the Chinese saying

head'). A seemingly more convincing example in support of **不** as a knife in 气 can be found in **人** (Seal Script, 绝 *ju ð*). The meaning of **n** in **n** (Seal Script, 绝 ju ė) is semantically and graphically understandable. The meaning of knife " in **数** (绝 ju é, 'cutting off') is only roughly sketched in Seal Script. "—" serves as an indicative sign to convey the idea that the thread is cut into two fragments; in (Bronze Script) tries to "paraphrase" the meaning of in (Seal Script) by using a visual knife I to replace the indicative sign — so that the meaning of a knife is wellillustrated and not susceptible of any ambiguity; later, 7 was replaced by 7 as in 65 All the above factors - the naming of the radical / as a knife in a dictionary, the Chinese saying about the character to the conclusion that h in \triangle sèdenotes a knife. However, it seems to me still too early to make such a judgement that $\mathbf{\xi}$ (Seal Script, $\mathbf{\hat{E}}$ s \hat{e}) is a knife, only because $\mathbf{\hat{F}}$ is named as a radical to indicate a knife as a dominant meaning in a dictionary and the word 色 sè constitutes the right part of the word 绝 ju é An interesting example of 则 z é and 侧 cè will tell you a different story. Both of the authors in vividict.com (2020) and in chaziwang.com (2020) agree that in \overline{N} (Seal Script, \mathbb{N} z \hat{e}) indicates a knife which leaves carvings on a bronze tripod \overline{N} , and they also agree that \overline{N} and \overline{N} in M (Seal Script, 侧 c \hat{e}) indicates that two people (I and I) stand by each side of a bronze tripod I. Therefore, although \mathbb{N} $z \neq c$ onstitutes the middle and right part of \mathbb{N} $c \neq a$ knife in \mathbb{N} does not guarantee that \mathbf{V} in \mathbb{N} is also a knife. A further study will reveal that almost a half of the listed characters under this radical have nothing to do with a knife. It turns out that some of them indicate a person instead, especially when \not constitutes the top part of a character. (Seal Script) is the person who positions himself over another person \(\sqrt{\sqrt{when engaged in a sexual activity.}} \) It seems to me that the character 色 sèitself was related first to or more to sexual desire, lust or lechery as in the phrase 好色 hàosè and was only later developed to indicate "Color." Therefore, A as a radical for a person has been marginalized, mainly due to the exclusive way of naming this radical as a knife. Naming of a radical will influence visual attention and semantic understanding in our Chinese character teaching and learning. The naming of a radical will foreground the dominant meaning of a radical and at the same time marginalize the other meanings of the same radical.

goes, "色字头上一把刀" sè zì tóu shàng yì bă dāo ('Indulging on your lust is equivalent to hanging a knife over your

Script) is the person kneeling close to a food container to enjoy his meal. The kneeling posture was first changed

 \Box $sh\bar{\imath}$ as a character is always referred as "Corpse" when being translated from Chinese into English. \Box $sh\bar{\imath}$ as a radical is defined as "Corpse" in archchinese.com (2020). However, \Box $sh\bar{\imath}$ is also referred to as "a person (in ancient times) who sat behind the altar, acting as the deceased during the performance of sacrificial rites" (汉英词典 hàn yīng cidiǎn, A Chinese-English dictionary (1999). The naming of \Box $sh\bar{\imath}$ as "Corpse" has marginalized the meaning of \Box $sh\bar{\imath}$ as a living person in a sitting position. It turns out that only a few Chinese characters listed under the radical \Box $sh\bar{\imath}$ indicates "Corpse." If \Box $sh\bar{\imath}$ serves as a radical, it denotes, on most occasions, a living person instead of a dead person, especially relating to the buttock and private parts of a living person or relating to the sitting position of a living person.

For example, in \nearrow (Oracle/Bone Script) and \nearrow in \nearrow (Seal Script, \nearrow wéi 'perineum or tail') both mean a person with the long hair of his perineum \nearrow ; The change \nearrow -> \nearrow -> \nearrow can be found from \nearrow in \nearrow (Oracle/Bone Script) to \nearrow in \nearrow (Seal Script) and finally to \nearrow in \nearrow shi 'feces' (guoxuedashi.com, 2020); from \nearrow in \nearrow (Oracle/Bone Script) to \nearrow in \nearrow (Seal Script) and finally to \nearrow in \nearrow in \nearrow in \nearrow (Oracle/Bone Script) to \nearrow in \nearrow (Seal Script) and finally to \nearrow in \nearrow in 'buttocks' (guoxuedashi.com, 2020). The meaning of \nearrow as a living person in a sitting position has been marginalized due to the naming of this radical \nearrow as "corpse" in a dictionary and should be reinstated in our character teaching and learning.

刁 as a radical is another example of marginalization by naming 刁 as "wrapping" in archchinese.com (2020) and Read and Write Chinese (Choy, 1990, p. 31). Unfortunately, 刁 as an indicator for a person in a bending position has not been sufficiently stated in our character teaching and learning. Its semantic connection between the meaning of a person in a bending position and its indicator ㄅ has been marginalized. If a person is bending forward, he will adopt a very strange posture, starting from ћ, then to ੈ and finally to ㄅ. For example, ħ in ੈ (Bronze Script) bending forward in making pottery is transformed into \hat{a} in \hat{b} (Seal Script) and adopts its final version ㄅ as a person in ఇ $t \hat{a}$ (guoxuedashi.com, 2020); the same change happens with \hat{a} where the person \hat{b} in \hat{b} (Bronze Script) is ploughing in the field \hat{b} with his body bending forward, and \hat{b} is changed first to \hat{b} in \hat{b} (Seal Script), and finally to ኃ as in \hat{b} diàn (jiagumima.com, 2020). More examples are found in \hat{b} (Seal Script, \hat{a} \hat{b} (jiagumima.com, 2020), and in \hat{b} (Seal Script, \hat{b} \hat{b} (qiyuan.chaziwang.com, 2020).

Chinese character teaching or learning sometimes should not only go beyond the dominant radicals in order to reach for the marginalized meanings of a radical, but it should also go beyond radicals themselves so that the non-radical components in a character will deserve enough attention for their marginalized meanings.

III. NON-RADICAL COMPONENTS IN A CHARACTER

As I mentioned above, in most cases, a Chinese character in a Chinese dictionary has one and only one radical, (It is interesting to find that $\frac{1}{1}h\acute{e}$ has two different radicals indexed in one dictionary: one is $\frac{1}{1}h\acute{e}$ and the other is $\frac{1}{1}h\acute{e}$ in Therefore, you can look for $\frac{1}{1}h\acute{e}$ in derivative either the radical $\frac{1}{1}h\acute{e}$ or the radical $\frac{1}{1}h\acute{e}$ is (Contemporary Chinese Dictionary, 2002). If " $\frac{1}{1}$ " in $\frac{1}{1}h\acute{e}$ is considered as a radical in a dictionary, I will refer to the remaining component " $\frac{1}{1}h\acute{e}$ " is not indexed as a radical under this listing. If $\frac{1}{1}h\acute{e}$ in $\frac{1}{1}h\acute{e}$ is considered as a radical in a dictionary, I will refer to " $\frac{1}{1}h\acute{e}$ " as "non-radical component" in this character because the combination of " $\frac{1}{1}h\acute{e}$ " is not indexed as a radical. The non-radical components can be further divided into two categories:

- 2. Some non-radical components in a character are least likely to be or never have been used as radicals such as \triangle in \triangle h \in h \in

The focus of my study here is centered on the second category, (hereafter the term "non-radical components" are only referred to the second category). In the second category, the non-radical components can be further divided into four types.

IV. FIRST TYPE OF NON-RADICAL COMPONENTS

The first type of a non-radical component comes into being when this non-radical component, originally as a meaningful entity, has been deconstructed, and part of this non-radical component has been chosen as a radical in a dictionary. It is not a radical itself that plays a role of marginalization. But it is "choice making" itself that will deconstruct the components in that character and make the meaning of that non-radical component inaccessible to an adult learner

Although both " \bigwedge " $r \acute{e}n$ and " \square " $k \acute{o}u$ in $\mathop{\ominus}h \acute{e}$ have been indexed as a radical in a dictionary. Although both " \bigwedge " $r \acute{e}n$ and " \square " $k \acute{o}u$ in $\mathop{\ominus}h \acute{e}$ have been indexed as a radical in one dictionary, neither the radical \bigwedge r $\acute{e}n$ nor the radical \square k $\acute{o}u$, nor a combination of \bigwedge r $\acute{e}n$ and \square k $\acute{o}u$ can thoroughly and completely explain the meaning of $\mathop{\triangle}h \acute{e}$ \bigwedge r $\acute{e}n$ is chosen as a radical by taking apart $\mathop{\triangle}$ as two separate parts --- " \bigwedge " and " \longrightarrow ". As a result, the holistic meaning of $\mathop{\triangle}$ is lost, and the whole meaning of the character $\mathop{\triangle}h \acute{e}$ becomes insusceptible of being decoded due to the lack of the explanation of the component " \longrightarrow " in $\mathop{\triangle}h \acute{e}$ Here, the meaning and function of $\mathop{\triangle}$ are marginalized when " \bigwedge " in $\mathop{\triangle}h \acute{e}$ is considered as a radical and when $\mathop{\triangle}$ is taken apart as two separate parts ---- " \bigwedge " and " \longrightarrow " in a dictionary. If any learning or teaching methods are built only on the radical \bigwedge r $\acute{e}n$ in this character as a proxy for semantic annotation, a complete explanation of the meaning of $\mathop{\triangle}h \acute{e}$ becomes infeasible. Actually, $\mathop{\triangle}$ as a combination of " $\mathop{\triangle}$ " and " $\mathop{\longrightarrow}$ " should be considered as one single indivisible non-radical component which plays an important role in helping us comprehend the structure of this character and the whole meaning of $\mathop{\triangle}h \acute{e}$ in $\mathop{\triangle}h \acute{e}$ indicates a mouth facing downward to kiss another mouth $\mathop{\square}H$ ($\mathop{\square}h \acute{e}u$) facing upward (vividic.com, 2020). Or, $\mathop{\triangle}H$ in $\mathop{\triangle}h \acute{e}$ indicates "lid" facing downward to cover the hollow container which is open upward (guoxuedashi.com, 2020). Therefore, the understanding of the meaning of the radical " $\mathop{\bigwedge}H$ " $\acute{e}n$ and " $\mathop{\square}H$ " $\acute{e}n$ in $\mathop{\triangle}H$ $\acute{e}n$ will not suffice without the knowledge of

the meaning of the non-radical component " \triangle ." More examples of \triangle are found in $\widehat{}$ (Seal Script, \widehat{m} \widehat{m} $\widehat{n}g$) with the mouth facing downward to issue an order to another person, and as in $\widehat{}$ (Seal Script, $\widehat{\cong}$ \widehat{q} \widehat{a}) with tributary rivers converged just as two mouths kissing each other or a lid to cover an open container.

m in 共 g $\grave{o}ng$ is another non-radical component of the first type in a character. The has never been indexed as a radical in a dictionary. When "人" is indexed in a dictionary (Contemporary Chinese Dictionary, 2002) as a radical for 共 g $\grave{o}ng$, The is taken apart as two separate parts --- "—" and "人" $b\bar{a}$. "人" indicates "division" in Oracle/Bone Script and is defined as "eight" by Arch Chinese (archchinese.com/chinese_radical_stroke_count.html, 2020) and Read and Write Chinese (Choy, 1990). When "人" $b\bar{a}$ is chosen as a radical for 共 g $\grave{o}ng$, the holistic meaning of The as "two hands" is lost, and a complete explanation of the character 共 g $\grave{o}ng$ will be denied its access due to the lack of the explanation of the component "—" in 共 g $\grave{o}ng$. Here, the meaning and function of The are marginalized when The is deconstructed as two separate parts --- "—" and "人." If any learning or teaching methods are built only on the radical "人" in this character as a proxy for semantic annotation, a satisfactory explanation of the meaning of 共 g $\grave{o}ng$ will not be obtained. Actually, The as a combination of "—" and "人" should be considered as one single indivisible non-radical component. The has its early version has its early version will usually constitutes the bottom part of Chinese characters. When it constitutes the bottom part of a character, will undergo a change to The inspect of these

characters. For example, f in f (Seal Script) was finally changed to f in f in f (Seal Script) was finally changed to f in f in f (Seal Script) and finally to f in f in f in f (Seal Script) and finally to f in f

On most occations, when f (two hands) in Seal Script constitutes the bottom part of a character, it might be transformed later into either or the Unlike the radical the radical the radical to is a non-radical component which has never been listed as a radical in a dictionary. Therefore, the meaning of as "two hands" should be de-marginalized, and as a non-radical component should be reinstated to its well-deserved place as significant as the radical the in our teaching or learning.

V. SECOND TYPE OF NON-RADICAL COMPONENTS

The second type of a non-radical component comes into being when some elements of this non-radical component are denied their own independent existence in a character. These elements might have their own independent existence before, but when they are combined with another component to form a new non-radical component, this combination will deny their respective independent existence.

For example, the "two hands the hand

The "two hands has its own independent existence in (Seal Script, 卷 juǎn), and it was later combined with the top part 米 mǐ 'rice' and then transformed into 大 indicates the two hands rolling up the (cooked) rice into a rice ball or wrapping up cooked rice. has its own independent existence in (Seal Script, 秦 huàn), and it is later combined with the top part 米 to indicate rolling up some food to feed a pig (guoxuedashi.com, 2020). The character 秦 huàn is listed under the radical 豕 shǐ in a dictionary instead of 木 豕 shǐ is defined as "hog." However, the understanding of the meaning of the radical 豕 shǐ in 秦 huàn will not suffice without the knowledge of the meaning of the non-radical component "木" Our teaching experience tells us that we more often than not are satisfied with the meaning of the radical 豕 shǐ without further pursuing the meaning of "木" because "木" is considered as deviant and too complicated to explain. Therefore, this type of non-radical components is marginalized and even ignored in our Chinese character teaching and learning.

When \bigcap (Seal Script, 拳 qu \acute{an}) is combined with the top part \Re , it will be changed to "夫" to indicate rolling up your fingers into a first just like rolling cooked rice into a rice ball. More examples can be found in \bigcap (Seal Script, \Re qu \mathring{an}).

itself never has an independent existence other than being a non-radical component in a character. It more often is engaged in a two-hand involved activity with an exception of the character 春 chūn. In Bronze Script, in was separated from \bigstar (adult). Later, when was changed to work or \bigstar in Seal Script, \bigstar stayed the same or become \bigstar . Finally, the two hands were combined with \bigstar or \bigstar to form \bigstar in \bigstar (Oracle/Bone Script) is a combination of two hands with (pestle). We was later changed to \bigstar in \bigstar (Seal Script) just as \bigstar in \bigstar (Seal Script, \bigstar tài). A was finally changed to \bigstar in both \bigstar q \hat{n} (with two hands holding a pestle to thresh grain \bigstar) and \bigstar tài (with the two hands washing his body with water \bigstar). More examples can be found in (Seal Script, \bigstar tài (Seal Script, \bigstar tài two hands holding a plant \bigstar to worship the earth god for the future harvest, and in (Sea; Script, \bigstar chōng) with its two hands holding a pestle to pound the grain in a mortar.

The lack of their respective independent existence and the forced combination of two hands with an object make and the lose their qualification of being candidates for a radical in a dictionary. Therefore, both the have been marginalized in our Chinese character teaching and learning, and their meanings become obscure over time.

Different from \Re , which is listed as a radical in archchinese.com (2020), 2+7 in \mathbb{R} (Seal Script \Re j) has not been indexed as a radical in a dictionary. There means "meat", and 7 means "hand." Both of them have their respective independent existence in a character. But the combination of 2+7 has denied either 2 or 7 its respective independent existence in this character. They are considered as an inseparable entity just as \Re . The character \Re is listed under the radical \Re sh iwhich is referred to as "show" (Liu, 2009, p. 14). If we have a good knowledge of the meaning of \Re sh is

your curiosity will probably drive you to seek for the meaning of the non-radical component $\partial + \mathbf{1}$ in $\overline{\mathbf{M}}$. Otherwise, the curiosity and passion of an adult learner for the meanings of a Chinese character will not sustain for long.

The combination ((j+1)) here means that the hand is holding meat. Therefore, (j+1) indicates that the meat of an animal or human being is sacrificed as an offering to a god (guoxuedashi.com, 2020). More examples can be found in (j+1) (Seal Script, 察 cha) with its indication to identify any miracles displayed in worship (qiyuan.chaziwang.com, 2020); in 蔡 c à, indicating that a straw-made person is sacrificed instead of a human being in the worship of offering meat to a god (guoxuedashi.com, 2020); in 擦 cā, with its indication to identify dirty spots in

cleaning instead of carefully to identify any miracles displayed in worship.

Different from the combination $(\cancel{2}+\cancel{3})$ with its hand holding only meat, \Rightarrow denotes a hand holding anything else when it combines itself with one or two items which \(\beta\) grasps. If it grasps one or two items, it will be denied its own independent existence in a character. As a result, it will retain its joint existence in a character only by grasping either one or two items. When it holds one item, it will obtain its existence as a radical or as a non-radical component in a character. If the hand \Rightarrow is holding a (writing) brush, it will become $\not\equiv y \dot{u}$ either as character or as a radical in a character. $\equiv v \dot{u}$ is indexed as a radical and defined by archchinese.com (2020) as an indicator for a "brush" and defined by Read and Write Chinese (Choy, 1990, p. 33) as an indicator for "learn." For example, in \(\hat{\chi}\) (Oracle/Bone Script), in 承 (Bronze Script), ⇒ in 禾 (Seal Script) and in 筆 bǐ all indicate a hand holding a writing brush ★ (bamboo and animal air). However, when one hand is holding anything other than a "writing" brush, its indicator will not appear in the form of 聿. For example, 禹 in k(Oracle/Bone Script), 氰 in 氰 (Bronze Script) and 禹 in 氰 (Seal Script) indicate a hand grasping one piece of rice seedling \mathbf{k} ; the grasping hand and the grasped object are combined and finally transformed into 秉 bǐng (Shuo Wen Jie Zi and guoxuedashi.com, 2020). 秉 bǐng cannot be found under the radical 聿 but under the radical J. This way of compiling radicals in a dictionary serves as an example of marginalization for a non-radical component. More examples are found in \Re (Seal Script, $\not\equiv q\bar{\imath}$) with a hand holding the hair of his bride 7, and in $\mathbb{P}(\text{Seal Script}, \oplus zh\bar{e}ng)$ with a hand \mathbb{R} fighting for the item held by another hand \mathbb{R} , as described in guoxuedashi.com (2020), and in (Seal Script, 逮 dǎi) with a hand holding the tail **本** of an animal. All the three characters \mathfrak{P} (Seal Script, \mathfrak{P} yin), \mathfrak{P} (Seal Script, \mathfrak{P} $j\bar{u}n$) and \mathfrak{P} (Seal Script, \mathfrak{P} sh) indicate that a hand is holding a sceptre (guoxuedashi.com, 2020). In all the above examples, when \mathfrak{P} (a hand) is holding anything other than a (writing)

brush, its characters will be listed under other radicals instead of $\not\equiv y \hat{u}$ As a result, its indicator for a hand holding anything other than a (writing) brush will become a non-radical component in a character and its indication for such a hand will be compromised in our Chinese character teaching and learning.

Different from the above examples of $(\text{grasping only one item as in }\not\equiv)$, in $(\text{granging only one item as in }\not\equiv)$, (Seal Script)

Different from the above examples of \Rightarrow (grasping only one item as in \ddagger), \Rightarrow in \ddagger (Bronze Script), \longleftarrow (Seal Script) and \ddagger $ji\bar{a}n$ indicates one hand grasping two items --- two pieces of rice seedling \ddagger at the same time (guoxuedashi.com,

2020 and *Shuo Wen Jie Zi*); more examples can be found in **lim** (Seal Script, 赚 zhuàn) and **lim** (Seal Script, 廉 lián). When one hand is holding two items ********, its joint independent existence ****** in a character will turn this combination into a non-radical component instead of a radical in a dictionary. This marginalized non-radical component will escape our attention and will not be subjected to detailed analysis in our Chinese character teaching and learning. If the indicator for a hand and its connection to holding one item or two items had been brought to our awareness, we might have a better understanding of the meanings of the above characters.

VI. THIRD TYPE OF NON-RADICAL COMPONENTS

The non-radical component of the third type has its independent existence both as a character and as a non-radical component instead of being a radical in a character. For example, $\pm w$ in as a modern Chinese character means "pills", "pellets" or small ball-shaped items in dictionaries. It has never been listed as a radical in a dictionary. When $\pm w$ in becomes a non-radical component in a character, it often carries the meaning of "two hands" reaching out to hold an object. However, $\pm w$ in as a character does not indicate this meaning. $\pm w$ in as "two hands" only exists as a non-radical component in a character. Therefore, its meaning as "two hands" has been marginalized or predominated by the meaning of $\pm w$ in as a character which denotes "pills", "pellets" or small ball-shaped items. For example: the indicator

the adult learners of Chinese as a second language. \Box bā also belongs to the non-radical component of the third type. It has its independent existence as a character. As a modern character, \Box bā means "long for; await anxiously; cling to; stick to; the eastern part of Sichuan Province and Chongqing" (*Contemporary Chinese Dictionary*, 2002, p. 23-4). According to vividict.com, 2020, \Box $b\bar{a}$ belongs to "Hand" section. According to jiaguwenzidian, 2020, \Box $b\bar{a}$ denotes a person with long hands or arms. It is interesting to find that \Box $b\bar{a}$ is not listed as a radical in a dictionary. However, when \Box $b\bar{a}$ serves as a non-radical component, especially when \Box $b\bar{a}$ constitutes the bottom part of a character, it only represents a person. Hence, one can see that when \Box $b\bar{a}$ exists as a character, its meaning is somewhat different from its meaning when existing as a non-radical component. This difference in meaning will become a challenge to the Chinese character teaching and learning because too much attention will be given to the meaning of a character instead of the meaning of a non-radical component. Therefore, \Box $b\bar{a}$ as an indicator for a person should be brought back to our attention with the assistance of Oracle/Bone Script, Bronze Script and Seal Script. The notion of \Box $b\bar{a}$ as an indicator for a person is well-captured in the following examples. (Oracle/Bone Script) consists of \Box 'town/city'+ \Box "a person". \Box in \Box was changed first to \Box in \Box (Seal

significance in understanding the meaning of these two-hands involved activities should be of great interest and value to

VII. FOURTH TYPE OF NON-RADICAL COMPONENTS

Therefore, the meaning of a character sometimes cannot be fully deduced without the assistance of non-radical components in a character. However, nowadays Chinese character teaching and learning sometimes rely too exclusively on radicals. If this learning experience persists, we will easily ignore the non-radical components in a character. Therefore, it is crucial to acknowledge the importance of reinstating non-radical components to its well-deserved position in our character teaching and learning.

T also belongs to the non-radical component of the fourth type. It cannot exist as a character and has never been indexed as a radical. It is a non-radical component which maitains its independent existence in a character. It becomes a graphical indicator for a hand in a character that \mathcal{I} becomes less identifiable and even non-identifiable as a hand. However, the Chinese character teaching and learning should be empowered to go beyond the dominant radical such as 手/才. Otherwise, the other overshadowed and sidelined indicators for a hand fail to be identified, and the meanings of many hand-involved characters cannot be clarified and comprehended. For example, the word 有 yŏu is listed under the radical β yu è (denoting "meat") instead of γ , because γ is less identifiable and even non-identifiable as an indicator for a hand. The meaning of \bar{q} you cannot be fully comprehended without the knowledge of the meaning of the hand f. The distinctive feature of \mathcal{F} is that whatever initial position (whether left, right or top) \mathcal{F} took in Oracle/Bone or Bronze Script or Seal Script, it would sooner or later constitute the top-left part of a character. ¬in 河 (Seal Script, 有 $y\delta u$) first took the top-right position. It later changed its shape from $\sqrt{1}$ to $\sqrt{1}$ and was relocated to the top-left part of the character 有 yǒu. More examples can be found in (Seal Script, 友 yǒu) and (Seal Script, 雄 xi óng). It is interesting to note that the hand $\overline{\overline{}}$ in $\overline{\overline{}}$ (Seal Script, $\overline{}$ $y \partial u$) was initially located on the top-right position in order to indicate the meaning of "right"; however, when \(\frac{1}{2} \) was later transformed into \(\frac{1}{2} \), it even sacrificed its semantic/positional properties for the sake of convenient and consistent positioning. Therefore, \mathcal{T} was relocated to constitute the top-left part of the character 右 yàu, positioning itself in the same top-left location just as **红**(Seal Script, 左 zuǒ 'left').

A component becomes "non-radical" mainly because it fails to be chosen as a candidate for a radical according to an 'artificial' standard of indexing and compiling. This failure does not mean that the non-radical component does not convey a meaningful connotation in a character. On the contrary, the non-radical component sometimes plays a crucial role in our full understanding of the Chinese characters. Therefore, more efforts in teaching and learning should be made to go beyond the meaning(s) of a radical in order to have a better knowledge of the marginalized meanings of non-radical components in a character.

VIII. GOING BEYOND THE DOMINANT MEANING(S) OF A RADICAL

A good knowledge of the dominant meaning(s) of a radical does not suffice now to meet the demand of advanced adult learners of Chinese as a second language. Chinese character teaching and learning should go beyond the dominant meaning(s) of a radical and reach for both the marginalized meanings of marginalized radicals and the marginalized meaning(s) of non-radical components. Chinese character teaching should not be only satisfied with partial understanding of the meaning of a character, especially only the meaning of a radical. Therefore, the non-radical components in a character become crucial in fully explaining the whole meaning of a character. It is time to foreground the original semantic connection between a marginalized radical and its marginalized meaning as well as between a marginalized non-radical component and its marginalized meaning. This reinstatement sometimes will depend upon the assistance of Oracle/Bone Script, Bronze Script, and Seal Script. More researches on marginalized radicals and non-

radical components, especially representing a person, hand(s), foot/feet and a mouth in Oracle/Bone Script, Bronze Script, and Seal Script should be conducted due to their high-frequent appearance in a character in order to explore the idea of de-marginalization, to strengthen and/or elaborate the current importance related to the marginalized radicals and non-radical component so that a historical and statistical sketch of these marginalized components will be obtained for our future Chinese character teaching and learning.

The following marginalized radicals and non-radical components are organized according to their placement with respect to the other components in a character such as constituting the top part or middle part or bottom part of a character and according to their postures such as a person in a kneeling, sitting, bending position as well as according to the number of their appearance in one character such as one hand or two hands, one foot or two feet, one person or more than one person. A list of marginalized radicals or non-radical components representing a person or hand(s) or foot/feet or mouth is presented below so that an adult learner has a clear idea of the indicators for a person or hand(s) or foot/feet or mouth as well as the number of their appearance in one character such as:

A person constituting the top part of a character: \(\begin{align*}
\dagger
\d A person constituting the bottom part of a character: 1-1; -1Person in a kneeing position: $\mathbf{4} - \mathbf{5} - \mathbf{5}$; Person in a sitting position: 7 - > 7 - > 7: Person in bending position: 7->7>/7 One hand constituting the top right part of a character: \\-> \rightarrow as in 祭; One hand later constituting the top-left part of a character: 7->/; One hand occupying the bottom part of a character sometimes will become "+": F->+; One hand with one dot: $+ = \pm$; One hand grasping one item: >>=; >>=; One hand **\$\infty** grasping two items***** as in 兼; Two hands facing each other will be reduced to one hand grasping one item: [4]->= Two hands facing each other like a rib cage: $\forall -> \cup > \Box$; Two hands reaching out or holding out: 7-> -> -> Two hands constituting the bottom part of a character: $f > \pi$; $f > \pi$ as in \Re ; Three hands/four hands/five hands: three hands (4+1) as in 4; four hands as in 4; five hands (4+4) as in A mouth constituting the top part of a character: A (inverted mouth); $A \rightarrow A$;

A mouth at the bottom of a character undergoing a change from \forall to \forall , and then to \exists ;

A foot constituting the top part or the bottom part of a character: **岁**: **卜**->久:

Two feet/three feet/four feet: two feet +-> **, three feet +-> **, four feet (**, **) **,

The above images had undergone a change in shape from Oracle/Bone Script to Bronze Script, to Seal Script and finally to the standardised form in modern age:

The significance of the marginalized radicals and the marginalized non-radical components in our character teaching and learning should be reinstated so that Chinese character teaching will become a fun-generating process. This process depends on a full understanding of the meaning of each component in a character, and sometimes this understanding will depend upon the assistance of Oracle/Bone Script, Bronze Script, and Seal Script. A de-marginalizing teaching and learning strategy and a historical story telling approach will make Chinese character teaching and learning much more fun than we expected.

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