

Red and Ink in Oracle Bone Inscriptions

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Abstract: Based on oracle bone inscriptions, it is evident that the color system of the Shang Dynasty was relatively advanced and mature, with frequent references to white color in extant literature, forming the concept of "Shang people value white." However, with the discovery of vermilion and ink inscriptions on oracle bones and the use of red and black in many oracle texts, the veracity of the notion of "Shang people value white" remains debatable. This is closely related to the concepts of "Xia people value black" and "Zhou people value red," as the Shang Dynasty was positioned between the Xia and Zhou Dynasties, and color usage and other cultural practices were likely inherited by the succeeding dynasties. Thus, vermilion, ink, and white colors were all crucial to the Shang people.

Keywords: Shang Dynasty, oracle bones, vermilion, ink

1. Introduction

The Shang people had a rich understanding of colors and had developed corresponding written forms. Zhao Cheng conducted research from a morphological perspective and identified six color words in oracle bone inscriptions, including "yellow," "red," "black," "white," "dark," and "blackish-blue" [1]. Wang Tao suggested that there were eight color words in oracle bone inscriptions, such as "red," "chestnut," "white," "objects (wù)," "yellow," "black," "dark," and "blackish-blue" [2]. Wu Chengxi proposed the existence of color words like "white," "black," "dark," "carrot red," "yellow," "blackish-blue," "red," and "object" [3]. Guo Jingyun, based on the absence of "red horses" and "red cattle" in oracle bone inscriptions as sacrificial offerings, concluded that "white," "black," "chestnut," "yellow," and "blackish-blue" were the common five colors of the Shang Dynasty [4]. While scholars have differing opinions regarding the variety of colors in the Shang Dynasty, some fundamental colors, namely "white," "black," "red," "yellow," and "blackish-blue," have achieved consensus. Thus, it is evident that the color system of the Shang Dynasty, as reflected in oracle bone divination materials, was relatively developed and mature.

In oracle bone studies, non-textual materials are also essential, with special occurrences of vermilion and ink colors. Moreover, the Shang Dynasty held a strong belief in ghosts and gods, as documented in the "Book of Rites," which states, "The Shang people respected gods, leading the people to serve the gods, beginning with ghosts and then with rituals." Divination was a sacred activity for the Shang people, and oracle bones were the product of their divination rituals, indicating the extraordinary significance of vermilion and ink colors to the Shang people.

2. Vermilion and Ink Inscriptions on Oracle Bones in Yinxu

More than 17,000 oracle bones were unearthed from Pit YH127 in the 13th excavation of Yinxu, often demonstrating the use of vermilion and ink inscriptions. Chen Mengjia categorized this phenomenon into two types: first, inscription, where characters were written with a brush in vermilion or ink on the oracle bones; second, coating, involving the application of vermilion or ink within the divination inscriptions [5].

2.1. Vermilion and Ink Inscriptions on Oracle Bones in Yinxu

Vermilion inscriptions refer to characters written on the oracle bones with a brush dipped in cinnabar, typically in a larger font, appearing dark red or reddish-brown, often inscribed on the reverse side of the bones. Ink inscriptions, on the other hand, refer to brush-written marks on the oracle bones without subsequent carving, and these ink-colored characters on the bones are called ink inscriptions. Due to the preservation challenges of oracle bones completed with vermilion and ink inscriptions, some have become blurred or faded over time, with few remaining legible. Liu Yiman's preliminary statistics reveal that 26 inscriptions were found on divination bones, and 48 inscriptions were found on divination shells [6]. The subsequent "Oracle Bones from the Small Village in Yinxu" also revealed three inscribed divination bones, numbered 436, 471, and 488. There are three types of vermilion and ink inscriptions on oracle bones in Yinxu: first, those with only vermilion inscriptions, such as "Yibian" 6849, 7285, etc.; second, those with only ink inscriptions, such as "Yibian" 566, 788, etc.; and third, those with both vermilion and ink inscriptions, such as "Collected Works" 9775, 14129, etc. The contents of the divination texts involve sacrificial rituals, farming, hunting, weather, and other matters, suggesting that the Shang people used vermilion and ink inscriptions for specific divination content. Observing the original pieces (see Figure 1), it is evident that the Shang people's vermilion and ink inscriptions display variations in thickness, similar to the calligraphic strokes of contemporary writing.



Figure 1: Yibian 778.

Vermilion and Ink Inscriptions in the Shang Dynasty can be found not only on oracle bones but also on other media. For instance, a vermilion-inscribed jade dagger was unearthed from Tomb No. 18 in Xiaotun Village, Anyang [7]. Additionally, 18 stone rings with ink inscriptions were discovered in Tomb No. 1046, Liujiazhuang North, Anyang Yin Ruins, and one of the rings, M1046:105, had both vermilion and ink inscriptions [8]. Moreover, the discovery of a jade pick and 44 jade rings with vermilion inscriptions in Tomb M54 and 20 jade rings with vermilion inscriptions in Tomb M57, as well as 15 jade rings with vermilion inscriptions in Tomb M64, from the Yin Dynasty burial site in Liujiazhuang South, Anyang Tie Xi, further emphasizes the widespread use of vermilion and ink inscriptions, highlighting the significance of vermilion and ink in the written and scriptural aspects of the Shang Dynasty [9].

2.2. Phenomenon of Vermilion Coating and Ink Filling in Oracle Bone Inscriptions

As noted by Zhenyu Luo, "Among the turtle shells and bones in my possession, many have been coated with vermillion on the inscriptions, but instances of ink coating are rare, with only one or two in my collection. Vermillion remains bright and vivid to this day, whereas ink resembles coal smoke, seeping deep into the characters and impossible to erase" [10]. From 1928 to 1937, the Institute of Historical Linguistics of the Academia Sinica conducted 15 large-scale scientific excavations at the Yinxu site. Although no inscribed oracle bones were found during the tenth excavation, "multiple turtle shells with one side coated in vermillion were discovered in the West District's large tombs, warranting further investigation" [11].

"Collected Works" 6057 (see Figure 2) is a scapula inscribed with details of Fang Guolai's invasion, related to warfare. Upon examining the original piece, it becomes apparent that every character of the oracle bone inscription is coated with vermillion, essentially covering the entire bone surface.



Figure 2: Front and reverse sides of "Collected Works" 6057.

"Collected Works" 10405 (see Figure 3) is an oracle bone with vermillion inscriptions related to sacrificial hunting during the reign of King Wu Ding of the Shang Dynasty, containing information about Shang society and celestial phenomena. The bone measures 32.2 cm in length and 19.8 cm in width.

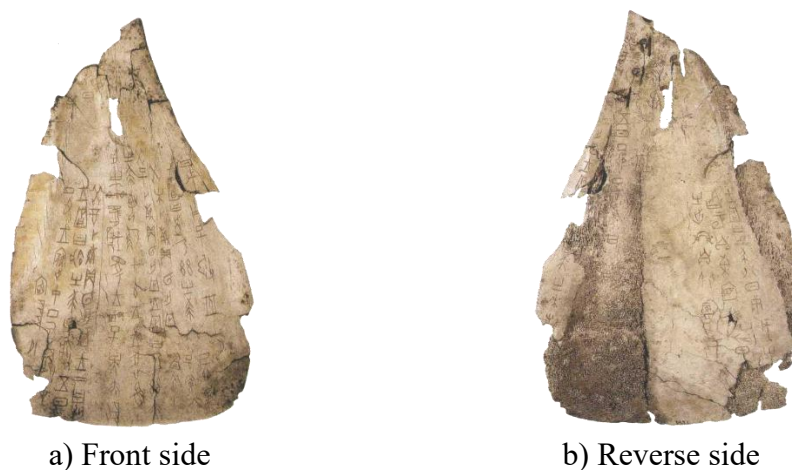


Figure 3: Front and reverse sides of "Collected Works" 10405.

"Collected Works" 6834 (see Figure 4) is a turtle shell associated with warfare, with varying font sizes in the inscription; large characters are coated with vermilion, while smaller characters are filled with ink.



Figure 4: "Collected Works" 6834.

Among the oracle bones stored in the National Library, out of the range of collection numbers 1 to 12800, 683 bones were coated with vermilion, and 343 shells had inscriptions, with over 80% from the period of King Wu Ding. The subjects of these inscriptions included sacrificial rituals, weather, farming, tribute, military affairs, and more [12]. Existing evidence indicates that both oracle bones and turtle shells were subjected to vermilion coating and ink filling. The Shang people applied vermilion and ink coatings to divination texts related to warfare or sacrificial activities. The frequent occurrence of vermilion and ink coatings demonstrates that these practices were deliberate rather than incidental. Scholars have explored the reasons behind these practices.

Zuobin Dong proposed, "Vermilion and ink were undoubtedly important writing tools of the Yin Dynasty, necessary for writing. However, after the inscriptions were carved, there was no need to use them. I believe that the application of vermilion was solely for the sake of aesthetics, to make it look better, and it was not a specific system, nor was it necessary to coat certain types of divinations with vermilion and others with ink" [13]. In other words, the application of vermilion and ink was for aesthetic purposes, enhancing visual effects.

Bingquan Zhang stated, "After the divination inscriptions were carved, often some vermilion, brown, or ink were applied to the carvings. This was probably to make the text prominent and easily recognizable" [14]. Yuxin Wang suggested, "Applying ink (i.e., carbon black) on the oracle bones made the white strokes distinct during engraving, distinguishing the engraved parts from the uncarved ones. After engraving, the ink was wiped away, revealing the original color of the bone, and the carved characters were naturally filled with the residue of carbon black, making the text more prominent" [15]. In essence, the application of vermilion and ink, especially vermilion, had the dual purpose of facilitating the carving of divination texts and making the characters visually striking or emphasized.

British scholar Tao Wang believed that, like the drilling and engraving of oracle bones, coloring might also be a part of divination. He suggested linking the coloring of oracle bones with contemporary witchcraft and religious rituals or the long-standing legend of "Dan Shu," which might be connected to these practices [16]. Yuxin Wang also suggested that the application of vermilion might be related to religion, as cinnabar is bright red and warm in color. Coating the entire oracle bone with cinnabar before engraving would make it vivid and dazzling. Prolonged viewing during engraving would inevitably cause dizziness and eye strain, making it impractical to coat the entire bone with vermilion before carving [17]. Hence, the application of vermilion and ink,

especially vermilion, bore some religious significance or was associated with specific sacrificial needs.

The Shang people used vermilion or ink for writing divination inscriptions on oracle bones, often coating and filling these inscriptions with vermilion and ink, the former for the preparation of carving the inscriptions and the latter with particular symbolism. Existing research indicates that vermilion coating and ink filling were not only for aesthetic purposes and emphasis but also held specific religious significance. This underscores the importance of the process of coating and filling in the divination practices of the Shang people.

According to the literature, the broader environment of the Shang Dynasty was characterized by the notion that "Shang people value white": the Xia people value black, using dark colors for significant events, dark-colored horses for war, and black sacrificial animals; the Shang people value white, using light colors for significant events, light-colored horses for war, and white sacrificial animals; the Zhou people value red, using bright colors for significant events, red horses for war, and chestnut sacrificial animals [18]. Considering this, why were vermilion and ink used for divination inscriptions instead of white, as indicated by the existing literature? This contradicts the record in extant literature that "the Xia people value black," "the Shang people value white," and "the Zhou people value red." In his work "Comprehensive Examination of the Characters of the Yin Dynasty Divination," Zongyi Rao wrote, "According to the 'Li Ji · Tan Gong,' it states: 'The Shang people value white, with significant events at midday, war with Han horses, and sacrificial offerings with white animals.' 'Ming Tang's Position': 'The Shang people have white horses with black manes,' and it also mentions 'Shang white stallion.' 'Yin Annals' also mentions valuing white, hence this mentions 'black stallion.' However, 'Tang's Announcement' states: 'Dare to use black sacrificial animals.' This indicates that at the beginning of his reign, Shang Tang continued the Xia system, using black sacrificial animals" [19]. Zongyi Rao believed that, at the inception of the Shang Dynasty, Shang Tang continued the use of black sacrificial animals according to the Xia system, which did not contradict the later formation of the notion that "the Shang people value white." According to Zongyi Rao's viewpoint, this logic can account for the phenomenon of ink inscriptions and ink coating. However, the appearance of vermilion coating at this time requires further explanation. The authenticity of the notion that "the Shang people value white" still requires in-depth research and cannot be simply affirmed or entirely refuted.

3. "Red" and "Black" in Oracle Bone Inscriptions

The previous discussion emphasized the use of vermilion and ink in the process of treating oracle bones. The characters "red" and "black" (i.e., "red" and "black") are also reflected in oracle bone inscriptions:

3.1. The Character "Red"

The character "red" in oracle bone inscriptions can be written in two forms: " " or " " in the "Shuo Wen Jie Zi" dictionary, it states: "Red, the color of the south. The character is composed of 'big' and 'fire.' All characters related to red include the radical 'red.' 'Chen' is an ancient character with the radicals 'flame' and 'earth.'"

The character "red" is used as a color term, and the Shang kings would divine whether the horse used for driving should be red (i.e., vermilion), as seen in the examples of the "red horse" in "Collected Works" 28195, "Collected Works" 28196, and "Collected Works" 29418. The color "red" is often used to describe the color of animals, indicating that the Shang people used animals of various colors for sacrificial rituals.

3.2. The Character "Black"

The character "black" in oracle bone inscriptions is written as "𠂔" and it belongs to the same origin as the character "𠂔". In the "Shuo Wen Jie Zi," it is stated: "The color created by smoke. The character consists of 'flame,' with 'above' and '𠂔'. ' The ancient character is 'window.'"

The character "black" is used as a color term, often used to describe sacrificial animals such as oxen, dogs, and sheep, as seen in examples like the "black ox" in "Collected Works" 1142, the "black dog" in "Collected Works" 29544, and the "black sheep" in "Collected Works" 30022. It is worth noting that in "Collected Works" 30022, whether sacrificing a "black sheep" or a "white sheep" for rain, both occasions resulted in heavy rain. This indicates that regardless of sacrificing a white or black sheep for rain, it would lead to rain, which was the desired divination outcome for the Shang people. If we follow the notion of "the Shang people value white," in the context of divination for rainfall, both the use of white and black sheep resulted in heavy rain. This indicates that the status of black (i.e., ink color) and white sheep is equal in this oracle bone inscription. Under the concept of "the Shang people value white," oracle bone inscriptions featured colors other than white. In this discussion, the position of the color "black" (i.e., ink color) may be exceptional (as seen in the example of "Collected Works" 30022).

4. Conclusion

From the treatment of oracle bones to the content of divination inscriptions, vermilion and ink can be observed. The appearance of vermilion and ink inscriptions demonstrates that the Shang Dynasty had already possessed writing tools, although their widespread use had not yet been realized. Most of the texts were still engraved on oracle bones using cutting tools. After engraving, the oracle bone inscriptions would exhibit phenomena such as vermilion coating and ink filling. The Shang people used different colors to mark these oracle bones for specific ritual purposes. Using oracle bone divination was a sacred and solemn act for the Shang people, and the content of the divination was also highly significant. Based on the existing literature, the mainstream concept at the time was that "the Shang people value white." However, in the divination texts for hunting, King Hui would use a red horse, and in the sacrificial divination, a black sheep was used alongside a white sheep. This suggests that vermilion and ink colors were also highly important in the lives of the Shang people.

Vermilion is not only found in oracle bone inscriptions but also in Shang Dynasty funerary practices. Between 1953 and 1985, a vermilion-coated shell fragment was unearthed in the upper layer of the Erli Hill cemetery located on the outer side of the north wall of Shangcheng, Zhengzhou [20]. Between 2018 and 2020, at the base of Tomb T11M9 in the Shangcheng of Yanshi, there were square vermilion traces, measuring 1.85 meters in the north-south direction, 0.6 meters in width, and with a thickness of 0.01 to 0.02 meters [21]. Some scholars propose that vermilion burials were prevalent during the Shang Dynasty, wherein a layer of vermilion was spread at the bottom of the burial chamber as part of a special burial custom for the deceased [22]. Furthermore, apart from spreading vermilion at the bottom of burial chambers, human bones themselves displayed vermilion coatings [23]. In traditional Chinese beliefs, vermilion is used for warding off evil, making its use in funeral rituals highly appropriate. Life's most significant events revolve around life and death, and the Shang people's use of vermilion in funerary objects was not just for aesthetics but also reflected profound religious significance.

In summary, white, vermilion, and ink held crucial significance during the Shang Dynasty. The author suggests that these color preferences and associated customs, including ritual practices, might have been inherited from preceding dynasties, given the chronological position of the Shang Dynasty between the Xia and Zhou. As Raoyong Zongyi suggested, "Shang used black sacrificial animals, adhering to the Xia system." Therefore, it is reasonable to observe the frequent use of

several colors during a specific dynasty.

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