

to import the alloy from China, and their Honzō (*Pen ts'ao*) give formulas for its preparation.<sup>1</sup> The Koreans read the same word *not* or *not-si*. The French missionaries explain it as "composition de différents métaux qui sert à faire les cuillères, etc. Airain, cuivre jaune (première qualité). Cuivre rouge et plomb."<sup>2</sup>

The history of zinc in the East is still somewhat obscure; at least, it so appears from what the historians of the metal have written about the subject. I quote from W. R. INGALLS:<sup>3</sup> "It is unknown to whom is due the honor of the isolation of zinc as a metal, but it is probable that the discovery was first made in the East. In the sixteenth century zinc was brought to Europe from China and the East Indies under the name of tutanego (whence the English term tutenague), and it is likely that knowledge of it was obtained from that source at an earlier date. . . . The production of zinc on an industrial scale was first begun in England; it is said that the method applied was Chinese, having been introduced by Dr. Isaac Lawson, who went to China expressly to study it. In 1740 John Champion erected works at Bristol and actually began the manufacture of spelter, but the production was small, and the greater part used continued to come from India and China." The fact that in the eighteenth century the bulk of zinc which came to Europe was shipped from India is also emphasized by J. BECKMANN,<sup>4</sup> who, writing in 1792, regretted that it was then unknown where, how, and when this metal was obtained in India, and in what year it had first been brought over to Europe. According to the few notices of the subject, he continues, it originates from China, from Bengal, from Malakka, and from Malabar, whence also copper and brass are obtained. On the other hand, W. AINSLIE<sup>5</sup> states that by far the greater part of zinc which is met with in India is brought from Cochin-China or China, where both the calamine and blende are common. Again, S. JULIEN<sup>6</sup> informs us that zinc is not mentioned in ancient books, and appears to have been known in China only from the beginning of the seventeenth century.

W. HOMMEL<sup>7</sup> pleaded for the origin of zinc-production in India, whence it was obtained by the Chinese. He does not know, of course, that there is no evidence for such a theory in Chinese sources. The

<sup>1</sup> GEERTS, *Produits*, p. 641; F. DE MÉLY, *Lapidaire chinois*, p. 42.

<sup>2</sup> *Dictionnaire coréen-français*, p. 291.

<sup>3</sup> *Production and Properties of Zinc*, pp. 2-3 (New York and London, 1902).

<sup>4</sup> *Op. cit.*, Vol. III, p. 408.

<sup>5</sup> *Materia Indica*, Vol. I, p. 573.

<sup>6</sup> *Industries de l'empire chinois*, p. 46.

<sup>7</sup> *Chemiker-Zeitung*, 1912, p. 905.