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THE WRITTEN WORD: WRITING EQUIPMENT
FROM CHINESE SITES IN CENTRAL OTAGO

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Many artefacts of Chinese origin have been uncovered in the Chinese site excavations in Central Otago. Some of the artefacts are of types which are generally unfamiliar to non-Chinese. The discussion in this paper is centred around one such artefact - Chinese inkstones. Recovered specimens, associated paraphernalia, their functions, and the role of written communications are also examined.

Historical background

The earliest examples of Chinese writing are on ceramic sherds dating from ca. 4000 B.C. From the Shang Dynasty on, (1800-1200 BC) the evolution of Chinese writing is well documented. From the outset, Chinese writing and painting have been closely related, eventually evolving into various calligraphic scripts (Aero, 1980:38-39).

The four main artefacts associated with Chinese writing - ink, inkslabs (or stones), brushes and paper also have long histories. Collectively, they are often described as "the 4 precious things" (Jenyns, 1982:232) or "the 4 treasures" (Yu, 1981:7). The artefacts used in traditional Japanese "ink painting" are similar (Saito, 1965).

The ink, widely known today as 'Indian Ink', is more accurately called 'encre de Chine' by the French, for this rich, black ink was developed in China towards the end of the Han dynasty (c. 200 AD; Aero, 1980:139). From that date on, the literature on Chinese ink making is extensive (Jenyns, 1982:229-230). Chinese ink differs from western ink in its composition. Unlike western ink it does not fade when exposed to light for long periods, and it is sold in the form of solid inksticks or inkcakes rather than as a liquid. The inksticks and cakes are formed in moulds enabling an infinite variety of shapes to be produced ranging from simple square-sectioned sticks to elaborate sculptured inkcakes. The chief constituents of Chinese ink are lampblack and glue. The pigment was originally obtained by burning pine and other woods in special furnaces and collecting the soot, but the finer inks are made from the lampblack obtained by burning vegetable oils (Jenyns, 1982; 239). The glues were made by rendering down various animal products, e.g. deer horns.

Sometimes they were perfumed or had other additives (Aero, 1980:139). The production of good quality Chinese ink depends on good pigments, good glue (which imparts texture and longevity), and long grinding.

When required, a portion of an inkstick is ground on a palette which is specially designed for the purpose. They are usually known as inkstones or inkslabs (although not all are made of stone, e.g. some are made of ceramic). The oldest known specimens date from the Han Dynasty (Chang and Chang, 1980:142). Although inkstones are made in many shapes and sizes and are often elaborately carved and decorated, they all have in common a flat or slightly concave surface for grinding the ink stick and a shallow 'well' at one end for holding water (see Figs). The ground ink powder is mixed with water brushed up from the well to produce ink of whatever consistency the user wants. In their simplest and commonest form inkstones consist of rectangular or circular slabs of finegrained stone (ca. 15 mm thick) with the above mentioned features carved into their surface. Even these basic forms may have floral or other decorations, usually carved in raised relief around the well. Frequently, the owner's name or 'literary sentiments' are incised into the base of the stone. They were usually sold and kept in a two-piece wooden 'case' consisting of a base section (often footed) and a lift-off cover. The quality and decoration on the cases usually matched that of the inkstone inside. According to Jenyns (1982:232) inkstones were the most valued of the calligraphic tools. They have an inherent heirloom value related to their durability, antiquity and quality of workmanship and unlike the other writing necessities (brushes, ink sticks and paper), being made of stone and other durable materials virtually never wear out. Both inkstones and inkcakes (the latter because of their scent and artistic modelling) are considered collectors items (Jenyns, 1981:231-232).

Several examples of another form of ink grinding device, 'ink mortars' are known, but little is known about their antiquity. Ink mortars are essentially robust ceramic dishes with a broad flat base. Reported archaeological specimens (all from U.S. and Canadian sites) are stoneware; vary between 10 and 16 cm in diameter, 7 to 9 cm in base diameter, 3-4 cm in height and have green glazed rims (Bressie and Bressie, 1972:101; C.A.I. data). Their robust construction suggests their primary purpose was for dry grinding ink sticks and cakes, but they may also have had other uses such as washing brushes and mixing shades of grey, although small smooth-sided porcelain dishes are usually preferred for these roles (Saito, 1965:17; Yu, 1981:24). Possibly ink mortars were

used for preparing Chinese ink in commercial quantities for accounting or documentary purposes.

Like the other writing artefacts, the Chinese writing (and painting) brush has a long history. The invention of the camels hair brush is traditionally attributed to one Meng T'ien in 250 BC but brushes probably existed much earlier, as evidenced by the decorations on pottery from the Shang era (c. 1523-1028 BC; Yu, 1981:10). The Chinese brush is unique, its distinguishing feature being the tips which are always trimmed to a point. The brush itself is made from animal hair, including that of weasels, rabbits, deer, foxes, wolves, sheep and goats. The handle is usually made of bamboo which imparts lightness and balance. Chinese brushes are made in about ten different sizes and there are many different types of variable stiffness. They have been described by a Chinese painting teacher as "a superbly sensitive and responsive instrument, the pivotal point from which Chinese calligraphy and painting developed" (Yu, 1981:10-13).

The fourth 'writing treasure', paper, was invented in China ca. 105 AD. The invention is attributed to one Ts'ai Lun, a member of the Imperial household. Over 1000 years elapsed before this revolutionary discovery reached Europe. Prior to the development of paper, the Chinese used silk and bamboo as writing surfaces. The basic technique of paper making has changed little over the years. It involves macerating plant fibre, then rolling the drained fibre into sheets which are then dried. The different qualities, weights and textures of paper are produced by mixing various combinations of wood pulp, other plant fibres and bleaching chemicals. The commonest additives in Chinese rice paper (which has become a generic name) are mulberry bark, bamboo, hemp and sandalwood. Rice stalks are seldom used today. Rice paper is delicate, yet strong and noted for its absorbency (Yu, 1981:26-27).

The archaeological evidence

Artefacts associated with traditional Chinese writing were recovered from three Central Otago sites, viz. Chinatown, Cromwell (S133/48; in four huts), the Flax Grove shelter in the Kawarau Gorge (S133/494), and the Sandy Point hut site (S124/231) in the Upper Clutha Valley. However, only two of the 4 traditional 'writing treasures' are represented, viz. inkstones (described in Appendix 1 and illustrated in Figs 1-6) and a few pieces of paper bearing Chinese calligraphy. Other than remnants of paper labels on opium cans and bottles of Chinese origin, most of the paper artefacts were recovered from one site, the Flax Grove shelter, S133/494, Kawarau

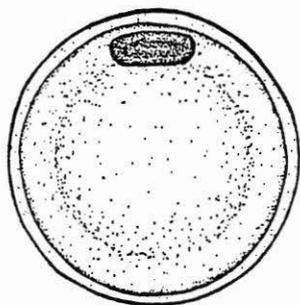


Fig. 1

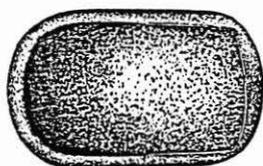
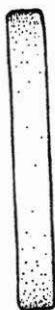


Fig. 2

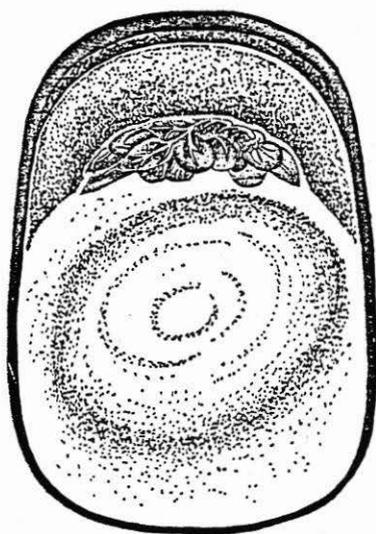


Fig. 3

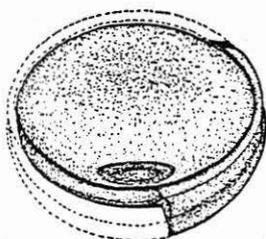


Fig. 4a



Fig. 4b

FIGURES 1-4. Chinese inkstones.

Gorge (Appendix 2). They were preserved because they were used as caulking between the stones on the interior side of the wall of the shelter. The most notable are a list detailing various ingredients for a medicine to treat rheumatism and headaches, and a shopping list detailing various products, weights and prices. Both are written on rice paper. Seven Bank of New Zealand receipts for gold deposits were also recovered from the same site.

Several writing artefacts of European origin have also been recovered including stoneware and glass in bottles (in several sites, e.g. four from Chinatown, and six from the Arrowtown Chinese Settlement), a piece of chalk (Arrowtown Chinese Settlement, hut 2), a purple-lead pencil (Ah Lum's store, Arrowtown), a red crayon (Sheung Fong shelter, S133/21 Cromwell Gorge), seven slate pencils (Chinatown hut 18, Arrowtown, Caliche shelter (Cromwell Gorge, S133/223), the Rapids (Kawarau Gorge, S133/453), and the Flax Grove site), and several small fragments of writing slates (Chinatown huts 19 and 21, Firewood Creek shelter (Cromwell, S133/424), Ha Fong shelter (Cromwell Gorge, S133/22), and the Rapids site (Kawarau Gorge, S133/453)). A piece of slate from Arrowtown has vertical columns incised on it with thirteen marks on it (llll lll lll). The presence of fragments of gridded slate in four sites is interesting; they were possibly used in a game (Wei-ch'i?). Fragments of unmarked building slate found in other sites, including rockshelters, may have been earmarked for the same purpose. The purple-lead pencil may have been used by Ah Lum himself for accounting purposes.

Discussion and conclusions

Although the Chinese sojourners had access to many familiar things (particularly foods), through the network of Chinese stores on the goldfields, it is clear from contemporary records (notably those of the Rev. Alexander Don, the Presbyterian missionary to the Chinese), that many gradually lost touch with kith and kin in China and events there, as a result of a gradual communication breakdown, both voluntary and involuntary. The situation was exacerbated by the time lag between writing and receipt of letters, reluctance to write because individuals often did not have any spare money to send home, and the distancing effect created by the protracted sojourns of many of the miners.

The great majority of the letters the Chinese miners received in New Zealand, directly or indirectly, asked for money. Relatives at home often did not understand the difficulties involved in goldmining, and tended to think the miners spent most of their earnings on opium, gambling and high

living (probably true in some cases) rather than saving to improve the standard of living of their family in China. Similarly, it was unusual for a Chinese miner to write home, unless he had sent or was about to send some money (see Don's comments summarised in Butler, 1977:49-50). The evidence suggests that as gold returns declined, so too did letter writing.

It is difficult to ascertain the degree of literacy, or at least the ability to read and/or write Chinese, amongst the Chinese miners. Again, Don provides a number of insights. With regard to letter writing he noted "that as in China, several men in Round Hill and Riverton earned a living as scribes, writing letters for those unable to do so" (Don 1/9/1882:45). Don himself was often asked and offered payment to write letters (ibid). On the same visit he noted "that a group of men were clustering about an educated man in a store who was reading the news from the "Chinese Mail" (Don, 1 Sept 1882:44). Don advocated the Chinese Illustrated News to the Chinese miners as a means of keeping in touch with events at home. Several of the miners at Round Hill subscribed (Don, 1 July 1882:3). Chinese language books were highly valued. Don noted that "they were removed from one hut to another by their owners until they literally fell apart" (Don, 1 Jan 1885:124). These references indicate, that at least in the early years, many of the Chinese were keenly interested in keeping up with events in their homeland, treasured readable material, and if they couldn't write, they contracted someone to do so. Don (1894:22-23) also noted an incident where a Chinese miner, who had had his mining tools stolen by a European, waded through six volumes of a Chinese-English dictionary selecting "violent and abusive phrases and words". He practised on "sheet after sheet of paper (old grocery bags and account forms)" and then composed a letter and gave it to the misappropriator. As a result he got his tools back.

The archaeological evidence reflects the interest in written communications too, although some of the traditional prerequisites, inksticks and writing brushes have not been recovered. Presumably, most of the inkstones were owned by educated Chinese who could write their native script fluently, possibly the scribes as described by Don.

No clear pattern is evident from the distribution of the recovered specimens. As might be expected there was a high number (4 or 66%) in the urban Cromwell Chinatown site, yet none were recovered from the Arrowtown settlement. Two of the Chinatown specimens were found within a metre

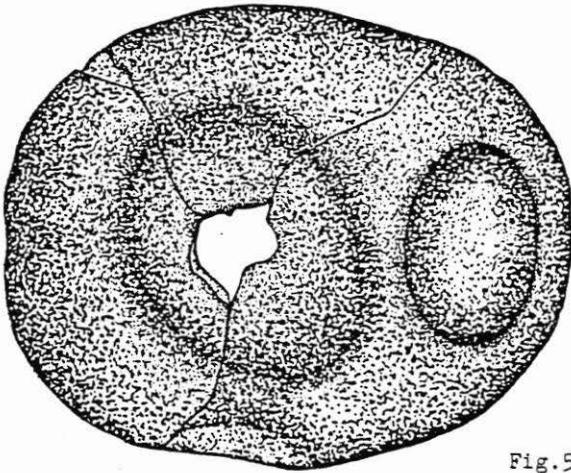


Fig. 5

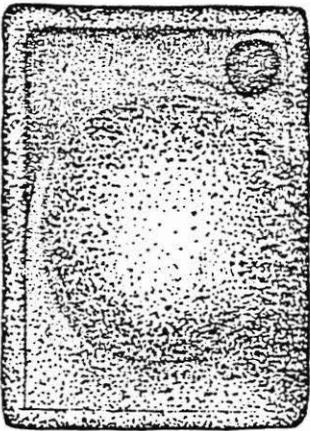


Fig. 6a



Fig. 6b

FIGURES 5 and 6. Chinese inkstones.

of each other in Hut 26. One of the two is the only example in the assemblage which could be considered worn out (Fig.5). The sparse rural distribution is more readily understandable; inkstones only being found in two sites - the Flax Grove shelter in the Kawarau Gorge and in the Sandy Point (upper Clutha) hut site. Probably more of these artefacts existed in the extant sites. Others may have been fossicked or kept when their owners moved.

It is apparent from this assemblage and descriptions of these artefacts (e.g. Jenyns, 1982) that inkstones have an individuality perhaps greater than any other Chinese artefact. The development of a typology must await the recovery or reporting of further archaeological specimens. To date few have been reported in the archaeological literature. Brown and Rusco (1979:624) described and depicted a complete example from Lovelock, Nevada, and a fragment, with an apparently identical design, was found in the Cortez Mining District of the same state (Hardesty & Hattori, 1983: 43). Evans (1980:94) stated that a fragment of a black inkstone was recovered at Donner Summit, California. The Asian Comparative Collection at the University of Idaho, Anthropology Laboratory holds two donated specimens (P.Wegars, pers.comm.).

Three basic shapes are readily apparent: rectangular with rounded corners, oval, and circular, but there are wide variations in dimensions and decor even within these broad categories. However, there seems to be some consistency in the rock types selected for making inkstones. The Central Otago specimens (except the one from the Sandy Point site) are all composed of either grey or black phyllitic rock. This is consistent with the rock types of the overseas specimens described above. The fact that the Sandy Point specimen is of such markedly different petrology further raises doubts about whether it is an inkstone.

To conclude, the six inkstones recovered from Chinese sites in Central Otago constitute a useful assemblage for comparative and typological purposes. Their presence reflects the long history of Chinese writing and the retention of its basic technology. The recovery of European ink bottles and other writing artefacts indicates the gradual adoption by many of the miners of western writing technology, whilst historical information suggests that overall there was a gradual decline in written communications between the Chinese miners in New Zealand and their families in China.

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APPENDIX 1

Inkstones found in Chinese sites in Central Otago

1. (Fig.1). Fine grained, grey slate-like stone. The shape is circular with vertical sides. Diameter 72 mm, height 8 mm. No ornamentation. Vague, illegible scratches on base. The surface is blackened with ink residue.
Chinatown (S133/48), Hut 18, Layer 2.
2. (Fig.2). Fine grained black stone. The shape is rectangular with rounded corners, sides vertical. Length 65 mm, width 39 mm, height 12 mm. No ornamentation. Some poorly legible Chinese characters incised on base. The stone has been used but has minimal wear.
Chinatown (S133/48), Hut 26, M13, Layer 1.
3. (Fig.3). Fine grained black stone. The shape is rectangular with rounded corners, sides vertical. Length 130 mm, width 91 mm, height 13 mm. Ornamentation consists of raised relief floral decoration between grinding area and well. A single Chinese character is scratched on the side. The grinding area has a marked concavity from wear and is surrounded by ink residues. This inkstone is probably the finest example in the assemblage.
Found by a Cromwell resident, Mr R. Hansen, on the terrace beside the Kawarau River, immediately downstream of the Cromwell Chinese settlement (S133/48).
4. (Fig.4). Fine grained black stone, circular with vertical sides. Diameter 58 mm, height 4 mm. No ornamentation or marks. Found in association with a wooden base (depicted in the figs.). Both artefacts have been burnt, ca. 1/3 of the base has survived. The height of the stone and the base is 9 mm. The diameter of the base is 68 mm.
Flax Grove shelter (S133/494), Kawarau Gorge, C6, Layer 1.

5. (Fig.5). Fine grained grey stone, sides angle inwards. Oval shape. Length 107 mm, width 92 mm, height 10 mm. No ornamentation. Several poorly legible Chinese characters incised in base, some written over others. Reconstructed from four fragments. The grinding area is very worn, to the point where the stone in the grinding area is less than 2 mm thick. This may have caused the stone to break and be discarded. The stone has a very shallow (0.5 mm) rim around the base. Chinatown (S133/48), Hut 26, M14, Layer 2.

6. (Fig.6). Coarse grained, creamy-white marble. Rectangular with vertical sides. Length 80 mm, width 58 mm, height 10 mm. No ornamentation. Four Chinese characters incised on base, originally inked in black. This specimen is included because in basic shape and form it is identical to the other inkstones. However, its coarse grain and open texture would make it an inferior inkstone. It almost certainly has never been used to grind black ink. Some straw coloured residues on the surface are believed to be decomposition products rather than grinding residues. The stone may have been kept for talismanic rather than practical purposes.

Sandy Point hut site (S124/231), Upper Clutha valley, A1, surface.

APPENDIX 2

Summary of paper artefacts bearing Chinese calligraphy

1. A list of ingredients for a headache and rheumatism cure, written on rice paper.
2. Four pak kop piu tickets.
3. A shopping list (on rice paper) detailing products, volumes and prices.
4. Tea wrapper "Best Kooloo Tea, Canton". Date 1885 on wrapper.
5. Small fragments of squares of red paper. Most have one or more Chinese characters written on them.
6. A page from a Bible written in Chinese. Almost certainly obtained from Rev. Don or his successor.

Numbers 1-5 were found in the wall of the Flax Grove shelter. Number 6 was found in the wall of the Rockfall 1 site (S133/37). In addition, several all or partly legible Chinese language labels have been found on opium cans, bottles, etc.