

Clandestine Communication in Historic China

Ralph D. Sawyer

As military forces grew in strength, tactics evolved, and warfare became more lethal in ancient China, the need for communication between the political authorities and leaders in the field, as well as among commanders and their subordinates, was increasingly recognized. Vestiges in Shang dynasty (1650-1045) oracle scripts and Western Zhou dynasty (1045-771) bronze inscriptions show written commands were already being issued to field commanders. Furthermore, according to the earliest historical writings, the *Chun Qiu* (春秋), *Zuo Zhuan* (左傳), and *Guo Yu* (國語), written and verbally transmitted reports were being routinely furnished to the ruler and directives frequently received by the seventh and sixth centuries BCE.

A passage in the *Art of War* (兵法), the infamous work attributed to Sunzi (孫子) that probably reflects late Spring and Autumn (722-481) or very early Warring States (481-221) thought, indicates that because of the complexities of the battlefield and the emergence of experienced, if not yet fully professional, generals, instructions issued by a distant ruler ignorant of military strategy and the details of the situation could entangle the operation and even doom the state:¹

¹ "Planning Offensives." (For a complete translation of the *Art of War* and introduction to the text see Sawyer, *Sun-tzu Art of War* (Boulder: Westview Press, 1994). All translations from Chinese in this article are also by the author.) For overviews of Shang and Western Zhou warfare see Ralph D. Sawyer, *Ancient Chinese Warfare* (New York: Basic Books, 2011) and *Conquest and Domination: Rise and Demise of the Western Chou* (North Charleston: Create Space, 2013).

There are three ways by which an army is put into difficulty by a ruler:

He does not know that the Three Armies should not advance but instructs them to advance, or does not know that the Three Armies should not withdraw and orders them to retreat. This is termed “entangling the army.”

He does not understand the Three Armies’ military affairs but directs them in the same way as his civil administration. Then the officers will become confused.

He does not understand the Three Armies’ tactical balance of power but undertakes responsibility for command. Then the officers will be doubtful.

When the Three Armies are already confused and doubtful, the danger of the feudal lords taking advantage of the situation arises. This is referred to as “a disordered army drawing another on to victory.”

Sunzi accordingly concluded that a commander who had received his commission and departed for combat could, and should, ignore inappropriate mandates from the ruler: “As for “orders of the ruler which are not implemented, if the ruler’s orders contravene these four changes, do not implement them. One who truly understands these changes in affairs knows how to employ the military.”² In concurring, the military works composed in the Warring States period, generally termed the classic writings, and thereafter provided further impetus to this belief, resulting in the commander’s necessary independence becoming a fundamental theoretical assumption, though one rarely observed in practice except when perspicacious or headstrong field commanders acted independently and deliberately cited it in justification.³

Irrespective of whether the central government attempted to direct battlefield activities or not, communication remained necessary to report developments, suggest

² The basic statement is found in “Nine Changes” while the restatement quoted here comes from the Linyi tomb text fragments discovered a few decades ago. The “four changes” refer to “roads that are not followed,” “armies that are not attacked,” “fortified cities that are not assaulted,” and “terrain that is not contested.” (For a complete translation with explanatory notes see Sawyer, *Art of War*, 244-245.)

³ Zhuge Liang, the great third century strategist, was a particularly vociferous proponent of the commander’s independence. (For a translation of his writings see Sawyer, *Zhuge Liang: Strategy, Achievements, and Writings* [North Charleston: Create Space, 2014].)

possible tactics, and request men and materials. The *Bingfa Baiyan* (兵法百言), a late Ming Dynasty (1368-1644) military text that clearly viewed communication as a necessity and vital achievement, defined “transmission” (傳) as “communicating information.” According to the rationalization embedded in the entry’s succinct summary, “When an army maneuvers without any method of communication, its segmented forces will not be able to recombine and its distant units will be unable to respond. Allowing forces to be obstructed and cut off is the Dao (Way) of defeat. However, if your communications are not secret, on the contrary they will become part of the enemy’s calculations. If you are cut off by the enemy or your line of march severed where no one can reach you far off, then you must communicate through subtle techniques.”

In explication, the *Bingfa Baiyan*’s author added, “Communicating information is the army’s most essential activity. However, every army’s orders are different, so the main point is keeping the enemy from becoming aware of them while informing your own army. While communication is the most secret activity, there are only three essentials: terseness, convenience, and astuteness.”

All the classic military writings composed during the Warring States period or roughly the fifth through third centuries BCE place great stress upon maintaining secrecy.⁴ The *Art of War* initiated discussion of the topic by demanding such absolute secrecy that the troops and even the highest ranking officers would deliberately be kept ignorant of the commander’s plans. Not only must “the location where we will engage the enemy not become known to them” but all activities must also be unfathomable:⁵

You must be unfathomable when you mobilize the army and form strategic plans. It is essential for a general to be tranquil and obscure, upright and self-disciplined, and able to stupefy the eyes and ears of the officers and

⁴ The classic military writings include the *Art of War*, *Sima Fa*, *Wuzi*, *Tai Gong Liutao* [*Six Secret Teachings*], *Wei Liaozi*, *Huangshi Gong Sanlue* [*Three Strategies*], and the recently recovered *Sun Pin Bingfa*. (In the Sung dynasty the first six and a Tang dynasty work known as the *Questions and Replies* were assembled into the compilation known as the *Seven Military Classics*. It is fully translated in Sawyer, *Seven Military Classics of Ancient China* [Boulder: Westview Press, 1993] while the *Sun Bin Bingfa* is similarly available in Sawyer, *Sun Pin Military Methods* [Boulder: Westview Press, 1994].)

⁵ “Nine Terrains”

troops, keeping them ignorant.⁶ He alters his management of affairs and changes his strategies to keep other people from recognizing them. He shifts his position and traverses indirect routes to keep other people from being able to anticipate him.

At the moment the general has designated with them, it will be as if they ascended a height and abandoned their ladders. The general advances with them deep into the territory of the feudal lords and then releases the trigger. He commands them as if racing a herd of sheep -- they are driven away, driven back, but no one knows where they are going.

Because the commander's plans are never revealed until the last second, even then never completely divulged, secrecy is maintained and victory seems to have been mysteriously achieved: "In accord with the enemy's disposition we impose measures on the masses that produce victory, but the masses are unable to fathom them. Men all know the disposition by which we attain victory, but no one knows the configuration through which we control the victory. Thus a victorious battle strategy is not repeated, the configurations of response to the enemy are inexhaustible."⁷

This fervent emphasis upon secrecy resulted in a tension between advocates who believed the army should be completely formless and those who advised undertaking deceptive measures to obscure and thereby conceal reality, not to mention manipulate the enemy for tactical and strategic purposes.⁸ According to the original formulation preserved in the *Art of War*, "the pinnacle of military deployment approaches the formless. If it is formless, then even the deepest spy cannot discern it nor the wise make

⁶ Vegetius appears to have been the first in the West to be similarly concerned with secrecy. In BKIII:6 of his *Epitome of Military Science* he states: "The most important thing to be careful about is to preserve secrecy concerning the places and routes by which the army is to proceed. The safest policy on expeditions is deemed to be keeping people ignorant of what one is going to do. It is for this reason that the ancients had the standard of the Minotaur in the legions. Just as he is said to have been hidden away in the innermost and most secret labyrinth, so the general's plan should always be kept secret." (Translated by N. P. Milner, *Vegetius: Epitome of Military Science* [Liverpool: Liverpool University Press, 1996], p. 74). Separately, in BKIII:26 he adds, "Discuss with many what you should do, but what you are going to do discuss with as few and as trustworthy as possible, or rather with yourself alone." (N. P. Milner, p. 118.)

⁷ "Nine Terrains."

⁸ For an expanded discussion of the relationship among secrecy, the formless, and deception see Sawyer, *Lever of Power: Military Deception in Historic China and the Early West*, forthcoming.

plans against it.”⁹ Although it remained an ideal rarely realized, serious measures were constantly undertaken to prevent the enemy from gaining useful information.

Battlefield Control

The early military and historical writings claim that China’s armies were already being expertly directed by signal flags, drums, and gongs in legendary antiquity, but it is more likely that they were initially employed by the Shang to control their rapidly evolving military edifice. Questions of inception apart, by the early Spring and Autumn period operational forces had long been capable of segmented and articulated action. Generals were increasingly exercising command from the rear rather than leading or fighting in the forefront and they were expected to maintain control of their forces even in horrific circumstances.

Drumbeats, perhaps the most fundamental measure of all, indicated that the army should advance and normally set the speed with their cadence. According to the military writings, the direction of movement could also be signaled by drumbeats clustered into recognizable groups, a single beat indicating straight ahead, a double beat perhaps ordering a turn to the left, and a triple beat one to the right. Although flags and pennants could be similarly employed to indicate direction, battle flags displaying a variety of prominent symbols such as eagles and the moon and in different colors were the primary means to designate the formations to be assumed.¹⁰ In addition, gongs were employed to signal a retreat, pipes and whistles to indicate withdrawals and other actions.

To overcome the din of battle and compel a uniform response among the soldiers, the classical military writers emphasized the need to multiply the drums and ensure they sounded in unison.¹¹ However, as their volume and clarity increased, so did the enemy’s ability to hear them, fathom their meaning, and anticipate imminent actions. Recognizing this problem, the martial theorists suggested a variety of methods for maintaining secrecy and thwarting the enemy. For example, a chapter titled

⁹ “Vacuity and Substance.”

¹⁰ For example, see the system discussed by Zhuge Liang in “Teaching Orders” in the *Bian Yi*.

¹¹ See, for example, “Military Combat” in the *Art of War*.

“Countering Leaks” in the Southern Song (1127-1279) *Cuiwei Beizheng Lu* (翠微北征錄) provides an overview of the problem and its solution:

I have heard that when we maintain security while the enemy leaks information, victory will always be ours. Conversely, when the enemy is secretive while we leak, victory will always be theirs. In recent years our border administration has truly been lax in this regard and some nomadic peoples have completely adopted our army’s flags and pennants, resulting in our own forces often being defeated through misperceiving nomadic units for our own. Moreover, some of these barbarian peoples are thoroughly familiar with our military organization and our armies are constantly betraying themselves because their structure is not secret. Thus the methods for countering leaks should probably be discussed.

Now there are four methods for countering leaks: First, “summoning by signals.” This refers to previously employing a green flag to direct generals and commanders, but now using green flags to summon officers and troops. Whereas formerly a white flag was employed to summon the commander-in-chief, now a white flag will be used to summon the divisional commanders.

Second, “flags and pennants.” This refers to previously using green to signal the left flank, white the right flank, and now exchanging green and white to keep the enemy from learning the designations of my left and right armies. Whereas previously green was employed for the straight and black for the curved, now exchange the black and green to keep the enemy from knowing whether our strategic power will be deployed in straight or curved formations.¹²

The third is “gongs and drums.” Whereas the army formerly advanced to the sound of the drums and retreated to the gongs, on the contrary when the drums are now heard, it will halt. Where it formerly halted at the sound of the gongs, it will now advance to the gongs.

¹² A number of these conventions are preserved in the writings attributed to Zhuge Liang known as the *Jiang Yuan* and *Bian Yi*, both translated in Sawyer, *Zhuge Liang: Strategy, Achievements, and Writings*. In the west, among others Polybius wrote about having the signal for all clear becoming an indication for danger and the reverse; Hannibal is noted in Polyanius’s extensive volumes as having reversed the meaning of his signals at least twice; and in his *Art of War* Machiavelli discusses deceiving the enemy by changing the signals.

The fourth is “beacon fires.” Whereas one torch previously signified enemy invaders and two torches a request for help, on the contrary one torch will now signal a request for help. Previously, no smoke indicated the absence of incidents and smoke a warning, but now the presence of smoke will signify the absence of incidents.

These are the ways to counter leaks.¹³

Although the principle is clear, given that extensive training and frequent drilling were required to ensure a virtually instinctive response to command signals, executing these counter-measures may have proven highly problematic and caused chaos within the army. However, military writings such as the somewhat earlier Tang dynasty *Questions and Replies* had already counseled secretly changing unit designations, pennants, uniforms, and even shifting command assignments so that troops in Tang and barbarian uniforms might act unexpectedly and surprise steppe enemies.¹⁴

Campaign and Battlefield Communication

Ordinary communications might be couched in obscure language, written at length on paper, or unobtrusively conveyed by messenger, but battlefield commands issued to troops in the field, caught up in the chaos and ferocity of battle, required visibility and clarity. Without doubt verbal transmission undertaken by supposedly loyal messengers was the method most commonly employed for conveying information in antiquity. While simple and apparently reliable, it entailed a number of deficiencies, even fatal shortcomings, that were quickly recognized.

¹³ The construction, staffing, and employment of beacons to report border incursions and similar events with fires, smoke, and other visible signals is described in the *Wujing Zongyao's* “Feng Huo.”

¹⁴ See the discussion between Li Jing and Tang Taizong found in Book I of *Questions and Replies*. (A translation of *Questions and Replies* may be found in Sawyer, *Seven Military Classics of Ancient China*.) The Southern Sung *Cuiwei Peizheng Lu* advised actually shifting command assignments in order to deceive enemy spies: “When a general is famous throughout the realm, shift the general, not the army. When an army is famous throughout the realm, shift the army, not the general.” In the west, among others, Polybius wrote about having the signal for all clear becoming an indication for danger and the reverse; Hannibal is noted in Polyanius’s extensive volumes as having reversed the meaning of his signals at least twice; and in his *Art of War* Machiavelli discusses deceiving the enemy by changing the signals.

First and foremost, messengers might be captured and then through bribes or torture induced to reveal the contents. Alternatively, knowing the value of their information, they might seize an opportunity to defect and garner great rewards. The Song dynasty *Wujing Zongyao*: (武經總要) observed, "According to the old methods, whenever some affair needed to be transmitted through documents that were passed back and forth, it was necessary to guard against leaks. If confidants were employed to transmit the information, not only did it labor them, but it was also necessary to take precautions against human emotions changing and rebelling."¹⁵

Furthermore, depending upon the quality of their memories and the nature of their experience en route, parts might also be forgotten or the meaning distorted or otherwise compromised. The obvious solution was not just to consign the information to written form, but to one that would be equally incomprehensible to the courier and any unauthorized person who might acquire it. Measures for preserving the secrecy of communication methods and for ensuring the designated couriers were as reliable as possible, generally couched in terms usually applied to secret agents, were quickly formulated.¹⁶ Those reportedly suggested by the Tai Gong (太公) for preserving the secrecy and ensuring the validity of their early system of tallies are probably the first known:

Detain all those who bring in and present tallies and if the information from the tally should leak out, execute all those who heard and told about it. These eight tallies, which only the ruler and general should secretly know about, provide a technique for covert communication that will not allow outsiders to know the true situation. Accordingly, even though the enemy has the wisdom of a sage, no one will comprehend their significance.¹⁷

The Ming dynasty *Bingfa Baiyan* summarized these concerns under the rubric of "transmission":

¹⁵ "Verification through Characters."

¹⁶ As usual, the *Art of War* initiated discussion of the topic with its chapter "Employing Spies," the first known theoretical examination of the subject. (For further discussion of secrecy issues and methods of control see Sawyer, *The Tao of Spycraft* [Boulder: Westview Press, 2004].)

¹⁷ "Secret Tallies," *Six Secret Teachings*.

When two armies meet you should establish clandestine watchwords. When a thousand kilometers apart you should employ a simple letter, use unformed words, invisible writing, and even non-paper strips. The messenger will not know about them and if someone else obtains them there will not be any visible trace. It is spiritual, spiritual! If you are cut off by the enemy, your line of march severed far off where no one can reach you, you must communicate through subtle techniques.

Explanation: You should employ selected officers who are close confidants, who are courageous and daring, and specially train those who have agility and speed, whose minds are strong and bodies robust, several hundred or more, to be employed in going back and forth to ensure communications. Select these couriers and make their rewards generous. Be cautious about their missions, be diligent in their employment, for then your communications will be timely and responses rapid, with few failures.

Since China early on saw the proliferation of forged communications, symbolic objects such as small bronze tigers and other solid tallies that could be split in half were not only employed to authenticate a commander's authority but also to confirm the identity of couriers.¹⁸ Unless the messenger happened to be a double agent or had been bribed to substitute or alter the missive, the tally (or a special password) would attest to message's authenticity, whether orally conveyed or committed to writing.¹⁹

The first method known for systematically conveying information between two parties that could prevent the courier or anyone who might intercept the message from possibly penetrating its significance consisted of eight tallies with an equal number of correlated meanings. ("The ruler and his generals have a system of secret tallies, altogether consisting of eight grades.")²⁰ Employed from about the fourth century BCE, if not earlier, by generals reporting battlefield developments to the ruler, the tallies are

¹⁸ Two chapters in the *Wujing Zongyao* – "Quan Xin Pai" and "Fu Qi" – discuss the historic use of physical objects as tallies that can establish credibility or authenticity.

¹⁹ The *Wujing Zongyao*'s "Quanxin Bei" discusses splitting coins and other objects in half, as well as creating tallies for multiple use.

²⁰ "Secret Tallies," *Six Secret Teachings* (Liutao).

spoken of in terms of their length. However, it is more likely that some means of scribing or otherwise indicating the desired portion was employed so that they would be uniform and the smaller ones would neither be obvious nor lost.

Length	Signification
10 inches	great victory over the enemy
9 inches	destroying the enemy's army and killing their general
8 inches	forcing the surrender of the enemy's walls and capturing the town
7 inches	driving the enemy back and reporting deep penetration
6 inches	to alert the masses to prepare for stalwart
5 inches	to request supplies and additional soldiers
4 inches	to signify the army's defeat and the general's death
3 inches	to signify the loss of all advantages and the army's surrender

Although the Warring States period is conventionally deemed as having ended in 221 BCE when Qin finally unified the realm, their great achievement did not result in warfare's cessation. Within a couple of decades conflict again engulfed the populace as self-styled people's champions sought to throw off Qin's oppressive yoke. Their quest and mutual fighting among the pretenders resulted in years of battle and suffering that ended only with Liu Pang's victory following his initial establishment of the Han Dynasty about 202 BCE. Relative stability prevailed for just two centuries before a civil war again punctured the tranquility at the turn of the millennium and virtually interminable clashes were subsequently witnessed from the end of the second century

through the sixth. In addition to the internal strife that would frequently fragment the land, as early as Liu Pang's reign sedentary had China found itself embroiled in battling numerous aggressive steppe peoples including the Hsiung-nu, Turks, Khitan, and Jurchen.

As would be expected, military thought continued to evolve in response to warfare's increased scope and lethality and tactics and methods changed. The original, simplistic eight tally system saw the categories multiplied to include requests for materials and reinforcements and permission to undertake a limited range of actions, as well as the conveyance of basic information. Since the first known depiction appears in the Sung dynasty *Wujing Zongyao*, a military compendium compiled under imperial auspices about 1040 CE, it must have evolved in the centuries between the fourth century BCE and the eleventh century CE. The categories and their correlates may be summarized as follows:

Requests for various materials:

bows, arrows, swords, armor, spears and pennants, pots and screens, horses, clothes and grants, foodstuffs and provisions, grass and fodder, carts and oxen, boats, equipment for mounting sieges and defending against them

Requests for reinforcements and permission to undertake a limited range of actions:

increasing the number of troops, shifting the encampment, advancing the army, withdrawing the army, and assuming a solid defensive position.

Basic field reports:

the enemy has not yet been seen, has been seen arriving, the enemy is numerous, few, an equal match, increasing their forces, shifting their encampment, advancing their army, withdrawing their army, or maintaining a solid defense.

Reports of actions and results:

having besieged the enemy's fortifications, lifted a siege against the enemy, being besieged by the enemy, the enemy lifting their siege, not being victorious in battle, winning a great victory, gaining a minor victory, the general and officers surrendering, the general and officers rebelling, the

officers and troops falling ill, the regional commander being ill, and a significant conquest over the enemy.²¹

The last category subsumes many items of information formerly conveyed by the eight tallies while adding basic field intelligence and requests for men, materials, and actions.

In shifting from relying upon a simple physical object, the sort of bamboo strip normally employed for writing and record keeping, to abstract Chinese characters themselves the method also drastically changed over the intervening millennium and a half. The *Wujing Zongyao's* "Zi Yan" ("Character Examination" 字驗) preserves the basics:

To issue orders or constrain the army there were forty items, each to be secretly designated by a single character. All of them would be sequentially correlated with the individual characters of an old style, forty character poem selected because it was free of duplications. When the commanding general received his order to go forth and mount an attack or a siege, he and his subordinate generals would each have a copy. When there was something to report or a reply to send, the appropriate character would be sought out in an ordinary letter or document and marked [with a solid circle]. When the report was acknowledged or the request granted, the same character would then be written or similarly found in a text and marked. If it were not granted, it would be marked with an open circle. This kept the masses from understanding.

Essentially a one-time pad with a pre-scripted content, it represents one approach to encoding information. The transmission could be further concealed by simply writing the character at a predetermined position, obviating any need to mark and thus unwittingly draw attention to it.

Expanded Possibilities

Although what might be termed the character referent method could be expanded to encompass additional items of broader scope and significance by

²¹ "Zi Yan" ("Character Examination").

increasing the number of verses, the contents would always be fundamentally confined to a limited set of predefined possibilities. For more general and unanticipated issues some form of letter had to be employed, the main question then becoming how it might be conveyed. Even when messengers were used, concealment was the simplest, most common method, with the possibilities being limited only by the sender's imagination.

Among those attested in the military writings and China's numerous historical works are wax coverings, underlays, on the bottom of the feet, written on the body (especially the back but also written or tattooed on a shaved head), written on the bottom of a bowl, concealed inside a pocket in prepared food or the bottom of a filled container, in secret compartments, on silk scarves, in brush handles, on or in sword sheaths, in various objects that have been slit or split and reassembled such as horse collars and reins, scroll weights, between the backing and the scroll's surface layer, in the lining of clothes, in hollowed out wooden chariot axles (which would be concealed by the bronze axle covers), inside books as smudges and dots on or near characters, inside the folio (folded interior) of pages of books, in the wrappings for government pronouncements, on the underside of horses or other animals, buried in the accumulated ash of an incense burner, inserted in bundles of kindling or firewood, and written on the underside of the large cauldrons for burning paper and incense found in temples where they would be visible only to supplicants bending down to pray. In addition, the military writings attest to the use of invisible ink by the Ming dynasty (and fictional tales much earlier), though the date of its discovery and actual first use remain unknown.²²

To preclude the enemy from ferreting useful information out of captured missives, the *Six Secret Teachings* (六韜) advised dividing them into (at least) three parts:

²² Frontinus (in his *Stratagems*) included a section "On Sending and Receiving Messages" in which he discussed methods for concealing messages; Machiavelli, in his *Art of War*, briefly discusses secret communications and the methods employed in his time to conceal messages ranging from putting them inside dog collars and baking them in bread to more public communications with the hidden message only being revealed when heated. (He also advised that relying on verbal messages was not advisable, that it was best to have secret communications carried by those who are unaware of them.)

Whenever you have secret affairs and major considerations, letters should be employed rather than tallies. The ruler sends a letter to the general, the general uses a letter to query the ruler. The letters are composed in one unit and then divided. They are sent out in three parts, with only one person knowing the contents.

“Divided” means it is separated into three parts. “Sent out in three parts, with only one person knowing” means there are three messengers, each carrying one part, and when the three are compared together, only then does one know the contents. This is referred to as a “secret letter.” Even if the enemy has the wisdom of a sage, they will not be able to recognize the contents.²³

Of course the Tai Gong assumed that only one of the messengers might be captured -- which would of course render the other two parts useless even to the intended receiver -- and that every nefarious measure would be employed to conceal the letter or message itself.

The *Yi Jing* 易經

The traditionally received text of the *Yi Jing* (*I Ching*),²⁴ the most famous but not the most accessible or commonly used divination book in China, consists of sixty-four hexagrams that were obtained by casting lots to determine each of the six *yin* (陰) or broken and *yang* (陽) or solid lines.²⁵ Each hexagram is not only named but also has numerous correlations including a basic judgment or prognostication, an image, an

²³ “Secret Tallies.”

²⁴ As distinguished from reconstructed tomb texts consisting of bamboo strips recently found preserved in ancient tombs and wells. (For a translation of a recent tomb text edition see Edward L. Shaughnessy, *I Ching: The Classic of Changes* [New York: Ballantine Books, 1996].)

²⁵ Although translated into English and other languages numerous times, the standard versions remain the original German Richard Wilhelm version, translated into English by Cary F. Baynes as *The I Ching or Book of Changes* (New York: Pantheon Books, 2nd edition, 1961) and James Legge, *The I Ching: The Book of Changes* (Oxford: Clarendon Press, 1899). The other important divination works are the comparatively simple *Zhuge Liang Shen Gua*, the deliberately arcane and esoteric *Taixüan Jing*, and the most accessible and commonly employed text during the last several hundred years of the Imperial Period, the *Ling Qi Jing*. (For a translation of the latter see Sawyer and Sawyer, *Ling Ch'i Ching: A Classic Chinese Oracle*; for the *Taixüan Jing* see Michael Nylan, *The Canon of Supreme Mystery*.)

explication of the hexagram's dynamics in terms of the two trigrams that compose it, images for the lines themselves, and explanations for the each of the six lines that become relevant only when their inner dynamism results in their being transformed into their opposite, producing a new hexagram that provides further prognosticatory information. In addition, there are several methods of organizing, sequencing, and pairing the hexagrams, creating relationships that entail fundamental implications that can be exploited for timing and other interactions, such as in alchemy,²⁶ and vast cosmological systems that were generated from them in the Song dynasty.

Whether in response to a specific query or in search of a general indication of the flux of events over the next ten days, two methods were traditionally employed to generate a hexagram. The ancient one that developed in the early Western Zhou (1045-771 BCE) utilized yarrow stalks rather than the turtle plastrons employed by the previous Shang when the ruler decided all great matters of state and many personal issues by recourse to divination. The stalks, believed to have become numinously empowered during the natural process of growth, were employed in sets of fifty through a cleromantic process. Lots were drawn and the resulting subsets physically manipulated three times to derive numeric values ranging from six through nine that would immediately translate into either a *yin* or *yang* line and an attached numeric value. The even numbers of six and eight were considered *yin*, the odd numbers of seven and nine *yang*, with the values of "six" and "nine" indicating mature variants that were about to dynamically transform into their opposite.²⁷

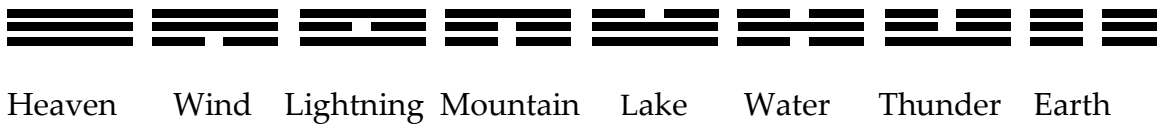
Although it lacked the mystic aura and focal mental effort required to manipulate the often cumbersome fifty yarrow stalks, a quick highly popular method subsequently evolved that came to be employed in non-state situations ranging from private studies through congested temples. Three identical coins were used with a *yin* value of two assigned to one side – preferably the back or dark side – and a *yang* value of three to the other, after which the coins would be tossed together and the results read from their disposition upon the ground. The possibilities of course similarly ranged from six, obtained from three tails, through nine, indicated by three heads. Converting

²⁶ Note Joseph Needham, *Science and Civilisation in China, Part 4: Alchemy and Chemistry* (Cambridge: Cambridge University Press, 1980), p. 223.

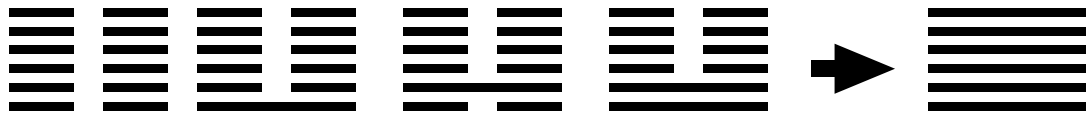
²⁷ For a more extended discussion of this method see Helmut Wilhelm, *Change: Eight Lectures on the I Ching*, translated by Cary F. Baynes (New York: Pantheon Books, 1960), 98-104.

the so-called moving lines into their opposites would then generate a new hexagram thought to indicate the ongoing process of change (易).

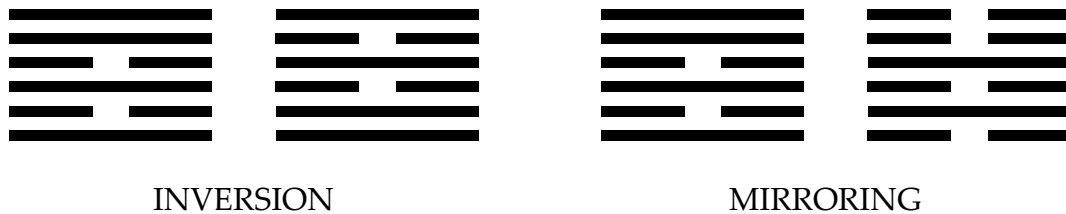
A well-defined set of correlates including names, images, directions, seasons, phases, and emotions early on coalesced onto the eight trigrams which consist of three *yin* and *yang* lines. (For example, “thunder” *zhen* (震) -- which consists of two *yin* lines over a *yang* line at the bottom -- is associated with incipient activity, arousing, the beginning of movement, and thunder.) In their reverse binary progression (from Heaven to Earth) they appear as follows:



Obviously the hexagrams can be arrayed in a natural binary progression from zero to sixty-three by assigning a value of zero to the *yin* lines and one to the *yang* lines:



A number of dynamic inter-relationships have been postulated for the sixty-four hexagrams including pairs formed by inversion and mirroring:



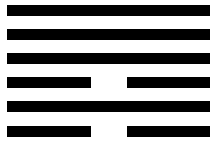
More extended sequences ranging from the simplistic to mathematically complex, some historically famous, were produced over the centuries by *Yi Jing* experts

Despite its apparent prominence and canonization as one of the *Thirteen Confucian Classics*, being an extremely enigmatic text composed in allusive language exploiting frequently obscure and archaic characters, the *Yi Ching* was virtually incomprehensible even for the literate. Only specialists and erudite scholars who had devoted years of study to its arcane meaning and connotations could fully penetrate the passages and draw usable inferences about their own circumstances and the prognosticatory implications.²⁹ This naturally limited its immediate, unscripted communication possibilities but equally ensured that knowing savants, employing explicit allusions, could obliquely communicate with little risk of being detected or understood by casual observers or secret agents.

Vestiges in various historical materials ranging from orthodox histories through brief stories and novelistic tales indicate that two “knowers” might openly exchange vital information simply by mentioning the name of a hexagram, whether for its immediate implications or for the extended meaning that might appear in the associated text, or otherwise displaying it (such as written on the palm of a hand), all of which would be readily available to them because the learning process required precise memorization. (Stories abound of Zhuge Liang, the Three Kingdom’s wizard general, secretly conveying his orders to the battlefield commander with just a single hexagram image, whether sent by letter or drawn on the ground with his foot.)

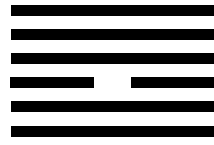
For example, because the character for the name of the hexagram *ku* (discussed below) conveyed the image of worms in a bowl, it could be used to indicate extreme decay or (exploitable) corruption. Similarly, in the context of the *Art of War’s* crucial assessment factors, *tong ren* (同人) or “joining / being together with men,” approaches Sunzi’s *tong dao* (同道), “unity in the *dao*” and thus strength in a state. However, the names of a number of hexagrams (including those below) are highly suggestive and therefore could conceivably be employed in this simple manner.

²⁹ Although opinion is far from unanimous, the *I Ching* has traditionally been understood as being more prognosticatory in nature, oriented toward furnishing information about a situation and the trend of events that prompt insight and aid in self-understanding rather than simply indicating auspiciousness and balefulness.



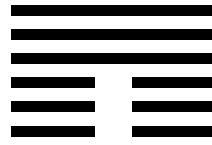
訟

army / success



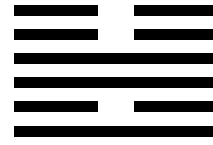
履

tread on tail of tiger



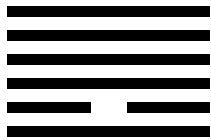
否

decline



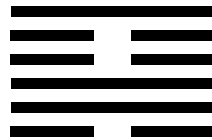
豐

abundance



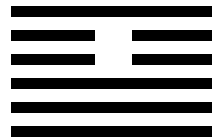
同人

together



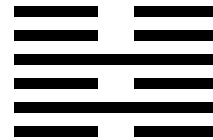
蠱

worms / decay



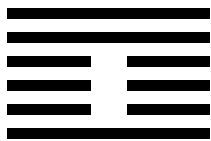
大畜

great nurturing



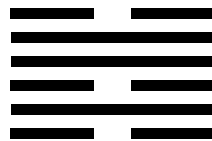
解

untie / resolve



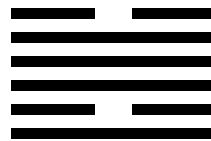
益

increase



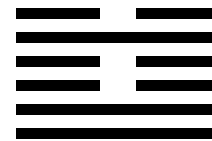
困

distress



革

severe change



節

constraint

Upon hearing (or seeing) the name *kun* (distress) or encountering the hexagram itself, it would immediately be realized that the originator had encountered difficulty or a situation was approaching the crisis stage. However, not only is evidence for this sort of employment lacking in the historical records and military writings, it would also result in inherently contravening the meaning of many of the prognostications appended to the hexagrams. As an example, the eighteenth hexagram in the received text -- *gu* (蠱), a character which normally means “worms” and therefore connotes

decay, corruption, and putrifaction – has a startlingly positive judgment:³⁰ “Fundamental success. It will be advantageous to cross a great river. Three days before the inception, three days afterward.”

It might well be asked how a dire condition such as pervasive corruption could possibly be interpreted as a sign of great success. Quite simply, the unshakable Confucian belief in Virtue’s transformative influence and the efficacy of benign governmental measures apparently resulted in sanctioning a derivation based upon the energy dynamics entailed by the hexagram’s two trigrams: “In *Gu* there is firmness above and pliancy below. With gentleness one stops corruption.” An expansion states, “There is wind below (beneath) the mountain. In *Gu* the perfected man bestirs the people and nourishes Virtue.” Additional commentary to the judgment concludes that “All under Heaven will be well ordered” and that “it will be advantageous to cross a great river.” The need to cross one of China’s great rivers – the Yellow, Yangtze, Huai, or possibly the Han – in turn is said to mean “there are affairs [to be handled] there. If [one prepares] three days before their inception and [ponders or continues] three days after, then there will be a beginning of Heavenly implementation.”

The commentaries offer additional, sometimes divergent explanations (such as interpreting the three days in legalistic terms), but none of them assert that that having wind bottled up beneath a mountain is not merely repressive, but potentially explosive, or that enormous pressure must be imposed. Thus, prognostications such as this are not only laconic and enigmatic, but also inherently unexpected. Since they must be learned rather than simply understood, there is an unanticipated, additional level of complexity that can balk penetration by casual bystanders or even dedicated counter-intelligence agents if the name is simply uttered in passing conversation.

However, it is not in verbal communication that the *Yi Jing’s* value lies, but in being a repository of both symbols and meanings that can be exploited for clandestine purposes. Rather than employing the hexagrams to convey the basic meaning entailed by the prognostication, just like the forty characters of a chosen poem described in the

³⁰ For complete translations of the material associated with *Gu* see Richard Wilhelm, *The I Ching*, 79-82 and 114-120 or James Legge, *The I Ching*, 95-96 and 290-291.

Wujing Zongyao, they can be correlated with sixty-four pre-scripted significations keyed to specific tasks and contexts, particularly issuing directives and making intelligence reports. Given their inherent ambiguity and general esotericism, employing the *Yi Jing* (*I Ching*) to create a codebook would be a highly secure method unless the book itself was seized or accidentally discovered. Moreover, as discussed below, just as numerous other symbols found in Chinese culture, being ubiquitous their appearance would never attract attention, however unusual the context.

Additional complexities provided by traditional *Yi Jing* theory can be fruitfully exploited by knowledgeable parties. Since each of the embedded trigrams has its own name and extended correlations, the eight can be employed as a mini-set of symbols that utilize the original signification or other, pre-scripted meanings. In addition, the dynamic inter-relationships that have been postulated for the sixty-four hexagrams, including inverted and mirrored pairs, generative and conquest groups, and sequences such as Fu Xi's, allow a second, not yet visible hexagram to actually carry the information. (The "actual" hexagram could be the second one in a pair, located diagonally across on Fu Xi's diagram, or to one found by some specific count in a matrix.)

Finally, by somehow indicating which of the lines are mature or "moving," another hexagram can be specified. Adroit manipulation and astute structuring can therefore virtually ensure that the desired message could be secretly and securely conveyed. The possibilities would simply be limited by the conventions that would have to be established beforehand between the parties. Unfortunately, while alchemists are known to have kept cryptic, coded notes by adopting *Yi Jing* materials and there are numerous hints in the historical literature that others engaged in secret activities used them for clandestine communication, no explicit jottings or records of these likely practices have yet been noticed.

Conspicuous Clandestine Communication

Effective as it might be in itself, the *Yi Ching* had an additional, surpassing advantage: its symbols were all pervasive, found throughout society in a variety of employments ranging from mantic conjugations through decorative art. Being a highly

religious society despite Confucianism's cultural dominance and its sanction as the official doctrine of state, Chinese civilization was awash in symbols derived from naturalistic philosophy, Taoism, and Buddhism.

Among the most frequently encountered would be the so-called Heavenly stems and Earthly branches employed to record dates; the swirling circle depicting the dynamic relationship between *yin* and *yang*; the characters for the five phases (elements) of wood, water, earth, fire, and metal; the trigrams and hexagrams, often as exploited for their supposed magical properties; various Buddhist images, including of the Buddha himself; and propitious Buddhist and Taoists charms.

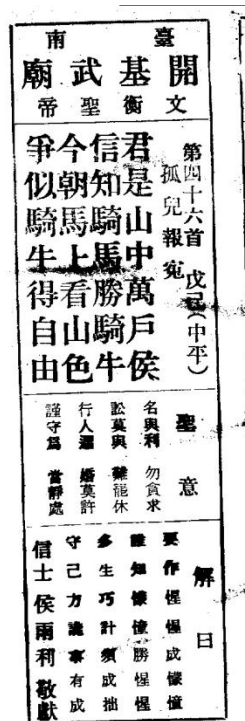
People were accustomed to seeing them displayed everywhere from buildings to banners, doorposts to beams, but especially around the thousands of temples of every size and description. Many, such as the trigrams, guardian deities, and protective talisman, were so commonplace that they would never attract attention, others so arcane as to be unrecognizable and therefore simply ignored.

Within this context, it was realized that a communiqué -- whether simply a sign employed by secret societies, pre-scripted information keyed to a hexagram or talisman, or a more general message -- could be readily conveyed either through the open display of the appropriate indicator or written in some form intended to be concealed or otherwise left where it could be readily acquired. In the former case, hexagrams or other symbols were simply written in chalk or painted on a structure where they would be visible to people casually passing by. They might also be garishly displayed on the banners, sleeves, hats, and other paraphernalia associated with itinerant fortune-tellers and wandering monks, as well as simply doodled on the margins of letters, added onto the borders of scrolls and paintings, and embedded as artistic elements in written communications.

China's unique, highly pervasive divination culture also facilitated the physical requirements of secret communications. The drawing of lots by shaking a canister of wooden divination strips was extremely popular at temples, including those dedicated to Confucius. (Coming in sets of sixty-four, eighty-one, one hundred, and sometimes even a few more, they might also be used to construct a set of pre-scripted correlations, though evidence for their employment in this manner is lacking.) After obtaining a

bamboo stick with a number and possibly a name, the querent would consult a temple custodian or some other authorized informant (including monks) who would provide a narrow slip of frequently red or pink paper with the actual divination information, coincidentally creating an opportunity to pass prearranged messages.

As partially evident from the sample below, these divination slips generally contain a variety of specific indications such as the likelihood of giving birth to a son, a ranking of the individual's immediate prospects by the Chinese characters for upper, middle, and lower or a set of blackened circles, mention of propitious and inauspicious activities, astrological data, and a one or two verse allusive poem. Because the literacy rate was extremely low, the devout normally disposed of them shortly after having them interpreted, whether by casually placing them somewhere or simply casting them aside. As a result they blew about the grounds, were seen under rocks, and were often left behind at nearby restaurants and kiosks.



Furthermore, temples of every size and description ranging from magnificent Buddhist and Taoist edifices through more austere Confucian structures and those dedicated to historic individuals such as Guan Gong (apotheosized as the God of War), Tai Gong, Zhuge Liang, and spirits of the land and water were extremely numerous,

being found in the congested cities and towns as well as the countryside where small, informal shrines to the local earth spirits, *tudi miao* (土地廟) were particularly prevalent. A divination strip with a message written on the back could therefore be innocuously emplaced or a similar appearing paper slip concealed among several actual fortunes sequestered in a pile beneath a rock or about the temple. (Elaborate drops need not be constructed nor dead animals or hollow logs prepositioned at known locations.) In short, a temple divination strip would not be out of place anywhere, not even if found being used as a bookmark in a Confucian text. It's employment would therefore satisfy the fundamental requirement that items intended for clandestine communications not be discordant or jangling, not perturb the visual field nor violate the guidelines of simplicity, minimal effort, convenience, and familiarity.

Because they were printed by woodblocks from the Tang onward, it was extremely simple to utilize the same format to create identical looking slips but without any verses. The blank area was then used to write what appears to be a standard poem in an appropriate calligraphic style but actually conveyed a completely different message. Stories and late tales indicate this technique was favored by secret societies, being particularly useful when copies of a single message were to be furnished to multiple individuals and could be printed.

More broadly, within the literate culture repartee based upon verses from the *Shi Jing* (詩經) or *Book of Odes* is well attested in both the historical writings and literature. Being another of the *Thirteen Confucian Classics*, anyone aspiring to official office or just a reputation as a learned gentleman had to memorize the text itself and the traditional, time honored interpretations, as well as be able to adroitly banter with others by employing allusive lines and phrases. Although some of the slightly more than three hundred odes have explicit military subjects and their contents can be obliquely referenced by mentioning the title or embedding the ode among others on a scroll, this sort of direct method was vulnerable to discovery and penetration and therefore little used. Instead, two individuals encountering each other might indicate their disposition, for example, to defecting by reciting a key line from an ode with congruent contents.

An additional complexity that could contribute to misleading bystanders is the dissonance frequently encountered between an ode's title and its actual contents. For

example, “Wu Yi” (無 疑) which means “Bereft of Clothes” or literally “Without Clothes” would seem to be a tale of woe, someone bemoaning the poverty brought about by a loss of office or inimical government policies. However, it actually has a military theme and the verses indicate that the speaker, who is enthusiastic about going off to battle, is cajoling his less fervent friend who claims he lacks the requisite military garb that conscripts had to furnish, including the quilted robe worn in battle under the armor. The verses might be translated as follows:

How can you say you have no quilted robe?³¹

I will give you one.³²

The king is mobilizing our armies.

I am readying my dagger-axe and spears,

And will serve in the ranks with you.

How can you say you have no clothes?

I will share some inner garments with you.

The king is mobilizing our armies.

I am readying my spear and spear-tipped dagger-axe,

We will arise together.

How can you say you have no clothes?

I will share some trousers with you.³³

The king is mobilizing our armies.

³¹ Mao # 133. Literally, “no clothes” but interpreting from context. (In his classic *Shi Jing* rendition [*The She King*, Oxford University Press, 1895] James Legge translates as “no clothes” but in *The Book of Songs* [Allen and Unwin, London, 1937] Arthur Waley takes it as referring to a rug or wrap).

³² Literally share but it would sound odd.

³³ Not really, but conveys the idea better.

We will march together.

Obviously this ode could be allusively employed in an intelligence report from an enemy state to indicate a general level of enthusiasm for the forthcoming battle despite the apparent presence of dissenters, and thus the essential “unity in the Tao,” one of Sunzi’s five critical factors.³⁴ In addition, although no concrete evidence has yet been uncovered, the titles of the three hundred could be used to create an elaborate set of pre-scripted correspondences comparable in the manner of the *Yi Jing* and characters of a single poem.

Other Methods

The systematic employment of Chinese characters facilitated the unification and governance of pre-modern China but many of the languages found in the far flung regions, especially before the imperial era (conventionally deemed as having commenced in 221 BCE), were mutually unintelligible. Commanders sometimes employed speakers of localized dialects in critical situations to exchange or convey information that would be unintelligible to the majority of enemy listeners, much in the manner of the American Indian code talkers of World War II fame.

Because of the highly structured nature of their education, the elite literati also had extensive, specific knowledge of events from China’s early history from works like the *Chun Qiu* (春秋) and *Zuo Zhuan* (左傳), as well as the *Guo Yu* (國語) and *Shi Ji* (史記).³⁵ Much as an oblique reference to Ames, Philby, or the more infamous Mata Hari would today brand someone as an enemy spy or double agent, mentioning any of innumerable famous persons including Cao Cao (Ts’ao Ts’ao) and Su Qin (Su Ch’in) would not just immediately conjure up the person but also his tactics and methods, as

³⁴ For the five factors, see “Initial Estimations” in the *Art of War*.

³⁵ Because they were felt to preserve vital knowledge about war, strategy, and statecraft, these works were often denied to certain individuals and their export to steppe peoples prohibited. Being repositories of tactics, the numerous military texts were also proscribed and equally lend themselves to oblique citation.

well as the conclusion of famous incidents associated with him, whether victory or defeat.

Similarly, the Chinese predilection for employing four character phrases comparable to western aphorisms in all but the most commonplace communications allowed their use to indicate an expanded meaning. For example, “*Wu wang zai Ju* (勿忘在莒) prominently seen displayed on the side of several Taiwan mountains refers to Tien Dan’s multi-year Warring States ordeal when the state of Qi had been reduced to a single fortified city, Ju, by invaders from Yan but eventually, through courage, subversion, and unorthodox measures managed to prevail and regain dominion over the territory. It therefore stands as an encouragement to the people in Taiwan, especially the refugees from mainland China, to remain steadfast in their opposition to communism and the prospect of PRC subjugation.

Many, such as “borrow a knife to slay someone” (借刀殺人), would be too obvious to employ even discretely, but others such as “borrow a road from Guo” (connoting the subversion of an intermediate state consequent to some other military action) or not “being a man of Chu” or “a man of Song” are seen in historical missives sent for clandestine purposes.³⁶ These fixed phrases or allusions could also be embedded within ordinary communications at pre-specified positions or appended to innocuous documents, such as a scenic scroll covered with poems. However, their employment also entailed the possibility of misinterpretation, as well as the danger that they might be too ambiguous to fathom correctly if not used by convention.³⁷

China’s dependence upon their variant of the almanac, itself a remarkable repository not just of astrological, prognosticatory, and religious knowledge, but also crucial agricultural information and common practices, meant that dates for undertaking some sort of action could be indicated by a concealed allusion to one of the twenty-four climatic (*qi* 氣) periods rather than an actual date. (Dates themselves were determined by two conjoined cycles of “Heavenly stems” and “Earthly branches” that run congruently to produce sixty distinct two character terms which could equally be

³⁶ “Borrowing a knife” and “borrowing a road” both appear in the newly famous *Thirty-six Stratagems*.

³⁷ Veiled meanings could also be conveyed with allusive language apart from the aphorisms even among persons previously unknown to each other, a possibility well noted in the military writings. (For example, see “Yin Yu” [“Clandestine Language”] in the *Wujing Zongyao*.)

exploited in secret communications.) Thus, to take but a single example, *jing zhi* (驚蟄), the “startling” or “stirring of insects” which usually falls sometime in the second lunar month, can be conveyed by employing the two characters in predetermined locations within an innocuous looking letter. Although somewhat limited in possibility, crucial information seems to have been delivered through this method.

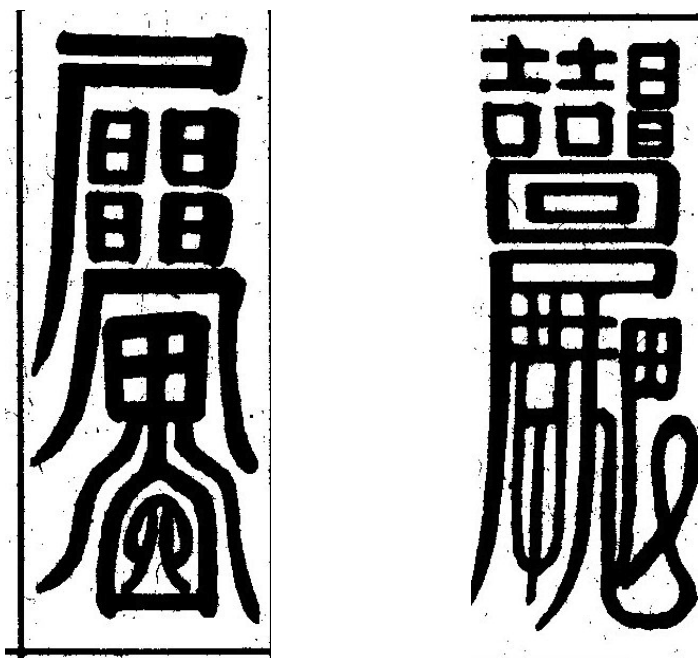
From the Tang onward religious images, especially of the Buddha, were being printed by woodblocks. Within Buddhism the position of the hands had symbolic significance known largely only to the most devout. Just as a hand gesture or other minor movement might indicate membership in secret societies or transmit a warning or greeting to knowledgeable members encountering each other for the first time, they could have a new set of correlates assigned. These might be employed to disseminate information to a select group, whether through live postures, printed images, or even the religious broadcasts found on Chinese television channels and the internet today, much as China’s highly destructive millenarian movements employed a variety of secret designs and signals over the centuries. Similarly, the symbolic items held in the hands such as bows, tridents, flowers, and arrows could be varied to indicate a predetermined meaning.³⁸

³⁸ Although based upon Japanese sculptures, E. Dale Saunders, *Mudra: A Study of Symbolic Gestures in Japanese Buddhist Sculpture* (New York: Pantheon Books, 1960) provides an overview of numerous meanings that would be equally applicable in China and all cultures in which Buddhism is prevalent. (Image of Ai-zen Myo-o from Saunders, p. 149.)



79 Aizen Myō-ō

The many talisman found everywhere throughout the realm including pasted onto doors, carried in clothing for good luck or warding off specific forms of evil (much as garlic in the West), and even formed into jewelry, could similarly be manipulated to convey a single piece of information. Being visually complex (as the two illustrations show), frequently composed with integrated Chinese characters, and often characterized by swirls and other artistic enhancements, they readily fall into the category of perceptually familiar but only vaguely recognized items.



Finally, although not exactly plastic, the nature of the Chinese characters themselves allows manipulation and signification through changing an expected component or even substituting an identically pronounced character for the one found in a poem. This sort of measure again requires great perspicacity on the part of the receiver; otherwise, the message will go undiscerned. For example, the name of the ode previously seen, “Wu Yi” (無衣), means “Bereft of Clothes” or literally “Without Clothes,” but by slightly manipulating the second character it can be converted to two characters (無依) with an identical pronunciation, “without any basis / anything to rely on.”

Calligraphic styles and the designation of certain possibilities within sets of synonyms could also be employed to alter the nature of message context. For example, a highly stiff, formal style such as *kai shu* (楷書) could be chosen for authentic messages, all others or a single variant such as *cao shu* (草書 grass or running style) being employed for deliberately false communications that might be captured or seen by foreign agents, whether through their own efforts or deliberate negligence intended

to deceive the enemy.³⁹ A less dramatic but historically attested technique saw different values assigned to the two negation possibilities, *bu* (不) and *fei* (非). For example, the former could be employed as an “empty” word, of no significance and thus without impact on the truth value of a sentence, *fei* being reserved for the function of actual negation.

Additional Musings

Over the centuries China developed several methods for transporting or otherwise moving messages, including “swift post horses,” boats, carriages, carrier pigeons, arrows that could be shot into (or out of) bastions and encampments, and ceramic jars for floating them down river; utilized “special golden signal banners,” “arrows symbolizing authority, and signal fires and smoke in order to report extremely urgent matters”;⁴⁰ and evolved ingenious techniques such as invisible ink that are unfortunately little discussed in the military compendiums and can only be guessed at. Hidden meanings were also conveyed by scenes or parts of scenes depicted in paintings or by the poems written on the edges.

Apart from physical placement, secret signs might also be displayed by itinerant monks or added to the scenery or costumes of opera performers, immediately reaching a large audience. (Dialogue could also be subtly [or even dramatically] changed, allowing verbal messages to be openly passed to unknown receivers.) Members of several groups of generally unnoticed people found throughout the community are also known to have been employed to physically pass secret messages, including waiters in restaurants; vendors at various street side stalls, especially those purveying snacks and basic meals such as fried noodles; itinerant monks; “singing girls”; and the blind masseurs who wandered about towns plying their skills in the night.

Generally speaking, secrecy might be achieved through verbal communications memorized and carried by messengers; ciphers, which were not really employed in China (and would require laboriously creating a cumbersome substitution table for a

³⁹ China has a lengthy tradition that dates back to the Spring and Autumn period of employing false letters to deliberately deceive the enemy or subvert defectors. (For examples, see Sawyer, *Tao of Spycraft*.)

⁴⁰ *Bingfa Baiyan*, “Communications.”

selected number of characters) until the appearance of the telegraph and development of the telegraphic code;⁴¹ prearranged secret systems of tallies or markers; various types of hidden messages, whether physically disguised or embedded in innocuous texts; fragmented written communications; conspicuous signs and images to which special meaning had been assigned; and several referential methodologies which employed pre-existent literary materials such as poems and *Yi Jing* symbols by correlating a set of pre-scripted meanings. Although book codes were certainly possible -- indicating a character by page, line, and position number -- no evidence for their use has been preserved in either the pre-Ch'ing military texts or historical writings. However, with the onset of military contact with the West, every concept, tactic, and theoretical method known throughout the world was quickly studied and the history of clandestine communication altered significantly with exposure to the idea of ciphers and codes.

⁴¹ In his groundbreaking study *The Codebreakers: The Story of Secret Writing* (New York: Scribner, 1967), p. 73, David Kahn notes the existence of the *Wujing Zongyao* section on employing characters from a poem but questions whether it or similar systems were much employed and also points out that absence of cipher techniques prior to the invention of the telegraphic code.