



SILK PANEL REPRESENTING A SCENE IN WEST LAKE, HANGCHOW

The hill shown in the background (now known as Ko's Hill) is that upon which Ko Hung lived for seven years doing his most important writing and experimentation. There is now a temple on the hill (not shown in the picture) which is dedicated to Ko Hung.

KO HUNG (PAO P'U TZU), CHINESE ALCHEMIST *of the* FOURTH CENTURY

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KO HUNG (about 281-361 A.D.), Taoist philosopher, alchemist, and medical writer, is probably the most outstanding figure in the history of Chinese alchemy. He defended the Taoist doctrines at a time when they had not yet gained wide currency, and propagated them before Taoism had assumed a churchly organization. He was fond of magic, and occupies in the history of Taoism and Chinese alchemy a place similar to that of Paracelsus in the history of European science.

The following is a translation by *Dr. Lu-Ch'iang Wu* of the account of *Ko Hung* which appears in the *Lieh Hsien Ch'üan chuan* (Complete Biographies of the Immortals).

Ko Hung, a native of *Chü-jung* in *Kiangsu*, had a liking for learning while he was still a boy. His family was poor and he was obliged to chop wood in order to earn money for the purchase of writing materials. He studied at night and became a famous Confucian scholar. He had simple desires and was free from

indulgences. Not being ambitious for either wealth or fame he led a hermit life. He was so determined in the quest for knowledge that he would traverse a thousand miles to attain his goal if necessary. He was especially fond of the *Tao* of the *Shen Hsien* (the supernatural Immortals or Genii).

Now, his great-uncle *Ko Hsüan* had studied the *Tao*, had attained *Hsien* (had attained the state of a supernatural Immortal), and had transmitted his secret art of cultivation and compounding to his disciple, *Cheng Yin*. *Ko Hung* in turn studied with *Cheng Yin* and learned all his art. Later he studied with *Pao Hsüan*, who was well versed in the *Nuei Hsueh* (Inner or esoteric Studies) and could divine the future. He thought highly of *Ko Hung* and gave him his daughter in marriage. *Ko Hung* inherited *Pao Hsüan's* work, and he also took up medical practice. He wrote brilliantly and with originality.

In the reign of *Chin Ch'eng Ti* (326-342 A.D.) he was offered various government positions, but he invariably declined them pleading old age. He wished to compound the medicine for the extension of his life. He heard that the *Chiao Chi* country (Persia) produced *tan sha* (cinnabar) and so he petitioned for the office of the *Ling* (Magistrate) of *Kou-lou*. The Emperor refused at first on the ground that the office was beneath him on account of his attainments, but finally gave his consent when

Ko Hung explained that he wanted the office not for fame but for the *tan sha* which was available at the locality of the office. And so *Ko Hung* started for *Kou-lou* with his family. On their way they were detained by the Governor of Canton. Here *Ko Hung* stayed, living in the *Lo-fo* mountain where he worked on the compounds of the medicine. Seven years did he spend at the place, leading a leisurely life and writing profusely.

Seeing that scholars of the time esteemed only the teachings of *Chow Kung* and *Confucius* and disbelieved in things *Shen Hsien*, not only laughing at the latter but also putting the *Chen Yen* (True Sayings, Taoist teachings) to disrepute, he wrote the Inner and Outer Chapters for their enlightenment, under the name of *Pao P'u Tzu*, in one hundred and sixteen chapters.

One day *Ko Hung* addressed a message to the Governor of Canton stating that he would shortly start on a long journey in search of worthy teachers with whom to study. The Governor made haste to pay him a farewell visit. On that very day *Ko Hung* sat until noon when he died at the age of eighty-one. He appeared only to have gone to sleep. When the Governor arrived he was already dead. Although dead, he looked alive and his body and limbs were soft. Upon being placed in the coffin, the body disappeared leaving the clothing behind it.

In the *T'ang* dynasty, one *Tsui Wei* met an aged woman beggar at the *Kai Yuan Tsu* monastery in *Nanhai* who told him of her ability to cure goiters and gave him the medicinal herb, *I*. He later came to the knowledge that she was *Ko Hung's* wife.

It was not customary for a Chinese alchemist to give instruction in the art to a member of his own family. *Ko Hung* therefore learned from his great-uncle, *Ko Hsüan*, not directly but through the intermediary, *Cheng Yin*. *Ko Hsüan* had learned from *Tso T'zu* about 220 A.D., and *Tso T'zu* is supposed to have been instructed by a deity in the early years of the third century. *Tso T'zu* passed on to *Ko Hung's* great-uncle three books, *The Alchemy Book of the Great Clear One*, *The Alchemy Book of the Nine Tings* (*Tri-pods or Furnaces*), and *The Gold Juice Alchemy Book*.

Ko Hung's pseudonymous *Pao P'u Tzu** is part of the Taoist canon. The text occupies six volumes or fascicles of the Collected Taoist Classics recently published by The Commercial Press, Ltd., Shanghai. It consists of two parts, each occupying three volumes; the "Outer Chapters," *Wai-p'ien*, in fifty books, which deal with matters of politics and government from the Confucianist point of view, and the "Inner Chapters," *Nei-p'ien*, in twenty books, which treat of the immortals, alchemy, charms, exorcisms, etc.

Johnson quotes from *Pao P'u Tzu* directions for the preparation of the pill of immortality.

Take three pounds of genuine cinnabar, and one pound of white honey. Mix them. Dry the mixture in the sun. Then roast it over a fire until it can be shaped into pills. Take ten pills of the size of a hemp seed every morning. Inside of a year, white hair will turn black, decayed teeth will grow again, and the body will become sleek and glistening. If an old man takes this medicine for a long period of time, he will develop into a young man. The one who takes it constantly will enjoy eternal life and will not die.

Another quotation from the same work suggests that *Pao P'u Tzu* confused red lead with cinnabar.

Whiteness is the property of lead. But if you cause it to be-

* This name has been translated *Old Sober-Sides*, but *Dr. Wu* considers that it has no satirical intent and would be better translated *solemn-seeming philosopher*. The gentle smile in the portrait which is reproduced herewith perhaps indicates its real intent.

come red, the lead will change into cinnabar. Redness is the property of cinnabar. But if you cause it to become white, the cinnabar will change into lead.

Edkins has argued that Chinese alchemy arose out of the fantastic side of Taoism and has supported his arguments, in part, by quotations from *Pao P'u Tzu*, which, he says, "contains an accurate account and obstinate defense of the system" as it existed in *Ko Hung's* time. The excellence of the translation, the inaccessibility of the *Transactions* in which it is published, and the general paucity of material on Chinese alchemy make it worth while to reprint here *in extenso* that portion of the translation which relates especially to alchemy.

We often hear the golden elixir spoken of, but people do not talk of it as being attainable in our own time; they all say that the genii of olden times only were acquainted with the elixir. Now the reason of this incredulity is, that in the current recipes for it, many errors and deficiencies exist. Formerly, *Tso-yuan-fang* (*Tso T'zu*), after meditating profoundly, was accosted by a spiritual being, and presented by him with the "Book of the Elixir of Immortality" (*Chiu-tan-hsien-ching*). When the Han dynasty was falling, he withdrew from the troubles that then agitated the world to a mountain retreat. His pupil was my instructor, and from him I received several works on the elixir; others therefore have had no such advantages as I for knowing the secret of this preparation. For more than twenty years it has been in my hand. Alas! I could only lament, being poor, the want of means to make trial of it. Corn supports the life of the people; without it they die. Of how much more value must this wonderful medicine be! The golden elixir, the longer it is subjected to the action of fire, passes through transformations more and more remarkable. Gold when it is melted never diminishes; if buried in the earth, however long, it never rots. By taking these two substances as medicines, the human body may also be protected from decay, and acquire immortality. It is to external things that we must look for a preservation of life, just as by pouring oil on fire we increase its activity and prevent its destruction.

I write for those who have sought in vain for a teacher who could communicate to them the highest form of wisdom; for them I transcribe some parts of the works I possess on the golden elixir. . . . When vegetable matter is burnt, it is destroyed, but when the *tan sha* (cinnabar) is subjected to heat, it produces mercury. After passing through other changes, it returns to its original form. It differs widely therefore from vegetable substances, and hence it has the power of making men live forever, and raising them to the rank of the genii. He who knows this doctrine—is he not far above common men? In the world there are few that know it, and many that cavil at it. *Many do not even know that mercury comes out of cinnabar. When told, they still refuse to believe it, saying that cinnabar is red, and how can it produce a white substance? They also say that cinnabar is a stone—that stones when heated turn to ashes; and how then can anything else be expected of tan sha?*† They can not even reach this simple truth—much less can it be said of them that they have been instructed in the doctrine of the genii. . . . For the sake of those in these later times who should be willing to be taught, the sages of antiquity transmitted a method by which they might be freed from death and misery. Is it too much to make a trial of this method? If you should gain thereby only two or three centuries of life, would not this slight addition to your existence be far better than the fate of the mass of mankind? Many fear to

† We have italicized this passage in order to direct attention to it, for it seems to us, better than any piece of writing with which we are acquainted, to convey succinctly the idea of the mystery and fascination of chemistry. *Dr. Rokuro Nakaseko* has reproduced it in the original Chinese on the double page which follows the title-page of his *Kindai Kwagaku-shi (History of Recent Chemistry)*, Kyoto, 1928.

attempt seeking after immortality, lest they should fail and expose themselves to ridicule, as the victims of folly and deception. But if they should resolve at all risks, to obtain only this doctrine of immortality for the benefit of mankind, and succeed in it in one instance, would not those who had laughed be themselves deservedly laughed at?

The medicine should be prepared on a mountain, in a lonely spot, only two or three being present. There should be fasting for one hundred days previously, and perfect purification of the body. The parties should be all believers in the doctrine; and persons who would ridicule the undertaking, should be kept in ignorance of it, otherwise the preparation of the elixir would fail. When it is made, the successful manipulator will, with all his family, become immortal. Common men refuse to adopt this method, preferring to use medicines which are vegetable substances, forgetting that being subject themselves to decay and destruction when placed in the earth or near a fire, they can not give life to man. The nine preparations that can confer immortality on man are not what persons of the common stamp should ever see or hear of. Stupidly they seek after riches and honors, and these alone. Like walking corpses, they pass through the world.

This passage is followed by a description of the nine preparations, which Edkins summarizes but does not translate at length. Alum, quicksilver, sodium sulfate, potash, and oyster shells are among the substances which are used. In another section *Pao P'u Tzu* enumerates several substances which may be regarded as materials for the elixir of immortality. Cinnabar, he says, is the most efficacious, gold second, silver third, and the fourth is a plant, *ling chē*, which confers everlasting happiness. He names various precious stones, medicines, and vegetable products, seventeen in number, which are effective elixirs of immortality, but not all of them are effective in the same degree.

Other passages from *Ko Hung* have been quoted by Martin.

I formerly thought that the Taoist mystery was intended to delude simple folk, and that there was nothing in it but empty words; but when I saw the Emperor Wu subject Tso T'zu and others to a fast of nearly a month—their complexion continuing fresh and their strength unabated—I said there was no reason why they should not extend the fast to fifty years.

Another Taoist, *Ka Shih*, placed a number of fish in boiling oil; some of them having first swallowed a few drops of an elixir, swam about as if they were in the water, the others were boiled so that they could be eaten.

Silkworms taking the same medicine lived for ten months; chickens and young dogs taking it ceased to grow; and a white dog on taking it turned black; all of which shows that there are things in heaven and earth surpassing our comprehension. Would that I could break the fetters of sense and give my whole heart to the pursuit of the elixir of life.

Ko Hung distinguishes two sorts of elixir for the attainment of immortality. The preparation of the first, the Golden Cinnabar, requires a variety of ingredients which may be procurable in times of peace but becomes impossible when war interrupts communications. That of the second, the Gold Juice, is much simpler but more expensive. *Ko Hung* reckons that it costs 50,000 *cash* to make an Immortal by means of it. He makes sharp distinction between the preparation of elixirs and the art of *Huang Po* (Yellow and White) or the art of transmuting base metals into gold and silver without respect to the attainment of better



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health, longevity, or immortality. His teacher, *Cheng Yin*, practiced *Huang Po* with Tso' T'zu, without a single instance of failure, and changed iron as well as lead into silver.

In an interesting passage, quoted by Waley, *Ko Hung* says:

Even a doctor, when he is compounding a drug or ointment, will avoid being seen by fowls, dogs, children, or women . . . lest his remedies should lose their efficacy. Or again, a dyer of stuffs is in dread of evil eyes; for he knows that they may ruin his pleasant colors.

"Nowhere in *Pao P'u Tzu's* book," says Waley, "do we find the hierophantic tone that pervades most writings on alchemy both in the East and in the West. He uses a certain number of secret terms, such as 'metal-lord' and 'river chariot,' both of which mean lead; and 'the virgin on the river,' which means mercury; 'the red boy,' which presumably means cinnabar; and finally 'the golden (? metal) man,' of uncertain meaning. But his attitude is always that of a solidly educated layman examining claims which a narrow-minded orthodoxy had dismissed with contempt. He condemns those who are unwilling to take seriously either 'books that do not proceed from the school of the Duke of Chou or facts that Confucius has not tested.' "

Ko Hung was a voluminous writer. His most important work, *Pao P'u Tzu*, seventy books, probably dates from about 317-323 A.D. His *Shen Hsien Chuan*, evidently somewhat later, consists of ten books and describes the lives of eighty-four genii or *Hsien*. He wrote a large collection of medical recipes, *Chin kwei yao fang*, 100 books; literary works, legends, funeral orations, poems, etc., 100 books; fragments relating to his official business, thirty books; and treatises on the classics, historians, and philosophers, 310 books. The Taoist canon also contains a number of shorter tracts on hygiene, medicine, alchemy, and magic which are ascribed to him, some of them wrongly as Forke

believes. The history of the *Chin* dynasty, which contains his biography, praises his extraordinary learning which was without equal. His writings are deep and very critical, and richer in content than the historical writings of *Ssu-ma Ch'ien* and the *Pan Ku*.

Ko Hung was Confucianist in his ethics and in his outlook toward life, Taoist in his metaphysics and in his view of nature. Like Paracelsus he was as keenly devoted to magic as any of his contemporaries, but, like him also, hard-headed for all his credulity, he was an experimentalist who possessed an extensive knowledge of the powers and possibilities of nature.

BIBLIOGRAPHY

- Lieh Hsien Ch'uan chuan*, a portion translated by Lu-Ch'iang Wu.
1885. EDKINS, REV. JOSEPH, "Phases in the development of Taoism," *Trans. China Branch Roy. Asiatic Soc.*, Hong Kong, Part 5, pp. 83-99.
1898. GILES, HERBERT ALLEN, "A Chinese biographical dictionary," London and Shanghai.
1901. MARTIN, W. A. P., "The lore of Cathay or the intellect of China," New York, Chicago, and Toronto. Chapter III, Alchemy in China, the Source of Chemistry, pp. 41-71.
1901. WYLIE, A., "Notes on Chinese literature," etc., Shanghai.
- 1911, 1913. WIEGER, DR. LEON, "Taoisme," 2 vols., Ho-kien-fou.
1928. JOHNSON, OBED S., "A study of Chinese alchemy," Shanghai.
1930. DAVIS, TENNEY L. AND WU, LU-CH'ANG, "Chinese alchemy," *Scientific Monthly*, **31**, 225-35 (1930).
1930. WALEY, A., "Notes on Chinese Alchemy," *Bulletin of the School of Oriental Studies, London Institution*, Vol. VI, Part 1, 24 pp.
1932. DAVIS, TENNEY L. AND WU, LU-CH'ANG, "T'ao Hung-ching," *J. CHEM. EDUC.*, **9**, 859-62 (1932).
1932. FORKE, ALFRED, "Ko Hung, der Philosoph und Alchimist," *Arch. f. Geschichte der Philosophie*, **41**, 115-27 (1932).
1932. WU, LU-CH'ANG AND DAVIS, TENNEY L., "An ancient Chinese treatise on alchemy, entitled Ts'an T'ung Ch'i, written by Wei Po-yang about 142 A.D., now translated from the Chinese into English by Lu-Ch'iang Wu with an Introduction and Notes by Tenney L. Davis," *Isis*, **18**, 210-89 (1932).