

GINKGO BILOBA or 銀杏 YIN HSING

by A. C. MOULE

It is eleven years since an article on the name *ginkgo* was printed in the *T'oung pao*, 1937, Vol. xxxiii, pp. 193-219. In that article, after examining with no conclusive result the names of the tree in Kaempfer's manuscripts which are now in the British Museum, I added some notices of the tree and of its fruit from Chinese and Japanese botany books and made a list of the many names by which it is or has been known in China and Japan. Some of these names and one short description of the wood were taken, through Japanese books, from the *汝南園史 Ju nan p'u shih*. Of this book, which deals presumably with the trees and plants and agriculture of Ju-nan in Ho-nan, and was written by 周文偉 Chou Wên-hua, a native of Su-chou, in 1620, I could hear of no copy in England, Paris, or Leiden. But when the *T'oung pao* reached America, Dr A. W. Hummel most kindly sent me photostats of the text of the passage on the *ginkgo* from a copy of the book in the Library of Congress. It is, I think, of sufficient interest to justify an attempt to translate it as a kind of postscript to my former paper, and it seems at the same time to be sufficiently complete to stand alone. The passage is in chapter 4 fol. 14r^o-15v^o, as follows:—

YIN HSING. The leaf of the *yin hsing* is like a duck's foot. The old¹ name was duck-foot tree. The *菽園雜記 Shu yüan tsa chi*² says, The fruit of the *yin hsing* is like an apricot, and in the stone is an edible kernel (仁 *jên*), so it is called *jên hsing*. If it is now called *yin hsing* ("silver apricot") although it is not an apricot, it is because it is like one. One name is 公孫 *kung sun* tree, meaning that if any man plants this tree his grandson will be the first to be able to eat the fruit. In the north men speak of it as 白果 *pai kuo* ("white fruit"). In the south also they call it so; but the common people of Wu all call it *ling yen* or *pai yen*³. The tree is tall and large, and often in the

¹ For 古 *ku* "the old" we should, possibly, read 故 *ku* "therefore"; the *Pên ts'ao kang mu* c. 30 fol. 44v^o, reads 因.

² By 陸容 Lu Jung (1436-94).

³ It seems to be possible that 靈眼 *ling yen* and 白眼 *pai yen* are mistaken transcriptions of the Wu dialect sounds, *ning man* (cf. Jap. *ginman*) and *beh man*, of *yin hsing* and *pai hsing* respectively. Cf. *T'oung pao*, xxxiii, p. 211, where it will be seen that both *pai yen* and *pai hsing* are given, but from different books. The fact that the author was himself a native of Wu tells perhaps against his having made such a mistake, unless he copied the statement uncritically from some other book, as authors so often do.

course of years it may attain to a girth of two arm-stretches¹. The grain of the wood is extremely fine and very admirable for use in making inscribed tablets under the eaves of a summer-house, since the carved copy of some famous calligraphy will retain all the characteristics of the brushwork. The flowers open by night and fall when it is day. The fruit is as large as a 枇杷 *p'i pa* (*loquat*); there are a hundred and tens on each branch. They ripen in the eighth or ninth moon, when men gather them and allow them to rot, keeping only the stones, which are in fact the *yin hsing*. The stone is white, the flesh green. If thoroughly roasted in ashes before they are eaten, they are sweet and fragrant. Experts can relieve kidney trouble with them, prescribing a small number, since repletion is also easy. Again there is a distinction between the dry and the glutinous varieties². The glutinous is fat, soft, fragrant, and slippery; the dry cannot be eaten. The poem of Mr Ou-yang (1007-72) says, The duck-foot grows in Chiang-nan; the name and fruit were not yet carried hither. The 絳囊 *chiang nang*(?) therefore comes in as tribute; the *yin hsing* is dear in 中州 *Chung-chou* (i.e., the capital, in Ho-nan). He says again, At first he picks barely three or four; after many years the seeds gradually increase in number. The poem of 梅堯臣 *Mei Yao-chên* 聖俞 *Shêng-yü* (1002-60) says, "When a northerner sees a duck-foot, or a southerner sees a walnut, he knows the inside but does not know the outside, suspecting it to be like the husk of a chestnut. The duck-foot is like a green plum; the name is famous because of the leaves." So we know that this fruit was not regarded as important before the Sung. The trees are either female or male. The male do not bear fruit. The 瑣碎錄 *So ts'ui lu*³ says, The male seeds have three keels, the female two keels. One ought to plant the two seeds together on the brink of a pool, that the reflection may produce fertility. Or if you bore a hole in a female tree and fill it with a piece of male wood, it will not fail to bear fruit. The *Nung sang tso yao*⁴ says, In the second moon sow them in rich soil with lime and dung, and wait till they are grown up into little trees. Next year about the middle of Spring transplant them; and when you do so wrap [the roots] with the

¹ 連抱 "united embrace" means, I suppose, that two men with arms outstretched can reach round the trunk, implying a girth of about 12 feet. A tree of three arm-stretches in girth is mentioned in *T'oung pao*, xxxiii, p. 209. E. H. Wilson, *A Naturalist in W. China*, 1913, Vol. II, facing p. 46, shows a group of *ginkgo* trees of 24 feet girth and 90 feet in height.

² The dictionaries seem to give nothing but varieties of rice for these two words 粳 *kêng* and 糯 *no*, with no attributive senses.

³ I have so far failed, even with the kind help of Professor Haloun, to trace this book. The statement about the seeds is quoted also from the 種樹書 *Chung shu shu* of c. A.D. 700 (cf. *T'oung pao*, xxxiii, p. 206).

⁴ 農桑衣食撮要 *Nung sang i shih tso yao* by 許明善 *Hsü Ming-shan*, an Uigur, 1314 (Wylie, *Notes of Chin. Literature*, 1901, p. 94).

earth in straw or bind them up with hemp, or they will not easily live. If you graft, use the same species (*i.e.*, graft on a *ginkgo* stock). This fruit is chilling in nature; one ought not to eat it incessantly. If little children eat many they will die. Some say that if you are poisoned by eating *yin hsing* and the belly swells, you should drink several cups of cold white (*or neat?*) wine one after another. If you vomit it you will recover; if not, you will die.

It will be seen that this long passage adds some new points and gives further precision to some details; especially it gives what is probably the accepted explanation of the name *kung sun shu*. This explanation is quoted also in *Tséng pu lei yeh* from the *Hui yüan*¹, as I learn from the *Zikawei Bureau Sinologique* No. 287, 15 August 1939, p. 4, which devotes nearly two pages to kind corrections and additions to my former article, and was sent to me by my friend the late Father C. Baumert S.J. (1865-1940). The same notes, which are signed J.L., say that to my list of eighteen or twenty names of the tree (*T'oung pao*, xxxiii, p. 216) "on pourrait ajouter huit autres noms littéraires indiqués par le *Tséng-pou-lei-yé*". Unfortunately the eight names are not given. They may or may not include 文杏 *wén hsing* and 玉果 *yü kuo*, which were kindly supplied by Dr Hummel from the 事類異名 *Shih lei i ming* by 許樂善 Hsü Lo-shan, 1609. Thus the Chinese names of the tree or of the fruit do not fall far short of thirty. *Wén hsing* is among the "famous fruit and strange trees" presented to the 上林 *Shang Lin* when that park at Hsien-yang was laid out—*西京雜記 Hsi ching tsa chi* (ed. *Han wei ts'ung shu*), c. 3 fol. 6v°. The note describes it as with ornamental grain (材有文采); and there seems to be no reason to think it was the *ginkgo* at that date and place. And *yü kuo* is found even earlier, in 穆天子傳 *Mu t'ien tsü chuan* (ed. *道藏 Tao tsang*, 1923, 海 2) c. 1 fol. 3v°, where it seems to be a precious stone; while in later poets it is mentioned in connexion with oranges.

I take this opportunity to make some remarks on my article in the *T'oung pao*, xxxiii, 1937:—

p. 207, note 1. Wang Hsiang-chih was *chin shih* in 1604.

p. 208. The line of Lu Yu is, more correctly and simply, "The duck-foot leaves are yellow, the tallow tree is scarlet".

p. 209, 215. The date at which the *ginkgo* was introduced into north China is not stated exactly in the books which I quoted in 1937 or in the *Ju nan p'u shih*, but it may be inferred that it was in the middle, or in the

¹ 彙苑詳註 *Hui yüan hsiang chu* is attributed to 王世貞 Wang Shih-chéng (1526-90). The 角山樓會補類腋 *Chüeh shan lou tséng pu lei yeh* in 67 *chüan*, compiled by 趙克宜 Chao K'o-i of 丹徒 Tan-t'u, c. 1855, is an enlarged edition of 類腋 *Lei yeh* by 姚培謙 Yao P'ei-ch'ien, 1742. (G.H.)

first half, of the eleventh century. Mei Yao-ch'ên (Shêng-yü) was himself a native of 宣城 Hsüan-ch'êng or 寧國 Ning-kuo in the south of An-hui, where, according to the *Pên ts'ao kang mu*, the best *ginkgo* fruit were found. In 1054 he seems to have sent a small packet of the fruit to his friend Ou-yang Hsiu at the capital, and received these lines as his reward. "A present of a goose feather from a thousand *li* away we value for the sender's sake. If I received but a hundred duck-foots I may count them a real treasure. Ask me from whom I received them: from an old poet distant and poor. In the wilds of the country he picked the fruit in his orchard and sent them fresh to the capital. Though the parcel was very small, the fruit was all picked by himself, and the cheap things become dear for his sake, a man whose worth is thrown away and lost. As I open the seals I sigh with deep emotion, and take these lines to thank his loving thought of me." (居士集 *Chü shih chi*, ed. S.P.T.K., c. 5 fol. 9r°; A.D. 1054.) In this there is no sign that the fruit was known at the capital, but only three years later the two friends exchanged verses on the subject with clear reference to the introduction of the tree by one named Li. In the *Kuang ch'ün fang p'u* (*T'oung pao*, xxxiii, p. 209) the name is quoted as 李文和 Li Wên-ho; but in the heading of Ou-yang's second poem he is 李侯 Li Hou, and in the footnote 驢馬都尉李和文 *Fu ma tu wei Li Ho-wên*; while Mei calls him 李太博 Li T'ai-po. This last title I cannot find; but the man must have been the scholar and author 李遵勗 Li Tsun-hsü (*tzü* 公武 Kung-wu) who about the year 1010 had married T'ai Tsung's daughter 萬壽長公主 Wan shou chang Kung chu (988-1051). At one time he was governor (節度使 *Chieh tu shih*) of Ning-kuo, where he must have learned to know the *ginkgo*. On his death he was given the posthumous rank of 中書令 *Chung shu ling* and the title of 和文 Ho-wên (*Sung shih*, c. 248 fol. 2; c. 464 fol. 3, 4). Mei's poem (in 宛陵先生集 *Wan ling hsien shêng chi*, ed. S.P.T.K., c. 53 fol. 10v°) begins, as above, "When a northerner sees a duck-foot, &c." and proceeds, "In my home country of Hsüan-ch'êng we commonly occupy ourselves with these. When a tree has been planted for thirty years it bears fruit, and we scare away the wild monkeys. When we peel the stones our hands are not stained (?). We take and send them to the Palace officials. But now happily they are growing at the capital. . . ." And Ou-yang's poem (in *Chü shih chi*, c. 7 fol. 1v°) begins, "The duck-foot grows in Chiang-nan, &c." and continues, "His overflowing energy extending to distant places, the worthy Marquis (侯) with love of strange things has caused the tree from by the River to bear its Autumn fruit at the I Gate (the east gate of the capital). At first he gathered hardly three or four, like offerings of crystal beads in caskets of gold (?). The Lords and Ministers could not think what they were; the Emperor paid 100 taels for them. After many years the fruits will gradually become more numerous, strung in clusters along the boughs. The owner, famed for generosity, has

sent me some of them—like a gift of pearls. Sadly I think of the grapes and Parthian pomegranates which were transported long ago; reflecting that when they first came they were equal in value to these. But now they are spread all over the Middle Kingdom, at the foot of the fence and the top of the wall. Though the nature of things is always the same, the fancies of men will change with the times. So the beginning must be recorded that later ages may know whence the things came. . .”—with a note, “At the capital there were no duck-foot trees until the *Fu ma tu wei* Li Ho-wên moved some from the south to plant in his palace.” We may think that this introduction was between 1054 and 1057, the date of Ou-yang’s second poem, as is implied in the titles of the poems, especially Mei’s 李太博家新生鴨脚; and the verses themselves seem rather to suggest that Li was still alive. The final note, which uses the posthumous title, may have been written later when the 歐陽文忠公集 *Ou yang wên chung kung chi* here used was collected and arranged with brief notes by 周必大 *Chou Pi-ta* and others in 1191-96.

It is not a little strange that this fruit, growing in the next province not 400 miles away, should have aroused so much curiosity at the capital as to provoke comparison with the grapes and pomegranates which had been brought from Central Asia.

The tree reached Shan-tung also in the Sung dynasty. In the court of the 詩禮堂 *Shih li T’ang* at Ch’ü-fu there was a *huai* tree (*sophora* *Jap.*) of the T’ang dynasty and a *ginkgo* of the Sung (宋銀杏樹一; *Ch’üeh li wên hsien k’ao*, 1762, c. 12, fol. 3v°). Incidentally, this is the earliest mention that I have come across of a *ginkgo* planted in a temple.

p. 212, note 1. A difference in the leaves, not indeed of the male and female trees, but of the flowering and barren shoots, is recorded by E. Cahen, *Journal of the Royal Horticultural Society*, 1943, p. 99; and may easily be verified now that the tree is becoming common in England. The leaves on the stunted flowering shoots are undivided, the others deeply divided.

The Japanese seem to have produced two or three kinds with variegated leaves, as is described and shown in 草木錦葉集 *Sōmoku kinyōshū*, c. 1, fol. 4v°, 6v°, 7r° (see Plates IV, V), with the names 白布 *hakufu ichō*, 令玉 *reigyoku ichō*, and 勝之助 *tatsunosuke ichō*.

p. 212, note 1. In 1937 I overlooked the encyclopædia *Wakan sansai zue*, 1713, which, in c. 87, fol. 25-26, gives the Chinese names *yin hsing*, *pai kuo*, and *ya chiao tsū*, with no transcription but *ginnan* and *ichō*, the latter written in Chinese (一葉), hiragana, and katakana. This, published the year after Kaempfer’s *Am. exot.*, adds to the negative evidence that the transcription *ginkyō* was unusual or unknown in Japan at that time.

p. 218, foot. For Flores read Florem.

It is impossible for me to attempt a bibliography of the *ginkgo*, which would fill very many pages, but it may be noted that after 1937 the late

Sir Albert Seward had published “The Story of the Maidenhair Tree” in *Science Progress*, No. 127, January 1938, pp. 420-40; and his Presidential Address, 30 August 1939, at the Dundee meeting of the British Association, entitled “The Western Isles through the Mists of Ages”.

“The Ginkgo through the Ages”, by Edward Cahen, a valuable paper giving much information about the *ginkgo* trees to be found in England, was printed in the *Journal of the Royal Horticultural Society*, April 1943, pp. 99-105; well illustrated.

Trees for Town and Country, 1947, has short notes on the Maidenhair Tree, with illustrations.

Sir Humphrey Prideaux-Brune has contributed to the *Journal of the Royal Horticultural Society*, November 1947, pp. 446-450, “The Maidenhair Tree (*Ginkgo biloba*)”, and October 1948, pp. 328-331, “Some further Notes on Ginkgo biloba” with Figs 122, 124-126, 128.

In the *Illustrated London News*, 10 April 1948, p. 414, appeared a short article on “The Maidenhair Tree” by Harold Bastin, with interesting photographs; and on 22 May 1948, pp. 586-7, an exciting article, “Linked with the Dinosaurs: ‘Living Fossils’ from Mesozoic Times”, recording the discovery in 1945 of another “fossil tree”, that is to say a tree with features characteristic of the flora of mesozoic times, quietly living on in the mountains of Ssü-ch’uan and Hu-pei. This article is illustrated with two more *ginkgo* photographs and two drawings of the newly-discovered tree, a deciduous conifer to which science has given the clumsy name of *metasequoia glyptostroboides*, while the Chinese name is said to be 水杉 *shui shan*. This discovery is also mentioned in *China Newsweek* No. 292, 10 June 1948, p. 8. Both accounts and the two illustrations are taken from an article by E. D. Merrill in *Arnoldia*, Vol. 8, No. 1, 5 March 1948¹. The largest trees are described as 110-115 feet in height and more than seven feet in diameter near the ground. The principal places where the trees are found are the village of 磨刀溪 *Mo-tao ch’i* in Ssü-ch’uan, about thirty miles south-east of 萬縣 *Wan Hsien*, and especially the valley of 水杉壩 *Shui-shan pa*, perhaps twenty-five or thirty miles farther south, just over the Hu-pei border in 恩施縣 *En-shih Hsien*².

¹ Dr Merrill, Director of the Arnold Arboretum of Harvard University, has very kindly sent me this number of *Arnoldia*, together with the Chinese characters for the principal place-names and for the tree. He points out that in South China *shui shan* describes *glyptostrobis pensilis*, a low altitude tree growing in wet places, and only in the north-west (where it is locally pronounced *shui sa*) means the *metasequoia* which grows at altitudes of over 3000 feet. The article in *Arnoldia* has been reprinted in the *Journal of the Royal Horticultural Society*, July 1948, pp. 211-216; October 1948, p. 334, Fig. 127.

² The map in *Arnoldia*, p. 7, and that in Richard’s *Geography of the Chinese Empire*, 1908, both make *Mo-tao ch’i* about 50 km. or 30 miles south-east of *Wan Hsien*; but Dr Merrill calls the distance 110 km., and the *Ku chin ti ming ta ts’ü tien* p. 1231, 240 li. On the maps 100 km. is about the direct distance between the cities of *Wan* and *En-shih*, in the jurisdiction of which the two tree sites respectively lie.

The two trees have survived on the earth, if we are to believe the geologists, for a matter of a hundred million years without human aid, and it is curious how the legend that the *ginkgo* at least owes its survival to having been cared for by the Buddhists as a sacred tree persists. Thus Mr Bastin writes, "from time immemorial it has been venerated as 'sacred', and so sedulously preserved and cultivated in the gardens of Buddhist temples and monasteries in China and Japan". And Mr Cahen, "The *Ginkgo* is primarily regarded as a sacred tree." Nor has any time been lost before the canonization of the *metasequoia* also, for under the striking sketch of a large specimen (*Illustrated London News*, p. 587) we read, "Its sacred character indicated by the small todec temple at its foot", and "The *Metasequoia* is regarded as sacred".

I am therefore tempted to repeat that, as far as I know, the *ginkgo* is not "in any sense a sacred tree". None of the many mentions of it which I have seen in Chinese books conveys the least suggestion that it was sacred, but they all regard it solely as a fruit tree, with one brief reference to the suitability of the wood for fine carving. It was not even admitted into the pharmacopœia before the Sung dynasty. It is found in forests (probably, as seems now to be thought, indigenous in Chê-chiang), in fields, by the roadside, and in private gardens, quite as much as in the precincts of monasteries.

The Chinese have had, no doubt, sacred individual trees. In ancient China it was the rule to plant a tree on the open-air altar of the God of the Soil; and the proper trees were pine for the central altar, *thuya* for the east, *catalpa* for the south, chestnut for the west, and *sophora* for the north (cf. Ed. Chavannes *Le T'ai chan—Le Dieu du Sol*, pp. 466-76). In the far south-west each Miao hamlet is said to have a guardian tree or stone; if a tree, "invariably it is an oak" (W. H. Hudspeth, "Tree Worship" in the *China Journal*, 1927, p. 206). And in the north-east may often be seen an old wayside *sophora*, which is believed to have magical power or to be the seat of a powerful spirit, festooned with votive streamers, and with a little shrine built against the trunk. It is possible that a *ginkgo* may sometimes play this part, and indeed one such tree was recorded from Japan in 1937. Chavannes (*op. cit.*, p. 471) describes this as tree-worship (*dendrolâtrie*) and traces it back directly to the tree on the altar of the God of the Soil, saying that in antiquity the tree was identified with the God, the divinity of the Earth manifesting itself in the stately living tree. But all this does not make the pine or *sophora*, much less the *ginkgo*, into a sacred genus of tree.

My thanks are due to Professor G. Haloun for kind help in a few places.

銀杏

銀杏葉似鴨脚古名鴨脚樹菽園禱記曰銀杏
實如杏而核中有仁可食故曰仁杏今云銀
杏似是而非一名公孫樹言公種而孫始得
食北人稱爲白果南人亦呼之吳俗皆稱靈
眼又稱白眼其木高大多歷年歲或至連抱
其木理最細用作園亭顏額甚雅摹刻名書
不失筆法其花夜開晝落實大如枇杷每一

枝有百十顆八九月熟積而腐之惟取其核
 卽銀杏也核白肉青煨熟食之甘香可人能
 收小便令不數亦易飽仍有粳糯之分糯者
 肥輒香滑粳者不堪食歐陽公詩云鴨脚生
 江南名實未相浮絳囊因入貢銀杏貴中州
 又云始摘纔三四歲久子漸多梅聖俞詩云
 北人見鴨脚南人見胡桃識內不識外疑若
 橡栗韜鴨脚類綠李其名因葉高則知是果

之見重自宋始矣其木有雌雄雄者不結實
 瑣碎錄云雄者三稜雌者二稜須合二種臨
 池栽之照影卽生或將雌樹鑿孔以雄木填
 之無不結實農桑撮要曰二月於肥地用灰
 糞種之候長成小樹次年春分前後移栽
 時連土用草包或麻纏束方始易活若接卽
 用本色此果性寒不宜頻食小兒食多者死
 或云食銀杏遇毒腹脹連飲冷白酒幾盞吐
 出則愈不吐則死

IV



Sōmoku kinyō shū c. 1 fol. 6v°

V



Sōmoku kinyō shū c. 1 fol. 7r°