



HAOMA I. BOTANY

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Haoma is the Avestan name for a plant and its divinity, Mid. Pers. *hōm*, Sogd. *xwm*, Pers. and other living Iranian languages *hōm*, *hūm* and related forms, Skt. *soma*, living Indic languages *som*, *soma* (Flattery and Schwartz, p. 68 with Table 3; Steblin-Kamenskij, 1972, pp. 138 ff.; Idem, 1987, p. 377; Henning, "Mitteliranisch," p. 85).

Attempts to identify the proto-Indo-Iranian **sauma-* go back more than two centuries, when Western scholars became acquainted through texts with *haoma/soma-*. The word denotes something like "that which is pressed, extract" (from Av. *hu-*, Skt. *su-*, "press, pound"), and could be applied only by metonymy to a plant yielding that extract. Nor in theory would it necessarily have referred to only one plant, but might have been used for several similar, or even wholly different, plants (cf. Av. *pouru.sarəda-*, Y. 10.12). However, if (with Steblin-Kamenskij, 1987, p. 377; Falk, 1989, pp. 77 ff.) we reject the hypothesis that mythic characteristics of the divinity Haoma/Soma governed the choice of a representative plant (so Kuiper, 1970; Windfuhr, 1985), we can accept that striking correspondences in the technical terms and epithets used with reference to *haoma/soma* point to an extract from a specific plant having been ritually drunk by the common ancestors of the Old Iranian and Old Indian peoples. It is then the (psycho)pharmacological properties of that plant



which must explain what is indicated of *haoma/soma* in the Avesta and Vedas.

The main Avestan source for such indications is the *Hōm Yašt* (Y. 9-11). Of the gifts prayed for there from Haoma by his worshippers, those which derive from pharmacological effects probably include healing (Y. 9.16, 17, 19; 10.8, 9) and sexual excitation (Y. 9.3-15, 22), and certainly physical strengthening (Y. 9:17, 22, 27), intellectual stimulation (Y. 9:17, 22) and “intoxication” (Y. 9:17; 10:8-cf. Y. 17.6, 14, 19; 11.10). The last word has regularly been used to render Av. *maḍa-* which, with Skt. *mada-*, has been a keyword for investigations; but neither the Avestan texts nor their Pahlavi renderings (*m’dyšn*, Y. 9:17; 10.18, 19, used elsewhere for “coition”; *mnyšn* “thinking, thought,” Y. 10:14; omitted, Y. 10:10), yield sufficient evidence for a certain definition of the term. In the *Hōm Yašt*, the *maḍa* of *haoma* is described as *fraša-* “brilliant, bright,” *varəziianḡhuua-* “life-invigorating” (Hintze, pp. 134-35), *raoxšna-* “light,” and *rənjīia-* “swift” (Y. 10.14, 19). Moreover, Haoma is called “the best for the soul’s journey” (*urunaēča pāθmainiō.təma-*, Y. 9:16), and is invoked for the “best existence” (*vahišta- ahū-*, Y. 9.19; 11.10). It is further said that “all other *maḍa-* are accompanied by Wrath (*Aēšma*, q.v.) of the bloody club, but Haoma’s *maḍa-* is accompanied by joyous Truth (*Aša*, q.v.)” (Y. 10.8, cf. Yt. 17.5 and, e.g., *Śatapatha Brāhmaṇa* (Chowkamba, ed., 5.1.2.10; see Weber).

Yet since in *Nērangestān* 12:2 (ed. Kotwal and Kreyenbroek) Av. *maḍa-* (occurring without reference to *haoma*) is rendered by Pahlavi *md*, that is, *may*, “wine,” and since wine and other alcoholic beverages have been widely used in religious rituals, during many researches (surveyed by O’Flaherty down to 1968) there was almost consensus that **sauma* was alcoholic, and this interpretation was maintained still by Vasilii Abaev (1975) and Rausing (1987). But there is not enough time during the ritual preparation of *haoma/soma* for fermentation to take place (nor distillation, which would in any case be anachronistic), and there is no textual evidence for any such process. A case was then made, based on Rig Veda 10.119, for **sauma* having been a hallucinogen (but on this as a wrong interpretation of the text, see Falk, 1989, pp. 78-79). In 1921 (see O’Flaherty, pp. 128-29) B. L. Mukherjee proposed hemp, *Cannabis sativa/indica*, as **sauma*. Henrik Samuel Nyberg (pp. 177, 190, 290) independently gave support for this, but Walter Bruno Henning (1951, p. 30), rejecting his theory of Zoroaster’s use of hemp, voiced a modern Western aversion towards psychotropic substances as leading to “physical, mental and moral deterioration.” This, however, ignored the importance of dosage (cf. Taillieu, p. 191). In 1968 Wasson, who had worked on Meso-American



psilocybine mushroom cults, proposed another hallucinogen, the fly-agaric mushroom, *Amanita muscaria*. John Brough (1972, p. 360), again ignoring dosage, argued that the stupor occasionally induced by flyagaric disqualified it from being **sauma*, which stimulated warriors. This point was virtually conceded by Wasson (1972), whereas Ilya Greshevitch (1974, p. 50 ff.) pointed out that in moderation this mushroom is a stimulant, and added some ingenious arguments in favor of the identification. Other proposals were for mandrake, *Mandragora turcomanica* (Khlopin) and ginseng, *Panax ginseng* (Windfuhr), but these rightly gained little if any support.

As for the plant yielding the extract in modern times, the Brahmans regularly used one of the *Sarcostemmas* (*Asclepiads*), which are evidently a substitute for ancient **sauma*, since they are plants of warm climates. From the late 19th century it has been known (cf. O'Flaherty, pp. 118, 122) that the Zoroastrians of Yazd use a variety of ephedra which they call *huma*, *hum* and which they supply to their coreligionists in India, where ephedras do not grow. The plants flourish, however, in Inner Asia, the Indo-Iranian borderlands and Persia. Gradually it was discovered that in a number of living Iranian languages and dialects ephedras are known as *hōm* or some similar term, and that in the Indic languages of Gilgit and Kāferestān (Nurestān) they are called *som*, *soma*. Together linguistic and ritual evidence seemed decisive.

In 1989 it was partially questioned, however, in a fully documented study by the botanist David S. Flattery, with linguistic support from Martin Schwartz. Flattery still held **sauma* to have been an hallucinogen, and argued (p. 75) that the effects attributed to *haoma/soma* in the texts did not correspond to those provoked by ephedrine alkaloids extracted from ephedra. Therefore, ephedra must have been mixed with another psychotropic agent, one inducing visions. In *Vd.* 14.4 (cf. *Y.* 68.1) it is indicated that *haoma* was pressed together with a plant called *hadānaēpātā-* (q.v.), a word of disputed meaning. In the known Zoroastrian rite a pomegranate twig is used, but this must be a substitute for the original plant, which Flattery proposed to identify as harmel (mountain/wild rue), *Peganum harmala*. This is known in Iranian languages as *sepan*, *esfan*, *sven*, forms all derived from Av. *spānta-* "holy." It yields the β-carboline alkaloids harmaline and harmine, whose reported sleep-inducing (side) effect might, combined with ephedrine, have "facilitated the experience of visions"; and because of the holiness of harmel, he saw this as the essential *haoma*, that called *dūraoša* (q.v.; Flattery and Schwartz, pp. 63-64 and n. 28), with ephedra as the less effective ingredient. This hypothesis was open to



strong objections, notably that no convincing reason can be found for an abandoning of the easily available harmel. Moreover, although Iranian Zoroastrians make much use of rue (now more often in the form of garden rue, *Rue graveolens*) they do not crush it or associate it in any way with *haoma* rituals.

In the same year (1989) Harry Falk in an important article argued that the essential effect sought from *soma/haoma* was not hallucinatory, but precisely that produced by ephedrine, namely inducing alertness and awareness. He cited as evidence the previously overlooked use of *soma* in the highly esteemed night-time Atirātra ritual as both a sleep-preventing drink for the priests and a stimulating offering to Vṛtra-fighting Indra. The alkaloid ephedrine is somewhat milder yet more prolonged in action than adrenaline, and may be changed to metamphetamin or an analeptic amine by elimination of the hydroxyl group (OH) on the side chain (Ito, 1995, n. 1). The basic alkaloid is water-soluble and, because of climactic conditions, its full effect could be enjoyed only in situ, i.e., in the mountainous borderlands between India and Greater Iran, where the ephedrine-yielding species of ephedra (*Ephedra gerardiana*, *procera*, and *intermedia*) grow. This limited distribution of potent ephedra would explain the post-Vedic question put to the *soma* vendor, whether his merchandise was harvested on mount Mūjavat (cf. Falk, 1989, p. 87). Interestingly, a side-effect of ephedrine, the hindering of urination, coincides with the priestly fear to die of urine-retention (*ámeha*, cf. Falk, 1989, p. 83, n. 27).

There seems no doubt that the *haoma* depicted in the *Hōm Yašt* is a normal, chlorofyll-bearing plant: apart from its stock color epithet “yellow, golden, green” (Av. *zairi-* and *zairi.gaona-*, cf. Skt. *hari-*) this is suggested most strongly by the mention of “stems, shoots and branches” (Av. *varəšajīš*, *frasparəṃə*, *frauūāxšə*, cf. Pahl. *ēwan*, *spēg*, *tāg*, Y. 10.5). *Haoma* is further called “having tender/pliant *qsu(s)*” (Av. *naṃyqsu-*, Y. 9.16) or “having tasty *qsu(s)*” (Gershevitch, 1974, p. 48; pure *soma*, however, is not “sweet,” Skt. *mādhu-*, but “sharp, astringent,” Skt. *tīvrá-*, cf. Falk, 1989, p. 83). This *qsu-* (cf. Skt. *aṃśu-*) is exclusively accorded to *haoma/soma* and has therefore been taken for the actual name of the **sauma*-yielding plant (Brough, 1972, p. 337), but more probably it denotes a “twig” (cf. Pahl. *tāg* in Y. 10.2). In favor of the fly-agaric theory “stalk” (Wasson, 1968, pp. 44 f.) and “fibre”/“flesh” (Gershevitch, 1974, p. 48, 74-75; Windfuhr, p. 701) were proposed, but this ignores the expressed necessity of pounding the *qsu/aṃśu* (see Brough, 1972, p. 338), which seems



relevant only in the case of fibrous or hard plant material (twigs, roots, seed). Both *haoma* and *soma* are accorded fragrance (Av. *hubaoiḍi-*, Y. 10.4, cf. Skt. *surabhintara-*) and a mountainous location; the additional reference to river valleys in Y. 10.17 is probably only a poetic way of saying “all *haomas*, wherever they may be” (Brough, 1972, p. 343; cf. also Rig Veda 9.6.28, and the river *Aṃśumatī-*, RV. 8.96.13-15). Reality has been sought in *haoma*’s epithet “tall” (Av. *bərəzant-*, Y. 10.21, *Vd.*, 19.19; cf. Falk, 1989, p. 86, who relates it to the tree-like *Ephedra procera*) and in the anthropomorphic appearance of the plant (Windfuhr, pp. 704, 712). Such speculations and the overall unscientific character of the scriptural descriptions confine the contribution of descriptive features in a botanical identification of **saoma* to that of mere touchstones.

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