Electronic Journal of Vedic Studies

Volume 9 (2003), Issue 1

Soma-Haoma

Part 1

Guest Editor: Jan E.M. Houben

ISSN 1084-7561

EDITOR'S NOTE

This volume of EJVS is edited by our guest editor, Jan Houben. He has organized the Leiden conference whose (partial) outcome are the papers presented here. Incidentally, this volume follows up, in certain respects, the discussion, begun in Vol. 8-3 by Philip T. Nicholson, about specially induced states of mind, as seen in Vedic texts. A report on the recent Somayāga in Keral will follow soon.

We sincerely thank Jan Houben for all work undertaken to bring out this special issue.

MW

GUEST EDITOR'S NOTE

Soma-Haoma

Note: The Soma-Haoma issue of the EJVS, of which this is the first part, presents the direct and indirect outcome of a workshop on the Soma-Haoma problem organized by the Research school CNWS, Leiden University, 3-4 July 1999.

JEMH

Electronic Journal of Vedic Studies, Vol. 9, Issue 1, 2003: 1-2.
http://dx.doi.org/10.11588/ejvs.2003.1.786

Appeared in the *Electronic Journal of Vedic Studies* 9.1 (editor-in-chief: M. Witzel, Harvard University),
http://www1.shore.net/~india/ejvs/ --- New address: http://www.ejvs.laurasianacademy.com/ejvs0901a.txt
(last accessed on 15 December 2013)
(Chinese translation appeared in *Culture & History – Essays Collection of the Western Region,*
Urumqi (Xinjiang, China), 2005).
AUTHOR'S COPY

The Soma-Haoma problem: Introductory overview and observations on the discussion[1]

Jan E.M. Houben

Je suis ivre d'avoir bu tout l'univers ...
Écoutez mes chants d'universelle ivrognerie.
Apollinaire, 1913

It is no sign of scientific honesty to attempt
to claim for what is in reality a branch of
historical research, a character of
mathematical certainty.
... it is only the rawest recruit
who expects mathematical precision where,
from the nature of the case, we must
be satisfied with approximative aimings.
F. Max Müller, 1888, p. xiv.

1. Introduction

Practically since the beginning of Indology and Iranology, scholars have been trying to identify the plant that plays a central role in Vedic and Avestan hymns and that is called Soma in the Veda and Haoma in the Avesta. What is the plant of which the Vedic poet says (ṚV 8.48.3)[2]:

ápāma sómam amṛ́tā abhūma_ áganma jyótir ávidāma devā́n |
kím nūnám asmā́n kṛṇavad árātiḥ kím u dhūrtír amṛta mártyasya ||

"We just drank the Soma, we have become immortal, we have come to the light, we have found the gods. What can enmity do to us now, and what the mischief of a mortal, o immortal one?"

And which plant is addressed by Zarathustra (Y 9.19-20) when he asks divine blessings such as "long life of vitality" (*darəγō.jītīm uštānahe*)[3][4], "the best world of the pious, shining and entirely glorious" (*vahištəm ahūm aṣ̌aonąm raocaŋhəm vīspō.xᵛārəϑəm*), and requests to become "the vanquisher of hostility, the conqueror of the lie" (*ţbaêṣ̌ō.taurᵘuuå̊ drujəm.vanō*)?

2.1. Early ideas and guesses on Soma and Haoma

Already Abraham Rogerius, the 17th century missionary from Holland, was familiar with the word *soma*, as he writes in his *Open Deure tot het Verborgen Heydendom* (*The open door to the hidden heathendom*, 1651) that it means "moon" in the language which he calls "Samscortam" [5]. But it seems that it was only in the second half of the 18th century that Europeans started to gather more detailed informations about Vedic rituals, including the use of Soma (in the meaning of the plant and the inebriating drink created from it). In an abridged text of the Jesuit Father Coeurdoux which remained unpublished but which was apparently the unacknowledged basis of J.A. Dubois' well-known work on the customs, institutions and ceremonies of the peoples of India (Abbé 1825), we read that Soma is the name of a certain liqueur of which the sacrificer and the Brahmins have to drink at the occasion of a sacrifice ("Soma est le nom d'une certaine liqueur dont lui [= celui qui préside à la cérémonie, J.H.] et les autres Brahmes doivent boire en cette occasion", Murr 1987: 126).

From Anquetil-Duperron (1771) [6] and Charles Wilkins (1785) [7] onward, the identity of the Avestan Haoma and of the Vedic Soma started to receive scholarly and scientific attention. In 1842, John Stevenson wrote in the preface to his translation of the Sāmaveda that in the preparation of a Soma ritual (*somayāga*) one should collect the "moon-plant". He identifies (p. IV) the plant as Sarcostemma viminalis. He moreover notes (p. X) that "[s]ince the English occupation of the Marátha country" the Somayāga was performed three times (viz., in Nasik, Pune and Sattara). In 1844, Eugène Burnouf observed in a study (p. 468) that the situation of the Avestan Haoma, the god whose name signifies both a plant and the juice pressed from it, is exactly parallel with the Soma of Vedic sacrifice. Windischmann (1846) discussed ritual and linguistic parallels between the Soma- and Haoma-cult in more detail. He reports (1846: 129) that Soma is known to be Sarcostemma viminalis, or Asclepias acida (the latter nowadays also known as Sarcostemma acidum Voigt), to which he attributes a narcotic-intoxicating ("narkotisch-berauschende") effect.

2.2. Soma-Haoma and the development of modern botany

The botanical identity of Soma and Haoma became problematized in the second half of the nineteenth century in a time when botany was trying to cope with the challenges of various exotic, newly encountered floras.

The use of the plant Sarcostemma brevistigma in recent Vedic sacrifices was acknowledged, but was this identical with the Soma which had inspired the ancient authors of the Vedic hymns? Max Müller expressed his doubts in an article published in 1855, in which he referred to a verse about Soma that appeared in a ritualistic commentary (Dhūrtasvāmin's commentary on the Āpastamba Śrautasūtra) and that was itself allegedly quoted from an Ayurvedic source. Adalbert Kuhn 1859, being primarily interested in Indo-European mythological parallels, accepts Windischmann's conclusions that the Soma-Haoma was already current among the proto-Indo-Iranians before they split into a Vedic and Iranian group. He leaves open the possibility that only the mythology and outward appearance of the Soma and Haoma are similar while the plants may be different. In 1881 Roth discussed in an article, "Über den Soma", the nature of the plant that was used in modern times, the plant of olden times, the development in which the plant became rare and inaccessible to the Vedic people, and the admission and prescription of surrogates in later Vedic texts. He thinks it is likely that the ancient Soma was a Sarcostemma or a plant belonging, like the Sarcostemma, to the family of Asclepiadeae, but not the same kind as the one used in current sacrifices. Roth's article was the starting signal of a discussion by correspondence in an English weekly review of literature, art and science, *The Academy* of 1884-1885; apart from Roth and Müller botanists such as J.G. Baker and W.T. Thiselton-Dyer participated. Julius Eggeling (1885: xxiv ff) gave a brief report of this discussion, which later on appeared again in Max Müller's *Biographies of Words and the Home of the Aryans* (1888: 222-242). From the title which Müller gives to the whole discussion, "The original home of the Soma", it is clear which aspect of the problem interests him most: the possible indication that the plant's identity might give about "the original home of the Aryans". Eggeling notices that an official inquiry is undertaken by Dr. Aitchison, "botanist to the Afghan Boundary Commission" (Eggeling 1885: xxiv). A few decades later, Hillebrandt (1927: 194ff) gives a more detailed report of the same discussion and adds references to a few later contributions to the Soma-Haoma problem. As in the case of Eggeling, Hillebrandt cannot reach a final conclusion regarding the identity of the plant Soma and Haoma in the ancient period. Suggestions noted by Hillebrandt vary from wine (Watt and Aitchison) and beer (Rajendra Lal Mitra) to Cannabis (B.L. Mukherjee).[8] In a footnote, Hillebrandt writes about a "Reisebrief aus Persien" by Bornmueller

according to whom the "Soma-twig (also called Homa and Huma)" in the hand of a Parsi priest in Yesd could be immediately recognized as Ephedra. A few years earlier, Jivanji Jamshedji Modi, in his work on the "religious ceremonies and customs of the Parsees" (1922: 303, footnote 1), reported that "a few twigs of the Haoma plant used by the Indian Parsis in their ritual" were sent to Dr. Aitchison (spelled by Modi as Aitchinson) and identified by him as "twigs of the species Ephedra (Nat. order Gnetaceae)." Aitchison publishes his botanical descriptions of plants encountered at his trip through the "Afghan boundary" area in 1888. In the valley of the Hari-rud river he notices (1888: 111-112) the presence of several varieties of Ephedra, including one which he and a colleague are the first to determine, as well as the Ephedra pachyclada, of which he reports as "native names" Hum, Huma and Yehma.[9] Without committing himself to a candidate for the "real Soma plant", Oldenberg (1894: 177 and 366ff) argued that the Vedic Soma plant was a replacement of an earlier, Indo-European substance inebriating men and gods: mead, an alcoholic drink derived from honey.

2.3. Soma-Haoma, the biochemistry of plants, and human physiology

At the end of the nineteenth and the beginning of the twentieth century, another strand starts to be woven in the Soma-Haoma discussion. An active substance of the Ephedra plant, the alkaloid ephedrine, was found in the chinese herb Ma Huang (Ephedra vulg.) in 1885 by Yamanashi. In 1887 and 1892, it was isolated from the plant by Nagai, who gave it the name ephedrine.[10] In World War I, ephedrin and a number of other alkaloids (quinine, strychnine, yohimbine and harmaline), were tested on a group of soldiers; it was found that ephedrine worked most strongly on muscle strength as well as on the will to overcome fatigue.[11] In his 1938 *Lehrbuch der biologischen Heilmittel* (*Textbook of biological remedies*), Gerhard Madaus (1938: 1259-1266) refers to a large number of studies on the effects, toxicity etc. of ephedrine appearing in German and American scientific journals, and notes their employment in the treatment of asthma and low bloodpressure. In the period between the two world wars, chemical substances (amphetamines) were explored which were close to ephedrine both in chemical structure and in physiological effects (Alles 1933, Fawcett and Busch 1998: 504). In World War II it was the amphetamines that were widely used on both sides.

2.4. A growing public for knowledge and experience of psychoactive substances

A book that we may now call a textbook of psychoactive substances was published in 1924, with an enlarged edition in 1927: Louis Lewin's Phantastica: Die betäubenden und erregenden Genussmittel für Ärzte and Nichtärzte (Phantastica: narcotics and stimulants, for medical doctors and non-doctors). Having researched several of the plants (the mexican "mescal-button" cactus) and substances (e.g. cocaine) himself in the preceding decades, he gives detailed discussions of the uses and abuses of a wide range of narcotics, stimulants and popular remedies that were either available in Europe from all parts of the world or that had been studied abroad by ethnographers. He is aware (1927: 216) of the Soma-discussion, and of the main proposals, Periploca aphylla, Sarcostemma brevistigma and Ephedra vulgaris, which, however, he does not see as capable of "producing the effects described with regard to the Soma" ("Keine von diesen Pflanzen kann Wirkungen veranlassen, wie sie von dem Soma geschildert werden"). He rather thinks that it may have been a "strong alcoholic drink created by fermentation from a plant."[12] An English translation of Lewin's book was read by Aldous Huxley in 1931, and it inspired him to write Brave New World (1932), the satirical fiction of a state where, with an inversion of Marx' statement, "opium is the religion of the people". The "opium" in Huxley's novel is a chemical substance which he calls "Soma" and which, dependent on the dose, can bring someone a happy feeling, ego-transcending ecstasy, or a deep sleep like a "complete and absolute holiday" [13]. In a 1931 newspaper article in which he refers to his discovery of that "ponderous book by a German pharmacologist" (i.e., Lewin's 1927 "encyclopaedia of drugs"), Huxley says that "probably the ancient Hindus used alcohol to produce religious ecstasy" (in Huxley 1977: 4), a statement apparently deriving from Lewin's hasty and unconvincing suggestion for the identification of Soma with alcohol. The same book also informed him that "the Mexicans procured the beatific vision by eating a poisonous cactus" and that "a toadstool filled the Shamans of Siberia with enthusiasm and endowed them with the gift of tongues." In 1958: 99, however, Huxley mentions another plant as the possibly real Vedic Soma: "The original Soma, from which I took the name of this hypothetical drug, was an unknown plant (possibly Asclepias acida) used by the ancient Aryan invaders of India in one of

the most solemn of their religious rites." His novel Island of 1963 gives a description of a more positive Utopian world in the form of a community that uses a drug not called Soma but "Moksha", and made out of "toadstools". It provides "the full-blown mystical experience."[14]

2.5. The main Soma-Haoma candidates until the 1960's

In the meantime, indologists, ethnologists, botanists and pharmacologists had continued discussing and researching various candidates for the "real Soma-Haoma". The main plants discussed are Ephedra, Sarcostemma brevistigma, and Rhubarb. In the latter theory, defended e.g. by Stein 1931, the reddish juice of the plant is thought to be the basis of an alcoholic drink. In the introduction to his translation of the ninth Maṇḍala of the Ṛgveda (Geldner 1951, vol. III), K.F. Geldner says that the Soma-plant "can only have been a kind of Ephedra." Geldner (1853-1929) worked on the translation of the ninth and tenth Maṇḍalas in the last years of his life. He justified his view by noting that a sample (apparently of a plant used in the Haoma-ceremony) given to him in Bombay by Parsi priests was identified as Ephedra by the renowned botanist O. Stapf; he also referred to a publication of Aitchison (Notes on Products of Western Afghanistan and North Eastern Persia, not available to me) and to Modi 1922: 303. In earlier publications such as the one on the Zoroastrian religion (1926) and his textbook on Vedism and Brahmanism (1928), Geldner had remained quite silent on the botanical identity of the Haoma-Soma, he only presented the two as identical. Geldner's German Ṛgveda translation became widely available only several years after World War II, but then it became the scholarly standard translation for the next so many decades.

3.1. The fly agaric (Amanita muscaria): a new candidate presented, criticized and defended.

An altogether new theory was launched by R. Gordon Wasson in a book that appeared in 1969.[15] Wasson (1898-1986) was an English banker as well as ethnobotanist and mycologist.[16] Together with his wife, he earlier published a book on "mushrooms in Russian history" in 1957. Wasson's 1969 book on a "mushroom of immortality" as the original Soma presents an impressive array of circumstantial evidence in the form of ethnographic and botanic data on the use of the Amanita muscaria ("fly-agaric") by isolated tribes in the far north-west of Siberia.

In other words, what was literary fiction in Huxley's novel Island appears now as a scholarly hypothesis.[17] However, what should count as substantial evidence in Wasson's hypothesis remains utterly unconvincing. Wasson wants to take only the Ṛgvedic hymns into account, from which he selects statements that would describe the Soma-plant. The hymns, however, are employed in the context of elaborate rituals and are generally directed to certain gods, e.g. Indra, Agni, Soma. The praises of the god contain references to mythological elements regarding his powers, feats and origination. To the extent that hymns to Soma contain references to concrete events – that is, to the extent they do not refer to cosmological themes or to microcosmic implications – these usually concern the ritual sphere. Wasson takes these references as detailed descriptions of the plant in its natural habitat, which is demonstrably incorrect. By isolating short phrases eclectically, Wasson does indeed succeed in collecting a number of statements which can be applied to the fly-agaric and its life cycle in nature. While the verses are apparently formulated so as to be suggestive of additional meanings (to allow interpretations concerning man and the cosmos), the immediate context of the isolated phrases usually make a link with the growing mushroom far fetched while the suitablility for the ritual context remains. Even if occasionally mention is made of the mountains as the place where the Soma grows, the hymns of the ninth book of the Ṛgveda, which forms the main source of evidence for Wasson, deal with the Soma in the process of purification (*pávamāna*). As Brough observed in 1973: 22: "the Vedic priests were concentrating on the ritual situation, and on the plant, presumably in a dried state, at the time of the ritual pressing. It is thus improbable that the Vedic 'epithets and tropes' which Wasson believed reflected aspects of the striking beauty of the living plant were inspired in this way." [18] A number of reviews of Wasson's book appeared from the hand of anthropologists, botanists, writers, indologists, and historians of religion.[19] Those who were too hesitant in accepting Wasson's central thesis, Kuiper and Brough, received a rejoinder (Wasson 1970 and 1972a), where, however, we find repetitions of his earlier statements and more of the same but no indication that the problems pointed out by the reviewers were understood, let alone that these problems are convincingly addressed [20].

Separate mention is to be made of Part Two of Wasson's book (pp. 93-147), which is written by indologist Wendy Doniger O'Flaherty and is

entitled "The Post-Vedic History of the Soma Plant". This part is valuable for its discussion of researches on Soma and Haoma by Western scholars since the end of the eighteenth century to the time of her writing. The section on "the Brāhmaṇas and the Śrauta-sūtras" (pp. 95-98), concerning a crucial episode in Soma's "post-vedic history" for which extensive material is available, is impressionistic and eclectic and hence defective [21], but in spite of this both Doniger O'Flaherty and Wasson refer to it in their attempt to prove the absence of direct knowledge of Soma in this period.

Apart from its importance for the study of the use of the fly-agaric by tribes in distant North-East Siberia,[22] Wasson's book forms an undeniable landmark in the Soma-Haoma discussion. However, while initially he did receive more positive reactions to his central thesis from some indological reviewers (Bareau, Ingalls and Kramrisch), it hardly ever received full-fledged support from later indologists writing on the subject. One important point is however widely accepted: the Soma might very well have been a hallucinogen. The line of reasoning underlying the argument presented in Wasson 1969 was: in the light of the utterances of the Vedic authors, Soma cannot have been alcoholic, it must have been a hallucinogen.[23] In his review of Wasson 1969, Brough (1971: 360f) made an important observation. Quoting from Wasson's evidence on the consumption of fly-agaric among tribes in North-East Siberia, Brough points out that there are repeated references to coma induced by the fly-agaric. Those who consume the mushroom attain "an ecstatic stupor" or are transported into "a state of unconsciousness". Being "in a stupor from three sun-dried agarics" the hero of one of Wasson's sources "is unable to respond to the call to arms. But time passes and the urgency grows, and when the messengers press their appeal to throw off his stupor he finally calls for his arms." Brough rightly observes: "Here, it would seem, is a plant whose effects are totally unsuitable to stimulate Indra and human warriors for battle." In his answer to the problem indicated by Brough, Wasson sneers at Brough's self-admitted lack of specialist qualifications in chemistry and pharmacology and retorts (1972a: 15): "Wine as one of the Elements in the Mass is analogous. From earliest times (indeed since Noah's days!) wine has been known to cause nausea, vomiting, and coma; yet its sacramental rôle stands unchallenged."

The situation is, however, not the same. The "ecstatic stupor" and "state of unconsciousness" appear in Wasson's anecdotes of the use of fly-agaric as quite regular effects appearing quite soon after the consumption of doses that according to the descriptions are the normal ones (cf. also Nyberg 1995: 391). In the case of wine normal consumption seems rather accompanied by a whole range of effects from exhileration to drowsiness, while "nausea, vomiting, and coma" befalls only those who consume it in great excess (or who drink bad wine). It is also striking that hallucinations and visions are reported in a considerable number of Wasson's Amonita muscaria anecdotes; they apparently occur quite soon after the consumption of the active substance of the mushrooms, and seem to be part of the experience actually sought by the consumer. Brough (1971: 361) draws attention to Ephedra, and to ephedrine isolated from Ephedra sinica (Ma Huang). Ephedrine, according to Brough, "is a powerful stimulant, and would thus be a more plausible preparation for warriors about to go into battle than the fly-agaric, which is a depressant."

In Wasson's presentation the choice was between alcohol and a hallucinogen. In Brough's formulation we have to choose between a hallucinogen and a stimulant, whereas an alcoholic drink is for him not a suitable candidate for the substance causing the Vedic people to attain exhileration (*máda*). These seem to be the major options taken into consideration in the post-Wasson era of the Soma-Haoma discussion. In 1975 Frits Staal appended a discussion of the Soma-issue to his book on the exploration of mysticism. Staal is quite impressed by Wasson's argument (1975: 204: "his identification stands in splendid isolation as the only, and therefore the best, theory"). But he shows that he is not entirely unaware of its methodological shortcomings (1975: 202): "The only weakness that seems to be apparent for Wasson's theory is a certain unfalsifiability. A good theory should be liable to falsification. Theories which are true come what may and which can never be refuted by facts are uninformative, tautologous, or empty. In fact, apparent counterexamples to Wasson's theory can always be interpreted as consistent with the theory. When opponents point out, for example, that there are descriptions in the Veda which do not fit a mushroom, Wasson replies that the identity of the Soma was intentionally hidden by the Brahmans, or that these descriptions fit creepers or other substitutes." Staal thus saw that Wasson takes the Veda at once as the document on

the basis of which the Soma can be identified as a mushroom, and as a testimony of concerted attempts of Brahmins to mystify and hide this identity: a very flexible employment indeed of a source taken as crucial evidence.[24] Staal here distinguishes between only two options for Soma, alcohol and a hallucinogen, thus neglecting the relevance of psychoactive substances which have a primarily stimulant and ecstasy promoting effect (without excluding the occurrence of hallucinations or visions). In his book on the Agnicayana ritual (1983, I: 106), he formulates his position with reference to Wasson's thesis as follows: "Wasson's thesis implies, but is not implied by, a weaker thesis, namely that the original Vedic Soma was a hallucinogenic plant [i.e., not necessarily a mushroom, J.H.]. I regard this as the most important part of Wasson's hypothesis ... " The restriction of possible psychoactive candidates to substances known as hallucinogens, however, is unjustified.

A substitute for Soma mentioned in some of the ritual texts is Pūtíka. The Pūtíka is also one of the additives in the clay of the Pravargya pot – an object that is central in an esoteric, priestly ritual, the Pravargya (cf. van Buitenen 1968, Houben 1991 and 2000). In an article published in 1975 (later appearing as the third chapter in Wasson et al. 1986), Stella Kramrisch sought to prove that this Pūtíka was a mushroom having psychotropic effects. According to her (1975: 230), "Pūtika [sic], the foremost, and possibly the only direct surrogate for Soma, is a mushroom. When the fly-agaric no longer was available, another mushroom became its substitute. ... The identification of Pūtika [sic], the Soma surrogate, supplies strong evidence that Soma indeed was a mushroom." Kramrisch' identification goes via the mushroom called Putka by the Santals in Eastern India. As Kuiper (1984) pointed out, the linguistic connection suggested by Kramrisch does not hold. As pointed out in Houben 1991: 110, the ritual texts prescribing the Pūtíka as an additive to the clay of the Pravargya pot present it as an óṣadhi (Kaṭha-Āraṇyaka 2,11+) and as something providing a firm basis from which he can attack the demon Vṛtra (Taittirīya-Āraṇyaka 2.9-10). Like other additives such as the animal hairs and the material of an ant-hill, it was not exclusively symbolic as Kramrisch believes, but had no doubt a pragmatic basis in providing extra strength to the clay pot which is to withstand extremely hight temperatures in the ritual of the heated milk

offering. There is hence no basis to regard the Pūtíka as a mushroom, which takes away the additional evidence that Soma were a mushroom.

Rainer Stuhrmann 1985 briefly reviews the Soma-discussion since Wasson 1969. He notes that critics of Wasson are right in maintaining that it is not possible to classify Soma, but that they went too far in entirely excluding a mushroom. He points out that even if the colour pictures which Wasson attaches to phrases from the Ṛgveda are seducingly suggestive, the questionable nature of Wasson's interpretation of the verses must be apparent to anyone who reads Geldner's or Renou's translation of the hymns in their entirety. According to him, there are nevertheless three points that can be considered settled:
(1) From the Brāhmaṇas on, the original Soma was replaced by several other plants, and such substitution is already indicated in the tenth book of the Ṛgveda.
(2) The original Soma cannot have been alcoholic, because there would not have been time for the fermentation of the sap after the pressing; moreover, both the Ṛgveda and the Avesta contrast the effects of Soma-Haoma with the alcoholic *súrā*.
(3) The plant grows in the mountains.

Stuhrmann emphasizes that it is important to investigate the type of intoxication produced by Soma and to conclude on that basis what type of plant was used as Soma. He observes that several characteristics of the Soma-hymns, such as their "formless tangle of images and mystic fantasies [25]", importance of optic qualities in epithets of Soma, can be well explained by hallucinogenic influence. Hence he concludes that in case Soma would not be the fly-agaric it must at least be a plant containing alkaloids.

Stuhrmann's argument is carefully phrased, but it is in several respects imprecise and contains a few crucial nonsequiturs. Stuhrmann states that from the Brāhmaṇas onwards the Soma was replaced by substitutes – a distorted representation of facts that goes back to Wasson and Doniger O'Flaherty: as we have seen, it is true that substitutes are mentioned, but there is also still an awareness of the real Soma and of the fetching of Soma from near by in case the "top quality" Soma of mountain Mūjavat

is stolen. The view that substitution would have started at the time of the composition of the tenth book of the Ṛgveda is also already found with Wasson, and likewise, Wasson supports his statement with a reference to Ṛgveda 10.85.3

sómaṁ manyate papivā́n yát sampiṁṣanty óṣadhim |
sómaṁ yáṁ brahmā́ṇo vidur ná tásyāśnāti káś caná ||
"One believes to have drunk the Soma when they press out the herb.
The Soma which the Brahmans know, no-one consumes of that one."

It is difficult to draw from this verse the conclusion that the Soma is not a herb, as Stuhrmann tries to do (1985: 91 note 3), apart from being something more abstract in the knowledge of Brahmans. Since the word *óṣadhi* 'herb' would otherwise contradict Wasson's mushroom theory, he was forced to see in the first two pādas of the verse a reference to a substitute, and in the last two pādas a reference to the real Soma held secret by the Brahmans. This in itself is already a quite contorted interpretation. In the larger context of the hymn it proves to be untenable. The first verse of this well-known hymn of the marriage of Sūryā́ (fem.) with Soma (masc.) says that Soma is placed in heaven, and hence makes it immediately clear that verse three presents a contrast between the pressing of the Soma-plant on the earth and the Soma as moon which latter cannot be consumed directly. There is no suggestion of a substitute, only of an additional insight of the Brahmans with regard to a plant (*óṣadhi*) which can be known and seen by all.

As for the exclusion of alcohol: the contrast with *súrā* is indeed there. Some process of fermentation or alteration of substances in the Soma plant can nevertheless not be entirely excluded in the period between their plucking and the employment in the ritual where the Soma-stalks are sprinkled on a number of consecutive days preceding the pressing. As for the mountains as the place of the Soma, it is clear that this applies to top-quality Soma. The Avesta (10.17) speaks of Soma occurring on mountains and in valleys (where the latter may, indeed, still be on high altitudes).

Next, Stuhrmann wants to infer the type of relevant plant-substance from the type of intoxication produced by Soma. Stuhrmann refers here to Ṛgveda 10.119 which is generally interpreted as the self-praise of Indra

who became drunk from drinking Soma. The speaker in the poem makes statements such as: after having drunk the Soma, one of my wings is in heaven and the other is being dragged on the earth. While the whole hymn could be seen as poetic fiction, one may indeed see here a reference to a hallucination or distorted perception, and the Soma would have a place in the causal nexus leading to it. This does not mean that Soma must have been a hallucinogen in the strict, modern sense of the term, especially because references to Soma outside this exceptional hymn are not normally indicative of serious hallucinations on the part of the authors. The latter point was argued by Falk (1989), who, however, went too far in trying to completely exclude the possibility that Ṛgveda 10.119 points to a hallucinatory experience. Even if we follow Stuhrmann for the moment in his acceptance of a hallucinogenic effect of Soma, his conclusion at the end that the Soma plant must have contained alkaloids is both too wide and too narrow. Even if alkaloids often have psychoactive properties, instead of being predominantly hallucinogen they also may have quite different properties such as CNS-stimulant, sleep-inducing etc. On the other hand, hallucinations may have a basis in other substances than alkaloids: any substance that can interact with the biochemistry of the brain may induce distorted perceptions (among modern products petrol or gasoline would be an example; cf. already Lewin 1927: 268f). In addition, a lack of nutritients through fasting and thirsting may induce hallucinations as well. The same applies to the deprivation of sleep. Most importantly, whether a substance or the absence of substances does indeed produce a hallucination will usually depend to a large extent on the physiological and psychological condition of the subject, whereas the nature of the hallucination or vision will depend on his psychology and cultural background.

That the Soma was not a hallucinogen but a stimulant, probably from a species of Ephedra, was the view elaborated and defended by Harry Falk in 1987 at the World Sanskrit Conference in Leiden. In his paper (1989) he places previous theories in three categories: (1) Soma is hallucinogenic; (2) Soma needs fermentation and is alcoholic; (3) Soma is a stimulant. Emphasizing the Vedic indications for a stimulant effect of Soma which contributes to staying awake all night [26], he concludes that Soma-Haoma must again be identified with Ephedra. To establish his position he not only points out the properties of Ephedra and places

in Vedic literature indicating wakefulness and aphrodisiac effect in connection with Soma, but also argues that the Ṛgveda contains no references to hallucinations, not even in Ṛgveda 10.119 that is normally taken in that sense. (In the present issue George Thompson argues, convincingly I think, for a restoration of the "hallucinatory" character of this hymn.)

3.2 A fresh look at the Iranian evidence and a new hallucinogenic candidate

The same year 1989 saw the publication of the book Haoma and Harmaline by David Stophlet Flattery and Martin Schwartz. Here the authors base themselves mainly on Iranian evidence and provide an extensive and careful argument that the Haoma- and Soma-plant was in fact Harmel, which contains an alkaloid with hallucinogenic properties, harmaline (as well as harmine). The authors are aware (1989: 67-68) that for centuries Zoroastrians of central Iran have been using Ephedra – which they call *hom* – together with another plant – parts from a twig of the pomegranate tree – in their Haoma rituals. From the fact that in Nepal Ephedra is called *somalatā* ('Soma creeper') they infer that Ephedra was the plant used as Soma before it was replaced by Sarcostemma which grows in tropical areas of India and which was in use by Brahmins encountered by the Europeans in nineteenth century India (1989: 69). Yet, they think that Ephedra cannot have been the Haoma-Soma itself. For this, they have one main reason: we do not see that contemporaneous Zoroastrian priests using Ephedra become intoxicated. According to Flattery's and Schwartz's judgement, "sauma must have been commonly known in ancient Iranian society as an intoxicating plant in order for the credibility of the sauma ceremonies, and the authority of Iranian priests claimed from them, to have been maintained. Despite being commonly designated *haoma* (and the like), Ephedra is without suitable psychoactive potential in fact (and is not regarded in traditional ethnobotany as having any psychoactive properties at all) and, therefore, it cannot have been believed to be the means to an experience from which the priests could claim religious authority or widely believed to be the essential ingredient of an *intoxicating* extract." They conclude that (1989: 74) "It is therefore neither likely that Ephedra was a substitute for sauma [Soma-Haoma] nor that it was sauma itself, yet, according to both Iranian and Indian traditions, Ephedra was essentially linked with the extract drunk during the ceremonies. The only way of reconciling this

fact with the considerations of the preceding paragraphs is to view Ephedra as an archaic additive to the extract. Thus, Ephedra too would have been a soma-/haoma- 'pressed out (plant)', though not the only (or fundamental) one." The argument is carefully structured. However, it may be observed that their information regarding the properties of Ephedra and its alkaloids such as Ephedrine was apparently incomplete or outdated. It is true that Ephedrine and related alkaloids are best-known for their use in the case of asthma as well as low blood-pressure (hypotension), but it is since long known that it is also a general stimulant of the central nervous system. Hence its psychiatric use, e.g. in manic depressive disorder.[27] What the authors may not have been aware of in 1989 is that Ephedra would soon be marketed as the "natural" (hence supposedly safe, and in any case less restricted and regulated) alternative for the popular designer drug Ecstasy (XTC).[28] It is not clear on which impressionistic basis they conclude that the priests are not "intoxicated" nor what would qualify in their eyes as "intoxication," i.e. the *maδa* of the Avestans and the *mada* of the Vedic Indians.[29]

3.3 The evidence from brahmanic texts and ritual

In 1990 the renowned specialist in Śrauta-literature C.G. Kashikar published his Identification of Soma, in which he argues for Ephedra as the original plant used in the Vedic and Zoroastrian rituals.[30] The main importance of this publication lies in the discussion of evidence of Vedic ritual texts which are chronologically immediately following the Ṛgveda (the latter forming the point of departure for Wasson's identification). Several Yajurvedic Saṁhitās, Brāhmaṇas and Śrautasūtras not only refer to the ceremonial purchase of Soma (where the seller is asked whether it comes from the Mūjavat mountain), but also to the contingency that the Soma is snatched away before the sacrifice starts. In that case new Soma is to be procured from the nearest spot. Only if Soma cannot be found the texts prescribe that substitutes are to be resorted to.[31] It may be assumed that the Soma that is procured from nearby is of lower quality than the stolen Soma from mountain Mūjavat, otherwise it would have been employed in the first place. Several Śrautasūtras prescribe Soma-juice in the daily offering of the Agnihotra for those sacrificers who desire the lustre of Brahman. This points on the one hand to authors being settled near the northern part of the Indian subcontinent where Soma was still within reach; on the other hand it is clear that Soma is a

plant that has a wider habitat than only a few mountains. The daily Soma of the Brahmins can hardly have been the precious top-quality Soma from mount Mūjavat required in the Agniṣṭoma. As for the botanical side of the issue, Kashikar relies mainly on research of Qazilbash and Madhihassan (their publications, mainly appearing between 1960 and 1986, were unavailable to me at the moment of concluding this introduction).

In a review of Kashikar 1990, Thomas Oberlies (1995) makes some important remarks, apart from giving additional bibliographic references. Oberlies accepts with Kashikar that the Brāhmaṇas and Śrautasūtras are aware of *some* plant being the real Soma. However, there is insufficient evidence for a positive identification. Referring to Brough 1971, Kashikar had rejected Wasson's identification of Soma as the fly-agaric a mushroom. He then simply takes the three main remaining plants that have been suggested by scholars as being the Soma, and by exclusion of the first two, Sarcostemma brevistigma and Periploca aphylla, he arrives at the conclusion that it must have been Ephedra. Even when the Brāhmaṇas and Śrautasūtras seem to suggest awareness of *some* plant as the unequivocally real Soma, Oberlies doubts whether it can be assumed that this was also the plant used in the Ṛgveda. This would only apply if there were an uninterrupted continuity between Ṛgveda and Yajurvedic texts. Oberlies mentions three problems with the identification of Soma with Ephedra:
(1) The reddish-yellow (rot-gelb) colour is lacking (only the berries of Ephedra are red but the berries are not mentioned in the texts).
(2) Juice pressed from Soma does not have a milky character, whereas the Ṛgveda speaks of "milking the (Soma-)stalks" and of Soma as the cow's first milk after calving (*pīyūṣa* 'beestings').
(3) Oberlies' most fundamental problem with the Ephedra-identification is that Ephedra does not have the required hallucinogenic effect that is attested in the Ṛgvedic hymns.

Oberlies concludes his discussion with the observation that it is the interpretation of the Soma-intoxication on the part of the Vedic poets in the context of their referential frame which should receive more interest and attention, rather than to lay excessive emphasis on the nature of the substance (cf. Oberlies 1998: 166). Similarly, Tatjana Elizarenkova

(1996) has emphasized the importance of the style and structure of Ṛgvedic texts behind which there are insufficient traces of the direct impact of a psychoactive substance to make identification possible. Indeed, the importance of the cultural "construction" of textual representations of personal, including mystical, experience should not be underestimated. And what applies to the study of mystical experience will apply equally to a large domain of experiences resulting from psychoactive substances. After earlier generations of authors with what may be called various "essentialist" and "perennialist" approaches to mystic experience (William James, Rudolph Otto, Mircea Eliade, Aldous Huxley), a constructivist paradigm found wide acceptance in academic scholarship in the latter half of the twentieth century; it has found committed and persistent expression in a series of collective volumes on mysticism directed by Steven T. Katz (1978, 1983, 1992, 2000).

In spite of his affinity with a constructivist approach when he argues for studying the Vedic poet first of all in his religious context, from Oberlies' third, most fundamental ("wesentlichste") problem, it is clear that it is his unpronounced presupposition that indications for hallucinations in the Ṛgveda point directly to the use of a substance having hallucinogenic effects. As we have seen above, convincing indications for hallucinations, apart from the quite explicit Ṛgveda 10.119, are rare, and even if these should not be explained away, they are to be weighed against other indications which point to an absence of hallucination, but rather to a powerful stimulant suitable to divine and human warriors who cannot afford to perceive things that have no basis in objective reality.

The second point is to be studied against the background of Ṛgvedic poetic usage, where among other things thoughts can be obtained from an udder (5.44.13), or where an inspired poem can be compared with a dairy cow (3.57.1), or where there is no problem in speaking of the "udder of the father" (3.1.9). To satisfy the literalists who insist that, even with the extensive evidence that "milking" is a central and flexible metaphore for "deriving something precious from", *pīyūṣa* 'beestings' (formerly also spelt 'biestings', medical name 'colostrum') must absolutely be taken as having not only relational but also physical characteristics of milk, it can be pointed out that the long sessions of beating the Soma-plant with the stampers or press-stones can be

expected to give a pulpy-watery mixture in a first pressing which may have looked like the creamy fluid with special nutritious and protective ingredients that a cow produces for a new born calf. Such pulpy-watery mixture is what I saw come forth from the pounding of the Soma-substitute called Pūtīka (probably Sarcostemma brevistigma) in Soma sacrifices in Maharashtra and New Delhi. Several ideas may hence underlie the use of the term *pīyū́ṣa* 'beestings': the first juice appearing from the pressing is "beestings" by virtue of its being the first fluid produced from the stalks; it is "beestings" by virtue of its pulpy-watery, hence somewhat cream-like, character; it is "beestings" on account of its nutritious and protective potency. Finally, those invoking the Ṛgvedic references to beestings as an argument against Ephedra seem to have overlooked that the cow's first milk after calving is usually not white but may have all kinds of colours, from yellowish to greenish and purple, which does not constitute a contra-indication for its quality. This applies at least to the cows common in Europe, as I understood from a well-informed relative.[32] The metaphoric flexibility of terms in the sphere of "milking" in any case prevents *pīyū́ṣa* from being an argument against the Ephedra candidate. As for the problem of the reddish-yellow colour attributed to Soma: in Oberlies' brief statement, where he mixes up "reddish-yellow (rot-gelb)" and "red (rot)" or at least opaquely shifts from the one to the other, there is nothing that would invalidate Brough's 1971 extensive discussion of the colour-term in his criticism of Wasson.

A particularly problematic part in Oberlies' argument lies in his attempt to disconnect the evidence of Brāhmaṇas and Śrautasūtras from that of the Ṛgveda. Oberlies observes (1995: 236) that Kashikar presupposes that the plant used as Soma according to the Brāhmaṇas and Śrautasūtras is identical with that of the Ṛgveda. However, according to Oberlies this would apply only if there were an uninterrupted continuity from the Ṛgveda to the Yajurveda with regard to beliefs, rituals and cults. Since this cannot be accepted (Oberlies asks rhetorically: who could seriously believe this, with exclamation mark), statements in the Brāhmaṇas and Śrautasūtras would prove little for the Ṛgveda (with exclamation mark). A few paragraphs further (1995: 237), he acknowledges that Kashikar's conclusions provide new insights for the Brāhmaṇas. Here, the Soma may have been Ephedra. But, he adds, this was in all probability not the "original" (with exclamation mark).

In spite of all the exclamation marks, Oberlies' line of reasoning is neither self-evident nor convincing. At first, he makes the *general statement* that we cannot assume there was an uninterrupted continuity from the Ṛgveda to the Yajurveda with regard to beliefs, rituals and cults. On the next page, it is suddenly *most probable* that there is no continuity *in the specific case* of the knowledge of the Soma-plant. This is like observing first that one cannot be sure that traffic rules in Italy are the same as in France, and next that it is most probable that when the French drive on the right side of the road the Italians must drive left. It is well known that there are indeed important distinctions between the Ṛgveda and the Yajurveda and subsequent sources, including distinctions with regard to the ritual. However, these distinctions appear only against the background of a massive flood of elementary and structural continuities, which in many cases extend even to proto-Indo-Iranian times. It is also well-known that ritual in particular has a tendency to be conservative, even when interpretations and belief systems change. In the beginning days of Indology, scholars like Roth have emphasized the independence of the Ṛgveda from the later ritual texts. Vedic hymns would be expressions of "natural" lyrics which had little to do with the detailed liturgical practice as found in later texts. Close studies of scholars have in the meantime shown that there are numerous continuities and that the large majority of Ṛgvedic hymns suit ritual contexts which are still part of the "classical" ritual system as found in the Yajurvedic texts (cf. Gonda 1975: 83ff and 1978). In addition, in several specific cases such as the animal sacrifice (Bosch 1985) and the Pravargya (Houben 2000), the basic continuities and structural changes have been demonstrated in detail. In the case of the Soma-ritual, pervading not only the ninth Maṇḍala but the entire Ṛgveda, a comprehensive study and reconstruction of its Ṛgvedic form is still a desideratum even if we have an important preliminary study in the form of Bergaigne's "Recherches sur l'histoire de la liturgie védique" (1889; cf. also Renou 1962 and Witzel 1997: 288ff). In the light of this background of continuities, Oberlies' gratuitous assumption that there must be discontinuity in the case of the plant that is central in the most dominant Ṛgvedic Soma ritual is unsound. In the light of what we know of ritual in general and Vedic ritual and culture and in particular a much more reasonable starting point will be to assume that there is continuity unless there is an indication to

the contrary. Such indications pointing to a rupture in the knowledge of a specific Soma-plant, as briefly indicated in Kashikar 1990, are not found in classical Yajurvedic texts which continue to refer the practicing Brahman to an identifiable real Soma-plant even if he is occasionally allowed to sacrifice with a substitute.

A position somewhat parallel to the view of Oberlies was adopted by Frits Staal, who recently devoted an article to "the case of Soma" (Staal 2001).[33] In his usual challenging and stimulating style, Staal argues that the elaborate Soma ritual as known from classical sources replaces an earlier phase where the "real" Soma was known, and where ritualization was much less than later on. Hence the title of the article: How a psychoactive substance becomes a ritual. Again, in my view without sufficient basis two specific changes are assumed in the transition from Ṛgvedic ritual to the ritual of the Śrautasūtras: a loss in the knowledge of the original Soma and an increase in ritualization. He summarizes his main hypothesis in the form of a mathematical formula:

ritualization * psychoactivity = S

where S is a constant. Unfortunately, no data are offered to substantiate this formula. The fact that the Śrautasūtras are later than the Ṛgveda neither means that ritual was absent in Ṛgvedic times nor that it was "less" (in whichever way one may want to measure it) – even if there have been undeniable *transformations* as for instance in the transition from family-wise to school-wise organised ritual and religion, and the transition in the direction of a more Yajurveda dominated ritual. Even if there seems to have been more room for Ṛgvedic poetic creativity in earlier times, the activity of these poets followed strict ritual patterns and rules which are nowadays not known in detail but they are reflecting in regularities in the poetic productions. Since a substance may be "psychoactive" in various dimensions, nothing can be said about its general relation with ritualization – if at all we would have sufficient data about the latter in different stages of its development, and if at all, with all those hypothetical data, the latter would be quantifiable. The terms ritualization and psychoactivity remain unquantified in Staal's article and are probably fundamentally unquantifiable the way they are used. Staal's formula may hence be understood in a "metaphorically mathematical" sense, a bit like Bierstadt's proposal to take political and

social power to be the product of "men * resources * organization" (Bierstadt 1950 as referred to in Rappaport 1999: 473 note 13). Even in such a "metaphorically mathematical" sense, Staal's formula remains problematic – but can it perhaps be split into acceptable subformula's? One disturbing factor interfering with the phenomenon which Staal tries to catch in a formula is that ritual structure, including ritual utterances of linguistic forms, may itself be conducive to "psychoactive" results.[34] More substantial problems arise on account of the fact that there are psychoactive substances which produce effects in a specific dimension such that its increase is correlated not with a decrease but with an *increase* of a subject's need for "ritualistic" or "compulsive" actions.[35] There are, moreover, wider theoretical problems with the hypothesis and formula. Even when precise data generally become less and less if we go further back in time, there are theoretical reasons to assume that ritualization was more rather than less if we gradually approach the pre-human stage in the evolution of the human animal. Staal himself (1989: 110ff, 279ff) argued that ritual, which man shares with birds and other animals, precedes language as we know it with its lexical meanings, characteristic for humans. After having pointed out similarities between syntactic rules in language and ritual, he finds various reasons to believe that ritual is the cause: "this suggests that the recursiveness which is the main characteristic of the syntax of human language has a ritual origin" (Staal 1989: 112). In language, syntax would be older than semantics (Staal 1989: 112). Referring to the "unenunciated chant" of the Sāmavedins and to meditation mantras, Staal observes: "I am inclined to believe that what we witness here is not a curious collection of exotic facts, but a remnant or resurgence of a pre-linguistic stage of development, during which man or his ancestors used sound in a purely syntactic or ritual manner" (Staal 1989: 113). Staal also argued in detail that the similarity between Vedic mantras and bird songs are greater than that between mantras and ordinary meaning (Staal 1989: 279-293). The continuity with animal ritual has been argued for and demonstrated from quite a different angle by Walter Burkert, who took ancient Greek ritual as his starting point (cf. Burkert 1979 and 1996).

Against this theoretical background it is not convincing to let the Ṛgvedic Soma-ritual start in a romantic era in which man has direct religious experience through psychoactive substances and is not yet living a life replete with ritualizations.

An additional problematic point in Staal's article is the suggestion (Staal 2001: 771) that the descriptions found of Soma growing on high mountains would disqualify the "ubiquitous" Ephedra (the latter, in fact, not being all that ubiquitous: it does not occur in mid- and South India, and has a preference for high altitudes). The argument would be tenable only if our sources presented the Soma as growing on high mountains *exclusively*, which is not the case. The ritualist's question to the Soma-seller "is it from mount Mūjavat", as we have seen, asks for Soma-plants of top-quality, and it is presupposed that second-rate Soma-plants are more readily available.

4.1. Parameters of the Soma-Haoma problem

In the present state of knowledge, any claim that the Soma has been identified is either rhetorical or it testifies to the methodological naivety of the author. In reviewing some of the more recent contributions from Wasson onwards I have not hidden my own direction of thinking. In spite of quite strong attempts to do away with Ephedra by those who are eager to see Soma as a hallucinogen, its status as a serious candidate for the Ṛgvedic Soma and Avestan Haoma still stands. For more than the serious candidacy of Ephedra (or more generally of a stimulant), however, there are at present no arguments; and alternative candidates cannot be excluded. The attention paid to the nature of the psycho-physiological state induced by the Soma, most dramatically emphasized by Wasson, is justified. The trap, however, in which Wasson and most scholars defending or attacking him have fallen is to assume that this psychophysiological state must be attributed directly to a psychoactive substance which brings about a similar state in modern, western, well-fed, and possibly smoking and drinking subjects. It must be clear that this is a shortsighted, anachronistic presupposition.[36] It is generally forgotten that participants in a Vedic ritual have undergone preparations which include fasting, restraining speech, sleep deprivation, sensory deprivation by spending the day in a dark hut, etc. According to the Śrautasūtras, the sacrificer has to fast "until he has become lean". Less is known about the specific preparations of the priests for the sacrifice. I am not sure whether such preparations are simply not current among modern Brahmins performing in Vedic (Śrauta) rituals, or whether they have been mainly neglected by observers. (I do not find a reference to such a practice in Staal's overview of the preparations to the Agnicayana

in Kerala, 1975, see Staal 1983, I: 193ff.) In any case, Stevenson, in the preface to his translation of the Sāmaveda (1842: VIIIff), mentions references in a Brāhmaṇa of the Sāmaveda to extensive austerities (including living on restricted food for months and complete fasting for several days) to be undergone by the priest-singers of the Sāmaveda in preparation for a performance. It is well known that fasting alone is a suitable preparation for the physiology to receive visionary experiences. Of the North-American Indians of the Plains it is known that they undertake their vision quests without the help of specific psychoactive substances (except for some who recently adopted the use of substances used by Mexican Indians), but subject themselves to rigorous fasting and thirsting.[37]

The human capacity for imagination, vision and hallucination seems to have been underestimated by Wasson and others. Merely because Apollinaire (1880-1918) published the "visionary" poem Vendémiaire in his collection Alcools we do not put the label "hallucinogen" on alcohol. A frequently quoted phrase from William Blake (1757-1827), the poet who was influenced by Emanuel Swedenborg in his enlightened Christian views, is "To see a world in a grain of sand, and a heaven in a wild flower, hold infinity in the palm of your hand, and eternity in an hour" – but there is no reason to assume that Blake's visions, reflected in his poetry and life anecdotes, were induced by a psychoactive substance.

Thus, with little Ṛgvedic evidence for hallucinations in the strict sense of the word – i.e., perceptions without any objective basis – and with otherwise a wide spread of Ṛgvedic statements pointing in the direction of a stimulant, the case for a substance which we label as a hallucinogen is far from compelling. Apart from 10.119, most examples which should testify to hallucinatory experiences of the authors can be easily explained as expressions in a professional tradition of poetic imagery.[38] On the other hand, the case for a stimulant still stands,[39] even with the evidence for occasional hallucinations and visions in the Ṛgveda, because (a) hallucinations and visions may occur even on account of the absence of consumption of food or the deprivation of sleep rather than on account of the consumption of specific additives; (b) stimulants allow subjects to remain without food more easily (hence their use in weight-loss programs), and by virtue of this they may be deemed to be able to contribute to hallucinations and visions; (c) in higher doses and under

suitable circumstances (e.g., exposure to rhythms and music), stimulants such as cocaine and MDMA (XTC) are reported to lead to ecstasy and hallucinations.[40]

Apart from the distinction between stimulant and hallucinogen, a case can be made for a substance with more subtle psychoactivity than the sensational fly-agaric proposed by Wasson,[41] in combination with an elaborate structure of beliefs, interpretations, and physiological preparations (fasting, silence) of subjects. Especially since Wasson, scholars interested in the identification of Soma have been overly focused on the single parameter of the psychoactive substance in the Soma-plant, and neglected the contributions of the ritual and the belief system to the construction of experiences reflected in Ṛgvedic hymns. Others did emphasize the belief system and the construction of experience, e.g., Elizarenkova and to some extent Oberlies, and they declared the search for the identification of Soma to be more or less hopeless. No convincing attempt has so far been made to balance the available indications for all major dimensions of the issue.

4.2 "Hummel's miracle" and other desiderata

In a posthumously published review of Wasson's book, Karl Hummel (1997: 90) once expressed the hope that perhaps some time, thanks to a miracle, a prehistorical find will give us pressing stones or wooden stampers with remains of the Soma-plant that can be investigated microscopically. As long as this does not happen, there are still useful fields of investigation to be explored in connection with Soma and Haoma. As for the "circumstantial" ethnobiological evidence, at present the evidence of the use of fly-agaric by tribes in distant North-East Siberia (according to Nyberg 1995 in the context of recreational use and by second rate shamans) may be regarded as cancelled by the evidence closer by of early and recent finds of mummies accompanied by bundles of Ephedra just across the Himalaya, as discussed, e.g., in Barber 1999 (esp. chapter 8) and Mallory and Mair 2000: 138, 152, 185-187. (For Soma and the life hereafter cf. ṚV 9.113.) A more critical evaluation of the evidence than the references by Mallory and Mair is needed with regard to the identification of Ephedra by various archeologists.[42] An investigation of the Vedic ritual and knowledge system, with much attention to the hymns on Soma, is one thing which has now received an important recent contribution from the point of view of religious studies

by Oberlies (1998 and 1999). Caland & Henry's description of the Agniṣṭoma on the basis of Vedic texts (1906 and 1907) is still the basis for the study of the ritual context of the Soma; it would deserve elaboration and updating in the light of new developments, e.g. new texts that have become available. Kellens 1989 and Skjaervø 1997 give overviews of achievements and issues in the study and interpretation of Avestan texts. A detailed description of the Yasna ritual in which Hom is prepared and offered appeared from the hands of Kotwal and Boyd (1991). Apart from occasional and dispersed remarks on similarities in structure and detail of the Vedic and Zoroastrian rituals (e.g., Hillebrandt 1897: 11), little has been done on the systematic comparison of the two. Next, the psycho-physiology of religious, and visionary or hallucinatory experiences, whatever their cause or occasion, is an important relevant field to be explored. The psycho-physiological effect of psychoactive substances and their possible role as catalysts for such experiences are to be investigated, taking into account the specific preparations undergone by the participants in the ritual. From the overview of the discussion it must have become clear that it has been suffering from a definite lack of terminological and conceptual precision, especially with regard to terms such as hallucination, vision, stimulant, and psychoactive. A noteworthy proposal with regard to psychoactive substances was made by classicist Carl A.P. Ruck and was accepted by Wasson in his later publication *Persephone's Quest*: it is better to speak of "entheogen" rather than of "hallucinogen", as the latter implies a judgmental falseness deriving from our modern outside perspective.[43] But it is not likely that terminological improvements alone are sufficient. Digging deeper, we stumble upon profound philosophical problems regarding the comparability of experiences, including mystical experiences, which can be understood as results of cultural and linguistic construction. Is there any experiential basis "beyond language" left, once we find ourselves able to formulate explanations of linguistic and cultural construction for diverse experiences related to the use of the same chemical substance in different cultural contexts?[44] In a comprehensive study of the Soma issue its implications for the theory of the "entheogen" origin of all religions should also be evaluated. According to this theory for which Soma as understood by Wasson was a major example and support, man would originally have known the psychoactive properties of plants, and religions would be based on the visions produced by these substances (cf. Wasson 1986 and a

considerable number of recent books in the category "New Age"; only recently I found references to a publication, Spess 2000, where an argument is made for new candidates for Soma: the Nelumbo nucifera and members of the Nymphaea genus: cf. http://www.innertraditions.com/titles/soma.htm). As we have seen, due to the "constructed" nature of cognitive events even when incited by psychoactive substances, one cannot assume the connection between substance and vision was as simple and straightforward as propounders of the theory have suggested.

An additional field to be explored is the history of research into the identity of Soma-Haoma, and the interaction of this research with the state of growing ethnobotanical and psychophysiological knowledge, as well as with popular experience with psychoactive substances – starting at the end of the 18th century, through the 19th century, the 20th century before and after World War II, up to the present. An evaluative and bibliographic overview of the type Harry Falk (1993) wrote on the subject of the development of writing in ancient India would be most welcome and most useful to bring the discussion of the Soma-Haoma issue to a higher level (cf. Lehmann 2000 as an example of a recent publication characterized by a blissful neglect of textual evidence, positions held by various scholars and the arguments used to support them [45]). It is hoped that the present Introduction may serve as a small step in the direction of such an evaluative overview.

4.3 "Hummel's miracle" in Central Asia?

Under the circumstances sketched above, it was natural that something that almost seemed like the miracle hoped for by Hummel (1997) attracted wide attention. The relevant archeological find was not made in India but in Central Asia. The claim was that ancient ritual objects contained traces of plants, including some with well known psychoactive properties: poppy seeds and Ephedra stalks. This "Hummel's miracle" was presented in publications of Victor I. Sarianidi (e.g., 1994, 1998), and his conclusions on the findings of Ephedra have been received positively, though not uncritically, e.g., by Parpola (1995) and Nyberg (1995). The latter had already investigated specimens provided by Sarianidi but could not confirm Sarianidi's claims. He concludes a long review of textual evidence and pharmacological and ethnobiological data with the conclusion that "ephedras best meet both the textual and

pharmacological requirements for the botanical identification of soma/haoma," but points to the need of "further archeological discoveries" before conclusive evidence can be provided.

5. The Leiden 1999 Workshop on Soma-Haoma

It was in order to subject these indications for a "Hummel's miracle" in Central Asia to closer scrutiny that a workshop was organized in Leiden in 1999. Since Sarianidi's claims with regard to early Zoroastrian and Vedic religion focused on the presence of Ephedra, this candidate for the original Soma and Haoma was central in the workshop – which was a workshop in the real sense of the word: the contributors were not required to present a finished paper but were rather invited to share with others in the development of their thought on the subject. At the workshop (see the brief report below) Prof. Sarianidi presented his case, and he moreover generously offered to send some specimens of the material (a sediment in a pitcher) in which he claimed traces of Ephedra, papaver and hemp were present. The specimens arrived a few weeks after the workshop, and Prof. C.C. Bakels, paleobotanist and specialist in papaver cultivation around the Mediterreanean and in ancient Europe, enthusiastically undertook their investigation in spite of her busy schedule. After a few months I received messages indicating that no proof could be found of any of the substances indicated by Sarianidi. Rather than hastily sticking to this conclusion, Prof. Bakels made efforts to show the specimens to other paleobotanists whom she met at international professional meetings. At the end of this lengthy procedure, no confirmation could be given of the presence of the mentioned plants in the material that was investigated. The traces of plant-substances rather pointed in the direction of a kind of millet. Since it was felt that proceeding with a publication on the basis of the presentations in the workshop was not useful as long as Bakels' research was in progress it was postponed till her results appeared, that is, untill 2002. In the meantime only a few contributors of the 1999 workshop were left who were intending to offer a paper for publication. On the other hand, we are happy that George Thompson, with a longstanding interest in the Soma-Haoma problem, was found willing to contribute a paper although he did not participate in the 1999 workshop.

The general report of the workshop, the research report of C.C. Bakels, and George Thompson's paper on "ecstasy in the Ṛgveda" are now

published, together with the present introduction, in this first part of the EJVS Soma-Haoma issue. The second part of this issue is to contain a reworked version of the paper I presented in the 1999 workshop, as well as, hopefully, some other forthcoming papers and possible reactions to the present part.

Some relevant sites and links:
A. TITUS (http://titus.uni-frankfurt.de/indexe.htm) and GRETIL (http://www.sub.uni-goettingen.de/ebene_1/fiindolo/gretil.htm#Veda) for the Ṛgveda and other Vedic Texts.
B. Avesta.org (http://www.avesta.org/sitemap.htm) for Avestan texts with (often antiquated) translation.
C. Materials for the study of Vedic ritual (http://www.jyotistoma.nl/): introduction and overview of the Soma-ritual, example translation of first hymn of the Soma-book Ṛgveda 9 (http://www.jyotistoma.nl/EN/First_hymn_of_the_ninth_book.html) and videoclip of Soma-pressing and of a Sāman sung at a Soma-ritual.
D. Amanita muscaria or Fly-agaric: http://www.mykoweb.com/CAF/species/Amanita_muscaria.html, http://www.zauberpilz.com/zauberpilzgallery/amanita_muscaria_index.htm.
E. Peganum harmala or Syrian rue, Photograph by Henriette Kress: http://www.ibiblio.org/herbmed/pictures/p10/pages/peganum-harmala.htm.
F. Flora of Asclepiadaceae, by Li Ping-tao, Michael G. Gilbert, W. Doublas Stevens (incl. information but no photos on Periploca, Sarcostemma): http://hua.huh.harvard.edu/china/mss/volume16/Asclepiadaceae.published.pdf.
G. Soma-substitute "Pūtīka" used in Soma-sacrifice in Barsi, Maharashtra, 2001, probably to be identified as Sarcostemma acidum (Roxburgh) Voigt (Asclepias acida Roxburgh, Sarcostemma brevistigma Wight & Arnott), photo (© J.E.M. Houben): http://www.jyotistoma.nl/EN/images/Putika.jpg.
H. Species of Ephedra: Photographs by Henriette Kress: http://www.ibiblio.org/herbmed/pictures/p05/index_3.htm, under Ephedra equisetina and Ephedra sinica; Christopher J. Earl's

Gymnosperm Database hosted by Univ. of Bonn, Dep. of Botany: http://www.botanik.uni-bonn.de/conifers/ep/index.htm; a creeper of the family of Ephedra – of interest in the light of references in post-Vedic texts that Soma were a creeper – is known as Vine Ephedra (I don't have information on possible similar kinds of Ephedra creepers in Asia): http://aggie-horticulture.tamu.edu/ornamentals/nativeshrubs/ehpedrapeduncula.htm; healthnotes online on Ephedra: http://www.hollandandbarrett.com/Herb/Ephedra.htm.

Bibliographic references:

Abbé, Jean Antoine. 1825. *Moeurs, institutions et cérémonies des peuples de l'Inde.* Paris.

Aitchison, J.E.T. 1888. *Transactions of the Linnean Society of London. 2nd Ser. Botany.* Vol. III, Part I: *The Botany of the Afghan Delimitation Commission.* London: The Linnean Society.

Anquetil-Duperron, Abraham-Hyacinthe. 1771. *Zend-Avesta, ouvrage de Zoroastre, contenant les idees theologiques, physiques & morales de ce legislateur, ...* Paris: Tilliard.

Apollinaire, Guillaume. 1913. *Alcools.* Lecture accompagnée par Henri Scepi. Paris: Gallimard, 1999.

Barber, Elizabeth J. Wayland. 1999. *The Mummies of Ürümchi*. New York: W.W. Norton and Company.

Bareau, André. 1969. Compte-rendu de Wasson 1969. Journal Asiatique 257: 173-176.

Barfoot, C.C. (ed.) 2001. *Aldous Huxley between East and West.* Amsterdam: Rodopi.

Bartholomae, Christian. 1904. *Altiranisches Wörterbuch*. Nachdruck: Berlin: Walter de Gruyter, 1961.

Bergaigne, Abel. 1889. "Recherches sur l'histoire de la liturgie védique." *Journal asiatique*, Janvier: 5-32, Février-Mars: 121-197.

van den Bosch, Lourens P. 1985. "The Āprī hymns of the Ṛgveda and their interpretation." *Indo-Iranian Journal* 28: 95-122, 169-189.

Bronkhorst, Johannes. 2001. "The Perennial Philosophy and the Law of Karma." In: Barfoot 2001: 175-189.

Brough, John. 1971. "Soma and Amanita muscaria." *Bulletin of the School of Oriental and African Studies* 34.2: 331-362.

Brough, John. 1973. "Problems of the «Soma-mushroom» theory." *Indologica Taurinensia* 1: 21-32.

Burkert, Walter. 1979. *Structure and History in Greek Mythology and Ritual.* Berkeley: University of California Press.

Burkert, Walter. 1996. *Creation of the Sacred: Tracks of Biology in Early Religions.* Cambridge, Mass.: Harvard Univ. Press.

Burnouf, Eugène. 1844. "Études sur la langue et les textes zends. IV: Le Dieu Homa." *Journal Asiatique,* 8è série, no. 4, Décembre, p. 449-505.

van Buitenen, J.A.B. 1968. *The Pravargya: An ancient Indian iconic ritual, described and annotated.* Poona: Deccan College.

Caland, W. (ed.). 1915. *De Open-Deure tot het Verborgen Heydendom van Abraham Rogerius.* Uitgegeven door W. Caland. 's-Gravenhage: Martinus Nijhof. (Re-edition of Rogerius 1651.)

Caland, W. and V. Henry. 1906. *L'Agniṣṭoma: description complète de la forme normale du sacrifice de soma dans le culte vedique.* Tome premier. Paris: Ernest Leroux.

Caland, W. and V. Henry. 1907. *L'Agniṣṭoma: description complète de la forme normale du sacrifice de soma dans le culte vedique.* Tome II. Paris: Ernest Leroux.

Doniger O'Flaherty, Wendy. 1969. "The Post-Vedic History of the Soma Plant." In: Wasson 1969: 93-147.

Eggeling, Julius. 1885. *Śatapatha-Brāhmaṇa according to the text of the Mādhyandina school.* Part II: Books III and IV. Oxford: Clarendon Press.

Elizarenkova, Tatjana. 1996. "The problem of Soma in the light of language and style of the Rgveda." In: *Langue, style et structure dans le monde Indien. Colloque international pour le Centenaire de la Naissance de Louis Renou* (ed. par N. Balbir et G.-J. Pinault): 13-31. Paris: Unité de Recherche Associé 1058 "LACMI".

Falk, Harry. 1989. "Soma I and II." *Bulletin of the School of Oriental and African Studies* 52: 77-90.

Falk, Harry. 1993. *Schrift im alten Indien. Ein Forschungsbericht mit Anmerkungen.* Tübingen: Gunter Narr Verlag.

Fawcett, Jan and Katie A. Busch. 1998. "Stimulants in Psychiatry." *Textbook of Psychopharmacology*, Second Edition (ed. by A.F. Schatzberg ad C.B. Nemeroff): 503-522. Washington D.C.: The American Psychiatric Press.

Fischman, Marian W. 1987. "Cocaine and the Amphetamines." In: *Psychopharmacology: The Third Generation of Progress* (ed. H.Y. Meltzer): 1543-1553. New York: Raven Press.

Flattery, David Stophlet, and Martin Schwartz. 1989. *Haoma and Harmaline. The Botanical Identity of the Indo-Iranian Sacred Hallucinogen "Soma" and its Legacy in Religion, Language and Middle Eastern Folklore.* Berkeley: Univerity of California.

Forman, Robert K.C. (ed.) 1990. *The Problem of Pure Consciousness.* New York: Oxford University Press.

Furst, Peter T. (ed.) 1972. *Flesh of the gods: the ritual use of hallucinogens.* New York: Praeger Publ. Reissued with changes Waveland Press, Prospect Heights, Illinois, 1990.

Geldner, Karl F. 1926. *Die Zoroastrische Religion <Das Avestā>*. Tübingen: J.C.B. Mohr.
Geldner, Karl F. 1928. *Vedismus und Brahmanismus*. Religionsgeschichtliches Lesebuch, 9. Tübingen: Mohr.
Geldner, Karl F. 1951. *Der Rig-Veda: aus dem Sanskrit ins deutsche übersetzt und mit einem laufendem Kommentar versehen.* Teil I-III. Cambridge, Mass.: Harvard University Press.
Geldner, Karl F. 1957. *Der Rig-Veda: aus dem Sanskrit ins deutsche übersetzt und mit einem laufendem Kommentar versehen*. Vierter Teil: *Namen- und Sachregister zur Übersetzung dazu Nachträge und Verbesserungen.* Ed. Johannes Nobel. Cambridge, Mass.: Harvard University Press.
Gonda, Jan. 1963. *The Vision of the Vedic Poets.* The Hague: Mouton.
Gonda, Jan. 1975. *Vedic Literature.* Wiesbaden: Harrassowitz.
Gonda, Jan. 1978. *Hymns of the Ṛgveda not employed in the solemn ritual.* Amsterdam: North-Holland Publishing Company.
Halbfass, Wilhelm. 1988. *India and Europe: An Essay in Understanding.* Albany: SUNY-Press.
Halbfass, Wilhelm. 2001. "Mescaline and Indian Philosophy: Aldous Huxley and the Mythology of Experience." In: Barfoot 2001: 221-235.
Hillebrandt, Alfred. 1891. *Vedische Mythologie. I: Soma und verwandte Götter*. Breslau: Köbner.
Hillebrandt, Alfred. 1927. *Vedische Mythologie.* Breslau: M. & H. Markus.
Houben, Jan E.M. 1991. *The Pravargya Brāhmaṇa of the Taittirīya Āraṇyaka: an ancient commentary on the Pravargya ritual*. Delhi: Motilal Banarsidass.
Houben, Jan E.M. 2000. "The ritual pragmatics of a Vedic hymn: the 'riddle hymn' and the Pravargya ritual." *Journal of the American Oriental Society* 120.4: 499-536.
Hummel, Karl. 1997. Review of Wasson 1969. *Studien zur Indologie und Iranistik* 21: 79-90.
Huxley, Aldous. 1932. *Brave New World.* London: Chatto and Windus.
Huxley, Aldous. 1959. *Brave New World Revisited.* London: Chatto and Windus.
Huxley, Aldous. 1977. *Moksha: Writings on Psychedelics and the Visionary Experience,* 1931-1963 (ed. by M. Horowitz and C. Palmer). London: Chatto and Windus.

Ingalls, Daniel H.H. 1971. "Remarks on Mr. Wasson's Soma." *Journal of the American Oriental Society* 91.2: 188-191.

Kashikar, C.G. 1990. *Identification of Soma.* Pune: Tilak Maharashtra Vidyapeeth.

Kashikar, C.G. and Asko Parpola. 1983. "Śrauta Traditions in Recent Times." In: Staal 1983, Vol. II: 199-251.

Katz, Steven T. (ed.) 1978. *Mysticism and Philosophical Analysis.* London: Sheldon Press.

Katz, Steven T. (ed.) 1983. *Mysticism and Religious Traditions*. New York: Oxford University Press.

Katz, Steven T.(ed.) 1992. *Mysticism and Language*. New York: Oxford University Press.

Katz, Steven T. (ed.) 2000. *Mysticism and Sacred Scripture.* Oxford: Oxford University Press.

Kellens, Jean. 1989. "Avesta." In: *Encyclopaedia Iranica* (ed. by Ehsan Yarshater), Vol. III, p. 35-44.

Kotwal, Dastur Firoze M. and James W. Boyd. 1991. *A Persian Offering: the Yasna: A Zoroastrian high liturgy.* Paris: Association pour l'avancement des études iraniennes.

Kramrisch, Stella. 1972. Review of Wasson 1969. *Artibus Asiae*, 34: 263-267.

Kramrisch, Stella. 1975. "The mahāvīra vessel and the plant pūtika [sic]." *Journal of the American Oriental Society* 95.2: 222-235. [Reprinted as chapter 3 in Wasson et al. 1986.]

Kuhn, Adalbert. 1859. *Die Herabkunft des Feuers und des Göttertranks.* Berlin: Ferd. Dümmler's Verlagsbuchhandlung.

Kuiper, F.B.J. 1970. Review of Wasson 1969. *Indo-Iranian-Journal*, 12.4: 279-285.

Kuiper, F.B.J. 1984. "Was the Pūtīka a mushroom?." In: *Amṛtadhārā: Professor R.N. Dandekar Felicitation Volume* (ed. by S.D. Joshi): 219-227. Delhi: Ajanta.

Lehmann, J. 2000. "Die ursprüngliche rigvedische Somapflanze war weder gruene Pflanze noch Pilz: Gepresst wurden Bienenwaben. Sicht eines Entomologen." In: *Indoarisch, Iranisch und die Indogermanistik: Arbeitstagung der Indogermanischen Gesellschaft vom 2. bis 5. Oktober 1997 in Erlangen* (herausg. v. B. Forssman und Robert Plath): 295-314. Wiesbaden: Reichert Verlag.

Lewin, L. 1927. *Phantastica: Die Betäubenden und erregenden Genussmittel – fuer Ärzte und Nichtärzte.* Berlin: Georg Stilke.
Lowie, Robert H. 1954. *Indians of the Plains.* New York: McGraw-Hill.
Mallory, J.P., and Victor H. Mair. 2000. *The Tarim Mummies: Ancient China and the Mystery of the Earliest Peoples from the West.* London: Thames & Hudson.
Mayrhofer, Manfred. 1992. *Etymologisches Wörterbuch des Altindoarischen.* Heidelberg: Carl Winter Universitätsverlag.
Modi, Jivanji Jamshedji. 1922. The Religious Ceremonies and Customs of the Parsees. Bombay. Reprint: New York, 1979.
Müller, Friedrich Max. 1855. "Die Todtenbestattung bei den Brahmanen." *Zeitschrift der Deutschen Morgenländischen Gesellschaft,* 9: I-LXXXII.
Müller, Friedrich Max. 1888. *Biographies of Words and the Home of the Aryans.* London: Longmans, Green & Co.
Mukherjee, Braja Lal. 1921. "The Soma Plant." *The Journal of the Royal Asiatic Society of Great Britain and Ireland for* 1921: 241-244.
Mukherjee, Braja Lal. 1922. "The Soma Plant." Calcutta: Weekly Notes Printing Press.
Murr, Sylvia (ed.). 1987. *L'Inde philosophique entre Bossuet et Voltaire* – I: *Moeurs et coutumes des indiens* (1777). Un inédit du Père G.-L. Cœurdoux s.j. dans la version de N.-J. Desvaulx. Paris: Ecole Française d'Extrème Orient.
Nyberg, Harri. 1995. "The problem of the Aryans and the Soma: the botanical evidence." In: *The Indo-Aryans of Ancient South-Asia: Language, Material Culture and Ethnicity* (ed. by George Erdosy): 382-406. Berlin: Walter de Gruyter.
Oberlies, Thomas. 1995. Review of Kashikar 1990. *Wiener Zeitschrift für die Kunde Südasiens,* 39: 235-238.
Oberlies, Thomas. 1998. *Die Religion des Ṛgveda.* Erster Teil: *Das Religiöse System des Ṛgveda.* Wien: Institut der Indologie der Universität Wien.
Oberlies, Thomas. 1999. *Die Religion des Ṛgveda.* Zweiter Teil: *Kompositionsanalyse der Soma-Hymnen des Ṛgveda.* Wien: Institut der Indologie der Universität Wien.
Oldenberg, Herman. 1894. *Die Religion des Veda.* Berlin: Hertz. (2nd, revised edition 1917: Stuttgart, Cotta.)
Parpola, Asko. 1995. "The problem of the Aryans and the Soma: Textual-linguistic and archaeological evidence." In: *The Indo-*

Aryans of Ancient South-Asia: Language, Material Culture and Ethnicity (ed. by George Erdosy): 353-381. Berlin: Walter de Gruyter.

Rappaport, Roy A. 1999. *Ritual and Religion in the Making of Humanity*. Cambridge: Cambridge University Press.

Renou, Louis. 1962. "Recherches sur le rituel védique: la place du Rig-Veda dans l'ordonnance du culte." *Journal asiatique* 250: 161-184.

Rogerius, Abraham. 1651. *De Open-Deure tot het Verborgen Heydendom Ofte Waerachtig vertoogh van het Leven ende Zeden, mitsgaders de Religie ende Godsdienst der Bramines op de Cust Chormandel, ende de Landen daar ontrent.* Leyden. Second edition: Caland 1915.

Sarianidi, Victor. 1994. "New Discoveries at ancient Gonur." *Ancient Civilizations from Scythia to Siberia* 2.3: 289-310.

Sarianidi, Victor. 1998. *Margiana and Proto-Zoroastrism*. Athens: Kapon Editions.

Shulgin, Alexander T., and David E. Nichols. 1978. "Characterization of three new psychomimetics." *The Psychopharmacology of Hallucinogens* (Proceedings of a two-day workshop held in Bethesda, Maryland, Dec. 21-22, 1976) (ed. by Richard C. Stillman and Robert E. Willette): 74-83. New York: Pergamon Press.

Skjaervø, Oktor P. 1997. "The State of Old Avestan Scholarship." *Journal of the American Oriental Society*, 117.1: 103-114.

Spess, David L. 2000. *Soma: The Divine Hallucinogen.* Rochester (Vermont): Inner Traditions. (Reference according to http://www.innertraditions.com/titles/soma.htm).

Staal, Frits. 1975. *Exploring Mysticism: A methodological essay*. Berkeley: University of California Press.

Staal, Frits (ed.). 1983. *Agni: The Vedic Ritual of the Fire Altar.* Vol. I and II. Berkeley: Asian Humanities Press. [First Indian Edition: Delhi: Motilal Banarsidass, 2001.]

Staal, Frits. 1989. *Rules without Meaning: Ritual, Mantras and the Human Sciences.* New York: Peter Lang.

Staal, Frits. 2001. "How a psychoactive substance becomes a ritual: the case of Soma." *Social Research*, vol. 68.3: 745-778.

Stein, Aurel. 1931. "On the ephedra, the Húm plant, and the Soma." *Bulletin of the School for Oriental and African Studies* 6:501-14.

Stevenson, John. 1842. *Translation of the sanhitá of the Sáma Veda*. London: Allen.

Stuhrmann, Rainer. 1985. "Worum handelt es sich beim Soma?" *Indo-Iranian Journal* 28: 85-93.

Wasson, Valentina Pavlovna and Robert Gordon Wasson. 1957. *Mushrooms, Russia and History*. New York: Pantheon Books.

Wasson, R. Gordon. [1969.] *Soma: Divine Mushroom of Immortality.* [New York:] Harcourt, Brace, Jovanovich. [No publication date is indicated on the title or copyright page of the book available to me; in Wasson 1972a Wasson gives 1969 as the date of publication; we often also find the book mentioned as appearing in 1968.]

Wasson, R. Gordon. 1970. "Soma: comments inspired by Professor Kuiper's Review." *Indo-Iranian-Journal*, 12.4: 286-298.

Wasson, R. Gordon. 1972a. *Soma and the fly-agaric. Mr. Wasson's rejoinder to Professor Brough.* Cambridge, Mass.: Botanical Museum of Harvard University.

Wasson, R. Gordon. 1972b. "What was the Soma of the Aryans?" In: Furst 1972: 201-213.

Wasson, R. Gordon et al. 1986. R. Gordon Wasson, Stella Kramrisch, Jonathan Ott, and Carl P. Ruck. *Persephone's Quest: Entheogens and the Origins of Religion.* New Haven: Yale University Press.

Wezler, Albrecht. 2001. "'Psychedelic' drugs as a means to mystical experience: Aldous Huxley versus Indian reality." In: Barfoot 2001: 191-220.

Wilbert, Johannes. 1972. "Tobacco and Shamanistic Ecstasy Among the Warao Indians of Venezuela." In: Furst 1972: 55-83.

Wilkins, Charles. 1785. *Bhăgvăt-Gēētā or Dialogues of Krĕĕshnă and Ărjŏŏn; in Eighteen Lectures with Notes, Translated from the original, in the Sanskrĕĕt, or Ancient language of the Brāhmăns.* London: C. Nourse.

Windischmann, Fr. 1846. *Über den Somacultus der Arier. Abhandlungen der Philosoph.-philologischen Classe der Königlich Bayerischen Akademie der Wissenschaften.* IV.2: 125-142.

Witzel, Michael. 1997. "The Development of the Vedic Canon and its Schools: The Social and Political Milieus." In: *Inside the Texts – Beyond the Texts: New Approaches to the Study of the Vedas* (ed.

Michael Witzel): 257-345. Cambridge, Mass.: Dept. of Sanskrit and Indian Studies, Harvard University.

Notes

[1] This Introduction is an elaboration of introductory remarks in my paper presented at the Leiden seminar on the Soma-Haoma issue (Leiden, July 3-4, 1999). For this seminar, support was received from the Research school CNWS – School of Asian, African, and Amerindian Studies (Leiden University). My own research in connection with the topic of the seminar was funded by the Royal Netherlands Academy of Arts and Sciences (KNAW), of which I was a research fellow from July 1999 till March 2003. I am grateful to the participants in the workshop for their contributions in the form of papers, remarks and discussions. Leonid Kulikov deserves special mention for his kindness to assist in occasional translations from Russian, and after the workshop to mediate between Leiden and Professor Sarianidi when the latter was staying in Moscow. Michiel de Vaan kindly helped me get hold of some of the publications I needed. I am indebted to Frits Staal, George Thompson for their critical reading of an earlier version of this introduction. I thank Michael Witzel for accepting to devote an issue of the Electronic Journal of Vedic Studies to the discussion on the Soma-Haoma problem.
[2] In the email-version, the transcription of Sanskrit follows the conversion table for Old Indic/Sanskrit of TITUS (Thesaurus Indogermanischer Text- und Sprachmaterialien), http://titus.uni-frankfurt.de/software/fonts/titaind.htm, with the exception that names that do not appear in quotations or references to the Sanskrit word have their first letter capitalized. This creates occasional ambiguities which, however, disappear against the background of a general basic knowledge of Vedic/Sanskrit.

[3] In the email-version, the transcription of Avestan follows the conversion table for Avestan of TITUS (Thesaurus Indogermanischer Text- und Sprachmaterialien), http://titus.uni-frankfurt.de/texte/avesta.htm .

[4] A regular epithet of Haoma, *dūraoša*, has been interpreted as "Todtwehrer" or the one who keeps 'destruction' or 'perdition' (*aoša*) 'far away' (*dūra*) (cf. Bartholomae 1904 s.v.). Stuhrmann's suggestion (1985: 87 and 92 note 20) that the word derives from **dru-oṣa* "holzbrennend" does not seem convincing in the context where it occurs; Flattery and Schwartz (1989: 130) want to understand it as "keeping destruction far away" in connection with apotropaic powers of the Haoma-plant which it would especially have when it is burnt. However, if the association with burning is part of the term's synchronic semantics it would not suit contexts such as the beginning of Y 9 where there is no burning but a pressing and libation of Haoma. See for further references to the discussion Mayrhofer 1992: 733.

[5] Rogerius, *Open Deure tot het Verborgen Heydendom*, ed. Caland 1915 p. 3: in a discussion of the Somowansjam [*somavaṁśa*], the name of a royal dynasty, Rogerius writes "inde gheseyde Tale beteyckent Somo de Maen". Rogerius' work was translated into English, German and French and remained for more than a century an important source of knowledge on India and Indian religion.

A valuable discussion of early ideas, guesses and philological research on Soma is found in Doniger O'Flaherty 1969, where the reader will find references to a few additional contributions left out by me as they seemed less significant or influential. On the other hand, I mention here a few authors skipped or overlooked by Doniger O'Flaherty, or not available to her.

[6] Anquetil-Duperron 1771, vol. 2, p. 535. The classics are Anquetil-Duperron's frame of reference when he associates the Parsis' Hom (Haoma) with the *ámōmos* of the Greek and the *amomum* of the Romans.

[7] Wilkins 1785, in note 42 (p. 143) to the verse in "Lecture IX" of the Bhagavadgītā in which reference is made to "followers of the three Vēds, who drink of the juice of the Sōm" (*traividyā*[*ḥ*] ... *somapāḥ*), observes that "Sōm is the name of a creeper, the juice of which is commanded to be drank at the conclusion of a sacrifice, by the person for whom and at whose expense it is performed, and by the Brāhmăns who officiate at the altar."

[8] When Hillebrandt (1927: 201) writes that Mukherjee rejects the identification of Soma and Cannabis (Bhang), he seems to have misunderstood Mukherjee's rhetorical question (1921: 244) "From what has been stated above, may we not conclude that the weight of evidence is in favor of the identification of Soma with Cannabis (Bhâng)." Mukherjee's view appears in more detail in a paper that appeared in 1922 (the 9-page booklet present in the Leiden University library is perhaps an offprint of the paper Mukherjee announces at the end of his 1921 article as appearing in the *Bulletin of the Indian Rationalistic Society of Calcutta*; the name of this journal is, however, nowhere mentioned in the paper).
[9] Aitchison (1888: 87) also discusses the Periploca aphylla (like the Sarcostemma belonging to the Asclepiadaceae) which he found in northern Baluchistan. He notices the native names "Um, Uma; Punjabi Batta." J.G. Baker suggested it as a candidate for Soma in a letter to the Academy in 1884.
[10] See Madaus 1938: 1261.
[11] Madaus1938: 1264.
[12] Lewin thus passes over – is probably unaware of – the fact that neither the Vedic nor the Iranian ritual have any place for a process of distillation which would be required to achieve a drink deserving to be called "strong alcoholic".
[13] In his *Brave New World Revisited* (1959: 99-100) Huxley states in retrospect: "The Soma of Brave New World had none of the drawbacks of its Indian original. In small doses it brought a sense of bliss, in larger doses it made you see visions and, if you took three tablets, you would sink in a few minutes into refreshing sleep."
[14] Two papers appearing in a recent volume on Aldous Huxley (Barfoot 2001) are of considerable, direct importance for the Soma-problem: Albrecht Wezler's confrontation of Huxley's ideas on 'psychedelic' drugs in India with presently available data and theories on the use of drugs, especially Soma, and, from quite different contexts, Bhang (Cannabis), as means to mystical experience; and Wilhelm Halbfass' profound analysis of philosophical problems related to drug-induced mystical experiences according to Huxley and in Indian philosophy. Relevant for, though not directly dealing with, the *interpretation* of the Soma-experience by Huxley is Johannes Bronkhorst's discussion of Huxley's theory of a *philosophia perennis* consisting of features which all or most religions would share.

[15] The book is also often referred to as appearing in 1968. In the copy in the library of the Kern Institute I searched in vain for the publication date. In Richard Evans Schultes' foreword in Wasson 1972a we read that "Mr. R. Gordon Wasson" brought out his *SOMA Divine Mushroom of Immortality* on April 15, 1969. But in 1986 Wasson writes (p. 26): "At the end of 1968 or the beginning of 1969 our *SOMA* finally apeared ... " I will stick here to 1969 as its publicaton date.
[16] J. Brough (1971: 332 note 1) notes that "Mr. Wasson ... was for 10 years a Research Fellow of the Botanical Museum of Harvard University, now Honorary Research Fellow; also Honorary Research Associate and former member of the Board of Managers of the New York Botanical Garden."
[17] Huxley and Wasson knew each other quite well. Cf. Wasson in an autobiographical passage, 1969: 175: "I do not recall when the Soma possibility first drew my attention ... From 1955 on I was in intermittent correspondence with Aldous Huxley, and often when he visited New York he would come down to Wall Street and have lunch with me." And cf. Huxley, in a letter to a friend written in 1957 (in Huxley 1977: 132): "While I was in New York, I lunched with Wasson [. . . .] [H]e has put an immense amount of work into his subject, and the material brought together in his vast tomes is very curious and suggestive. However, he does, as you say, like to think that his mushrooms are somehow unique and infinitely superior to everything else. I tried to disabuse him. But he likes to feel that he has got hold of the One and Only psychodelic – accept no substitutes, none genuine unless sold with the signature of the inventor."
[18] Similarly, Kuiper 1970: 282: "Generally speaking, his [Wasson's] interesting attempt to interpret the Vedic evidence in the light of his novel theory encounters difficulties when the separate passages are considered in the context of Vedic mythological and ritualistic thought." Kuiper illustrates the point with Wasson's interpretation of Ṛgveda 9.86.44c (Wasson 1969: 41) and of Ṛgveda 9.97.9d (Wasson 1969, plate VIII a and b). Brough discusses Wasson's interpretations of 9.97.9d, 9.71.2d, 9.70.7d, 9.75.2 and of notions recurring in Ṛgveda-translations such as "the udder and Soma", "Soma's 'head'", "the single eye", "mainstay of the sky", "the filtres", and the Vedic sah/asrabhṛṣṭi.
[19] A list of "principal reviews" of Wasson 1969 appears at the end of Wasson 1972a.

[20] Wasson goes so far as to indulge in near-abusive rhetorics on the reviewers who do not accept his hypothesis. Thus, in 1972a he writes: "These two statements, Brough's and Kuiper's, reveal the absurd isolation in which some Vedic scholars live by choice." Before embarking on his investigation of the points presented by Wasson, Brough (1971: 331) discusses the state of the art in the Soma-Haoma discussion before Wasson 1969 and observes " ... and the opinion is widely held that the problem is insoluble." In almost paranoiac fashion Wasson (1972a: 10) perceives here a conspiracy of "Brough and other Vedic scholars" to be satisfied with the "anonymity of Soma" as "a built-in element in Vedic studies" and to want to keep it like that. As for the statement of Kuiper that enraged Wasson, it is: "This means that the search for 'the original Soma' might lead us far beyond the field of Indo-Iranian studies proper" (Kuiper 1970: 284). As linguist and as mythologist of the Indian area and of Indo-European cultures, Kuiper himself is habituated to "go beyond the field of Indo-Iranian studies proper". Immediately preceding this statement Kuiper is discussing aspects of Nordic myths relevant to the Soma-issue. The implication which Wasson connects with this statement is hence preposterous: " ... as though such excursions were dangerous temptations to be avoided." Apparently in a more balanced state of mind and with a strong sense of the importance of his own researches he writes elsewhere in a recapitulation of his argument for non-indologists (1972b: 208): "Professor F.B.J. Kuiper of Leiden is a thousand times right in saying that 'the complexities of the problem should not ... be underestimated.' He adds that the identification of Soma must take the seeker far beyond the confines of Indo-Iranian studies proper. This is where I have gone." It is in any case ironic that Kuiper's review which infuriated Wasson in 1972a was read as an acceptance of Wasson's thesis as probable by Frits Staal in 1983, I: 106. Kuiper does conclude his discussion on a non-committal but quite positive tone when he writes: "Wasson, with his unique knowledge of the use of hallucinogens in Eurasia, may be perfectly right in assuming that the original Soma plant was the Amanita muscaria, but to prove this the evidence of the Rigveda would seem to lack decisive force."

[21] While Kashikar 1990 does more justice to the important and extensive branch of literature of this period, a comprehensive overview and study of relevant passages is still a desideratum.

[22] Wasson's enthusiastic presentation on the use of the fly-agaric with a view to identify them with the Vedic Soma may have to be amended in some respects. Cf. the conclusion of Nyberg 1995: 392-393 on Amanita muscaria as a candidate for Soma, especially his third point: "In my opinion, *Amanita muscaria* is unsuitable for any identification with *soma/haoma* on the following grounds: 1) The mushroom produces visions, sleep and/or a peaceful state of intoxication; the duration of effects is short; 2) *soma/haoma* is prepared from stems or stalks, which most probably should be regarded as fibrous (Brough 1971; Falk 1989) while the fleshy stems of *A. muscaria* contain only very small amounts of the pharmacologically active compounds, which are concentratred instead in the mushroom cap (these are the only parts of the mushroom used in northern Siberia); 3) culturally, the use of *A. muscaria* occurs only among the shamanistic peoples of northern Eurasia and it is neither a required part of any shamanistic rite, nor regarded as holy in them. On the contrary, only the 'weak' shaman or a 'recreational user' has to resort to the use of the mushroom (Eliade 1964: 210; Saar 1991); 4) the mushroom must have been rare in any of the proposed Indo-Iranian homelands. In contrast, when the use of *soma/haoma* began, the Aryans seem to have been inhabiting a region where the to-date unidentified plant was abundant."

[23] See especially Wasson 1969, Part One, chapter IV: "Soma Was Not Alcoholic".

[24] In his 1969 book Wasson's strategy is to distinguish between the Ṛgveda and later texts, and between a later part of the Ṛgveda and an earlier one (the latter comprises the ninth or Soma-Maṇḍala). In his answers to Brough, however, he suggests (1972a: 14) that the crucial episode of the pressing of the Soma-plants with stones or stampers is adventitious, even if references to the pounding and the pressing stones and stampers occur dispersed throughout the different sections of the Ṛgveda, including those which Wasson uses for his positive identifications.

[25] Stuhrmann 1985: 91 quotes here Oldenberg's expression (1894: 182) "formloses Gewirr von Bildern und mystischen Phantasmen".

[26] Falk extends his argument too far when he says (1989: 82) not only that Soma creates wakefulness, but also that it originally must have been offered to Indra during the night.

[27] Cf. Madaus 1938: 1263; on the modern use of stimulants in psychiatry with brief references to their history as well as to Ephedra: Fawcett and Busch 1998.
[28] Cf. the discussion of 3,4-Methylenedioxymethamphetamine (MDMA) and its pharmacological properties by Shulgin and Nichols 1978. The authors are aware of its "occasional and erratic appearance in the illicit street drug market", but apparently not yet familiar with its later popular name Ecstasy or XTC. Briefly on the relation between chemical structure and psychopharmacological effects of MDMA and related compounds: Fawcett and Busch 1998: 505-506.
[29] Cf. note 36 below.
[30] Together with Asko Parpola, Kashikar published an overview of recent Śrauta traditions in India in Vol. 2 of Staal's Agni, and remarked (Kashikar and Parpola 1983: 248) that for the original Soma "[t]he most likely candidate seems to be some species of Ephedra."
[31] Doniger O'Flaherty's brief section on the Brāhmaṇas and Śrautasūtras in her discussion of the post-Vedic history of the Soma-plant, was therefore misleading in that she presented these texts as only speaking of substitutes whereas it is clear that their authors presuppose those who employ the texts to be well aware of the distinction between the real Soma-plant and its substitutes.
[32] A Maharashtrian sweet dish made out of beestings is reported to have a light yellowish collor (Madhav Deshpande, Indology Discussion Archive 11-02-2003, and, off-list, Vishal Agrawal 12-02-2003, in response to a question I asked on the Indology list – 11-02-2003 http://www.ucl.ac.uk/~ucgadkw/indology.html).
[33] I thank the author for kindly sending me this paper on a subject about which we have discussed at a few occasions.
[34] In fact, this is a point in Staal's own argument 26 years earlier: Staal 1975, e.g. p. 195: "So far, the following causes may be assumed to be conducive to mystical experiences: birth, meditation, asceticism, drugs, mantras, yantras, special devices like kaṣiṇa, *rituals*, devotion to a deity" (my emphasis, J.H.).
[35] Cf. already Lewin 1927: 180 on the effect of alkaloids in Belladonna and Datura: "Ein Schneider, der unter den Einfluss von Belladonna und Datura gekommen war, zeigte die übliche Pupillenerweiterung neben Krämpfen. Nachdem diese nachgelassen hatten, setzte er sich im Bette so zurecht, als wäre er auf einem Schneidertisch, und manipulierte, als wenn er mit seiner Arbeit beschäftigt wäre, die Nadel oft einfädeln

müsste usw. Dabei hörte und sah er nicht. Das Bewusstsein fehlte. Dieser Zustand hielt fünfzehn Stunden an." Cf. also Fawcett and Busch 1998: 507: "In humans, both cocaine and amphetamine produce behaviors characterized by repetitious arrangement of objects. Such behaviors may be analogous to stereotyped behaviours induced by amphetamines in animals (K.S. Patrick et al. 1981)."

[36] See also the criticism on Flattery and Schwartz uttered by Nyberg 1995: 399: "To say that the effects of ephedras are "of insufficient intensity" or "too inconsistent in character" (in Flattery and Schwartz 1989: 72) seems to reflect a tendency to apply modern methods of clinical drug evaluation to an ancient culture having a very different psychological pattern and way of life when compared with modern Western culture."

[37] Lowie 1954: 157: "Woodland and Plains Indians deliberately went out to a lonely spot in order to obtain a revelation. ... the normal procedure was to go into solitude, fast and thirst for four days, and supplicate the spirits to take pity on the sufferer." Blackfoot specialist L.M. Zuyderhout kindly drew my attention to the sections on visions and shamans in Lowie 1954, and informed me (email 27.01.2003) on the basis of her extensive fieldwork that also women may go on a vision quest and fast and thirst although there are hardly published sources on this. In addition, women had to fast in connection with the Blackfoot Sun Dance.

[38] Soma is connected with poetic inspiration and with dh/I or 'vision' (cf. Gonda 1963: 41, 51, 69, 73ff), but generally these cannot be regarded as "hallucinations"; browsing through Geldner's Register to his Ṛgveda translation, we find listed as the effects of Soma (Geldner 1957: 248-249) that it incites thought (1.129.6 *mánma réjati*, 6.47.3 *manīṣā́m ... ajīgaḥ*), it is able to engender poetical thought (9.95.1 *matī́r janayata*), is the progenitor of poetical thoughts (9.96.5 *janitā́ matīnā́m*), opens the doors to the thoughts (1.46.5 *ādāró vāṁ matīnā́m*, 9.10.6 *ápa dvā́rā matīnā́m ... ṛṇvanti* [*sómāsaḥ*]).

[39] Cf. in Geldner's Register to his Ṛgveda translation, among the effects of Soma (Geldner 1957: 248-249): Soma keeps awake (8.2.12 jarante, said of the Soma juices; 3.37.8 *jā́gṛvi* said of the Soma); it gives strength (9.90.2 *vayodhā́*). Apart from this useful but quite incomplete thematic index cf. also statements such as 9.1.10ab *asyéd índro mádeṣv ā́ víśvā vṛtrā́ṇi jighnate* "In the exhilerations of this (Soma), Indra destroys

all obstructions and obstructors"; 9.113.1 *śaryaṇā́vati sómam índraḥ pibatu vṛtrahā́ bálaṁ dádhāna ātmáni kariṣyán vīryàṁ mahád* "At the Śaryaṇā́vat (lake), Indra the Vṛtra-killer must drink the Soma, putting strength in himself, about to perform a great heroic feat."

[40] Cf. from Fischman's (1987: 1544) summary of the general effects of stimulants, in this case specifically cocaine and amphetamines –note their correlation with stereotyped behaviour (ritualization), my emphasis:

"Humans given single moderate doses of cocaine and amphetamine generally show a decrease in food intake and fatigue and an increase in activity, talkativeness, and reports of euphoria and general well-being. At higher doses *repetitive motor activity (stereotyped behaviour)* is often seen, and with further increases in dose, convulsions, hyperthermia, coma, and death ensue.

...

The effects of cocaine and amphetamine in most non-human species parallel those seen in humans. At lower doses, animals are active and alert, showing increases in responding maintained by other reinforcers but often decreasing food intake. Higher doses produce species-specific *stereotyped behavior patterns*, and further increases in dose are followed, as in humans, by convulsions, hyperthermia, coma, and death."

[41] The case for a more subtle psychoactive substance as candidate for Soma and Haoma can be supported by contrasting the modern, "secular" use of tobacco in recreational smoking, with its use among the South-American Warao when communicating with the supernatural (Wilbert 1972). What is experienced as a light relaxing influence in modern society was associated with communication with a different world among the Warao. Wilbert 1972: 55: "Even if it is not one of the 'true' hallucinogens from the botanist's or pharmacologist's point of view, tobacco is often conceptually and functionally indistinguishable from them." As for the Soma and the Soma ritual, with a more subtle psychoactive substance as candidate for Soma it will be easier to explain the gradual, noiseless disappearance of "the real Soma" in the ceremony devoted to its celebration (imagine a marriage where no-one notices that the bridegroom has silently disappeared ...), after an intermediate phase in which substitutes were occasionally permitted.

[42] On problems regarding Stein's finds in the 1930's cf. Flattery and Schwartz 1989: 73 note 6; and on problems in connection with Ephedra

in the Bactria-Margiana archeological complex cf. Bakels in the present issue. While the references by Mallory & Mair are frequent but marginal, Barber's discussion (1999, chapter 8) of the Ephedra found with the mummies is more elaborate, takes notice of the re-identification of some samples of mummy-Ephedra as Equisetum, and forms part of an argument for the ethnic identification of the mummies. Just as Mallory & Mair she takes Sarianidi's conclusions regarding the use of Ephedra in Margiana for granted – Bakels' contribution shows that such easy acceptance is unwarranted.

[43] Cf. Wasson in Wasson et al. 1986: p. 36-37: "Some of us formed a committee under the Chairmanship of Carl Ruck to devise a new word for the potions that held Antiquity in awe. After trying out a number of words he came up with *entheogen*, 'god generated within', which his committee unanimously adopted, not to replace the 'Mystery' of the ancients, but to designate those plant substances that were and are at the very core of the Mysteries." Unlike Wasson I see no reason to restrict the term to substances currently labeled as hallucinogens, but I would include psychostimulants, as well as alcohol and hashish which Wasson wants to exclude on account of their use as recreational drugs (he forgets that they have been and often still are used as instruments in mystical quests, cf. Wezler 2001, whereas, on the other hand, his fly-agaric is also in use as recreational drug, cf. Nyberg 1995: 392-393 quoted in note 22), and tobacco (cf. previous note).

[44] With regard to K.C. Forman's question (1990: 5): "Are there some experiences, or some specifiable aspects of human experience, that are not 'constructed' by our language and belief?" the answer suggested by cross-cultural experience with psychoactive substances from tobacco and alcohol to CNS-stimulants and hallucinogens would seem to be that only very general aspects of the experience (e.g., euphoria, hallucination, synesthesia) have a stable correlation with specific substances, whereas the actual "contents" of the experience are entirely constructed. An analysis of the category of "experience" in the encounter between India and the West was given by Wilhelm Halbfass in 1988: 378-402. With regard to Huxley's interpretation of Indian traditions Halbfass points out (2001: 233) that "'Experience' is the common denominator in Huxley's fascination with drugs and his interest in Indian philosophy"; he observes that it is, however, only in Neo-VedAntic thought that experience, rather than traditional authority, starts to play the decisive role accepted by Huxley. When Bronkhorst (2001) attempts to find shared features in the

religions adduced by Huxley to establish his "perennial philosophy" it is significant that it is precisely the category of "experience" that he leaves out.

[45] According to Lehmann, the Soma of the Ṛgveda was pressed not from a green plant or from a mushroom but from honeycombs, especially from those of the Indian giant or rock bee. The significant difference with Oldenberg's honey-theory is that the latter saw evidence that already in proto-Indo-Iranian times the honey was replaced by a plant (to whose sap honey was added in the ritual!). Lehmann does not address the question why the knowledge of Soma as honeycomb and the techniques to press the honey out of them would have got lost over the centuries whereas honey itself remained a familiar product. As a bee from flower to flower, Lehmann (2000: 195: "Mir fehlen Kentnisse des Sanskrit") jumps from the one to the other far-fetched text-interpretation that he deems "possible", and happily concludes his paper with the statement that the Soma-problem is now solved. Still of interest is the attention he pays to the story of the monkeys in the Madhuvana (Rāmāyaṇa 5.59-61), and the state of *mada* they attain when consuming the available honey. It is possibly the earliest extensive literary description in the Sanskrit tradition of a *mada* in all its shades from happy exhileration to aggressive behaviour towards the guards of the "honey grove".

Brief report of the Workshop
The Soma/Haoma-cult in early Vedism and Zoroastrism: Archeology, Text, and Ritual
Leiden, 3-4 July 1999

Jan E.M. Houben

This workshop was organized and hosted by the Research school CNWS, University of Leiden, to deal with a 'perennial' problem in Indology and Iranology: the nature of the Soma/Haoma plant and the juice pressed from it. Soma/Haoma plays an important role in Vedic and Zoroastrian ritual and mythology. Recent discoveries at Margiana, modern Turkmenistan, showed the remains of a temple-cult in which several plants were employed. According to the archeologist Prof. V.I. Sarianidi, working on sites in Margiana since more than a decade, these plants include papaver and Ephedra. As early as in 1922, the Ephedra has been mentioned as the best candidate for the plant from which juice is extracted and consumed in the Vedic Soma-ritual, as well as in the Avestan Haoma-ritual (Modi 1922:301-5). After a period of investigations of all kinds of other candidates – e.g. alcoholic drinks based on rhubarb (Stein 1931) or honey or millet; a mushroom, *Amanita muscaria* or fly-agaric (Wasson 1968); the Syrian rue (Flattery & Schwartz 1989) – several recent studies have again arrived at Ephedra as a plant which could very well have been used in the Soma/Haoma-rituals. The recent discoveries in Margiana would lend additional support to the identification of Soma/Haoma as Ephedra. The complex problem of the Soma/Haoma-cult involves the archeological interpretation of material remains (making use also of botanic and medical knowledge), the philological understanding of ancient Vedic and Avestan texts, and an anthropologically sound reconstruction of an evolving ritual system connected with the material remains and the texts. Scholars with diverse academic backgrounds and specializations had been invited to present a paper at the workshop.

Electronic Journal of Vedic Studies, Vol. 9, Issue 1, 2003.
 ISSN: 1084-7561
http://dx.doi.org/10.11588/ejvs.2003.1.783

After the opening address of Prof. J.C. Heesterman, the first lecture was given by the archeologist of the Iranian world Dr. W. Vogelsang (research school CNWS, Leiden University). In his lecture, "The advent of the Indo-Iranians: the Minefield of Archeological Interpretation," Dr. Vogelsang dealt with the implications of the findings in Margiana for the large problem of the presence of the 'Indo-Iranians' in the northwest of the Indian subcontinent and the Iranian world, at least from ca. 1 millennium B.C. onwards. The common view is that the Indo-Iranians are a 'branch' of nomadic or semi-nomadic Indo-Europeans, who entered the Iranian world from the north. In his recent book, Margiana and Proto-Zoroastrism, V.I. Sarianidi argues that the temple-cult for which he found indications in Margiana is a predecessor of the Zoroastrian rituals centering around Haoma and fire. The inhabitants of the building complexes in Margiana and Bactria (BMAC) would have been Indo-Europeans, ancestors of the Iranians and Vedic Indians. Vogelsang, however, argues that it is not likely that the nomadic or semi-nomadic Indo-Europeans got settled in the BMAC buildings, though they may have been in close contact with this urbanized culture, and may have been influenced by their rituals, perhaps including rituals in which Ephedra and other plants were employed.

Dr. A.F. de Jong (Leiden University, Faculty of Theology), specialist in Zoroastrism and religions of antiquity, gave the next lecture entitled "Triple Haoma in the Development of Zoroastrian Traditions." Dr. de Jong emphasized the importance of mediaeval developments in Zoroastrism, which determine to a great extent our perception of the earlier phases. In this later Zoroastrism, the physical Haoma plays a minor role, while the mythological and eschatological Haoma is of great importance. Finally, the problem of the interpretation of the 'triple Haoma' which is mentioned in later texts was addressed.

The last morning lecture was a presentation by Prof. V.I. Sarianidi, in which he gave information about the archeological findings in Margiana, including the most recent ones of this spring. Prof. Sarianidi illustrated his lecture with numerous slides. He could demonstrate quite convincingly that some special buildings were used for purposes which involved the use of various plants. Stylized drawings suggested that plants including papaver, hemp and Ephedra were of importance to the former inhabitants of the archeological complexes.

In the afternoon, Indologist Prof. Harry Falk (Berlin) gave a lecture entitled "Decent drugs for decent societies," in which an overview was provided of the major current arguments for the identity of the Soma. Some new considerations were added to the arguments which Prof. Falk presented 12 years ago (also in Leiden, at the 8th World Sanskrit Conference) in favour of the Ephedra-thesis. Especially the type of behaviour to be expected after employment of different types of drugs, and its suitability or otherwise in a certain type of society and ritual, received Prof. Falk's attention in this lecture. It was argued that the effects of the fly agaric (initially sopoforic, later increased aggressivity, deteriorated ability to formulate sentences), are very contrary to what is to be expected from Soma (stimulating wakefulness, poetic inspiration; no aggressivity). The effects of Ephedra would suit much better the references in the hymns and the employment in the ritual.

The second afternoon lecture, by Dr. Jan E.M. Houben (Kern Institute, Leiden), was devoted to a hymn in the *Ṛg-Veda* which refers to a rare way of Soma-preparation quite different from the elaborate and solemn form known from the ritualistic texts and also presupposed in numerous other Ùg-Vedic hymns. This exceptional Soma-preparation, obsolete for about two millennia, is undertaken privately with household mortar and pestle as its simple instruments. Typologically it may be regarded as an intermediary between two well-known types: the Zoroastrian (simple, with mortar and pestle) and the Vedic (elaborate, with special stones and boards). Current treatments of the hymn such as the one by K.F. Geldner do not bring out satisfactorily its relevance for the ritual practice reflected in it.

The last afternoon lecture was by Drs. Friso Smit, who is specialising in ethno-pharmacognosis at the department of medicinal chemistry, Utrecht University. In his presentation, "The Soma-Haoma problem from ethno-farmaco-gnostical perspective" Smit enlightened the participants about chemical and pharmacological aspects of the Ephedra-plant and related drugs, and about their use in various ethnic communities. The pharmacological effects of ephedrine generally suit the effects ascribed to Soma and Haoma (including negative effects with too high doses).

The next day a video-film on the Zoroastrian Yasna ceremony (produced by Prof. Dr. J. Boyd, Colorado State University) and parts of The Pravargya Ritual: performances in Delhi (produced by J.E.M. Houben and Nandini Bedi) were shown and discussed. Next, the results of the lectures of the previous day were further discussed. As for the main topic of the workshop,

the identity of the Soma/Haoma, most participants could accept Ephedra as a serious candidate. Diverging views were held, and continued to be held, regarding implications for problems of the social, cultural and linguistic situation of ancient South and Central Asia-problems which are both theoretically and ideologically very sensitive. Professor Sarianidi graciously offered to send some specimens of the material containing plant remains to Leiden for further investigation.

The contents of ceramic vessels in the Bactria-Margiana Archaeological Complex, Turkmenistan

C.C. Bakels, Faculty of Archaeology, University of Leiden

Vessels found in the "white room" of the Gonur temenos and in Togolok-21 revealed part of their original contents as holes in a gypsum and clay deposit on their bottom. (See Sarianidi 1998, page 34 Fig. 9, for Map of Bronze Age sites of Bactria-Margiana.)

The holes are the negatives of plant matter which itself has decayed. The white layer of gypsum and clay has been separated from the ceramic fabric of the vessels and parts of it have reached my laboratory for an identification of the plants, which have left their imprints.

Of the plant remains it was said that they had already been described and published by N.R. Meyer-Melikyan and N.A. Avetov (1998). The photographs in the publication (Fig. 46) suggest that the objects seen by me concern indeed the same material as far as the material from the Gonur temenos is concerned.

The white substance shows on the section several layers, as has been described by the authors mentioned above. Some of these are very thin, with a thickness of more or less 1 mm, others are thicker, but the thickness of the whole does not exceed 1.5 cm. N.R. Meyer-Melikyan and N.A Avetov succeeded in separating the layers and could describe different contents for each of them. I did not succeed in separating layers with significantly different aspects. It might be that I did not obtain quite the same material as what was published, or a different part of the deposit in the vessels.

Most of the impressions are round to oval. A small minority has clearly been left by stems. The round impressions have been published as having been left by hemp seeds (Cannabis sativa) and the stems by Ephedra. The material sent to me reveals, however, neither of these. The impressions caused by seeds are not of hemp. They are too small, for instance, do not have the right shape nor the right type of surface pattern. The long, grooved stems are not incontestably identifiable as Ephedra. The original contents consisted in my opinion of broomcorn millet (*Panicum miliaceum*) and the

Electronic Journal of Vedic Studies, Vol. 9, Issue 1, 2003. http://dx.doi.org/10.11588/ejvs.2003.1.785
 ISSN: 1084-7561

stems might also belong to this cereal, although that cannot be proven. Some of the round impressions still contain a cell layer resembling a cell layer of broomcorn millet husks. They are preserved because of their high silica content. My interpretation is that the vessels were filled with not yet dehusked broomcorn millet.

To obtain a second opinion I showed the material to Sietse Bottema and René Cappers from the University of Groningen in the Netherlands. They had in their reference collection small-seeded hemp from Iran, but these were still too large, and again, the overall form and the surface pattern did not fit. Both colleagues were of the opinion that the impressions were left by a millet, presumably broomcorn millet.

In addition I had the opportunity to show the material to Mark Nesbitt from the Centre for Economic Botany, Royal Botanic Gardens in Kew, Great Britain, who is familiar with material from the Merv oasis and to Dorian Fuller from the Institute of Archaeology, London, Great Britain, who is an expert on Asian millets. Both colleagues came to the conclusion that broomcorn millet provides the best fit.

The original publication mentions also pollen, hemp pollen grains in large quantities, but also pollen from other plants. I did not succeed in extracting pollen from the white substance. Sietse Bottema tried again with two different methods but failed as well. Our opinion is that pollen has not been preserved.

We all wonder now whether we have looked at the same material as published by N.R. Meyer-Melikyan and N.A Avetov. The material we examined contained broomcorn millet. This cereal is known from the Merv oasis, at least from the Bronze Age onwards (Nesbitt 1997). The crop plant most probably has its origin in Central Asia, perhaps even in the Aralo-Caspian basin. It is a cereal that can be cooked, made into a heavy bread, or used to prepare a fermented drink. The latter can be done with undehusked grain.

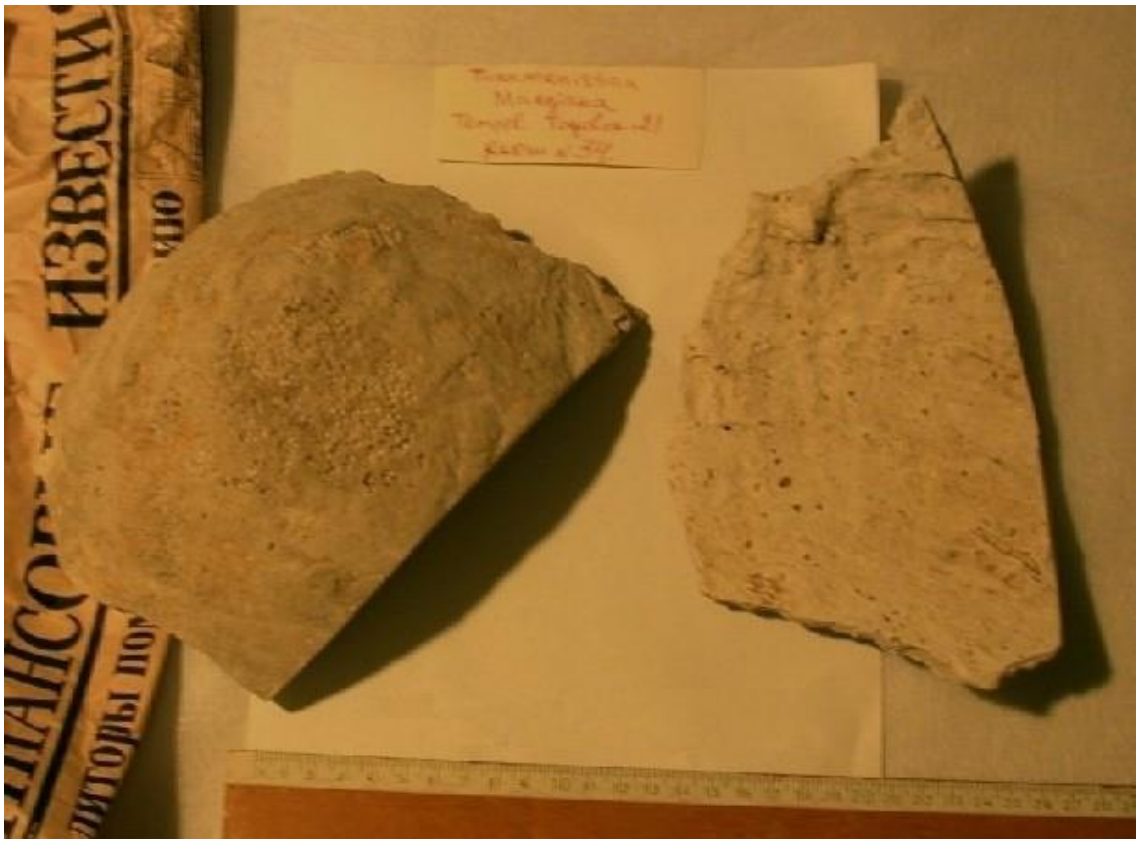
References:

Meyer-Melikyan, N.R. and N.A. Avetov. 1998. Analysis of Floral Remains in the Ceramic Vessel from the Gonur Temenos. In: Sarianidi 1998, Appendix I (pp 176-177)

Nesbitt, M. 1997. Plant use in the Merv Oasis. In: G. Herrmann, K. Kurbansakhatov, S.J. Simpson, The international Merv project, preliminary report on the fifth season. Iran 35 (pp 29-31)

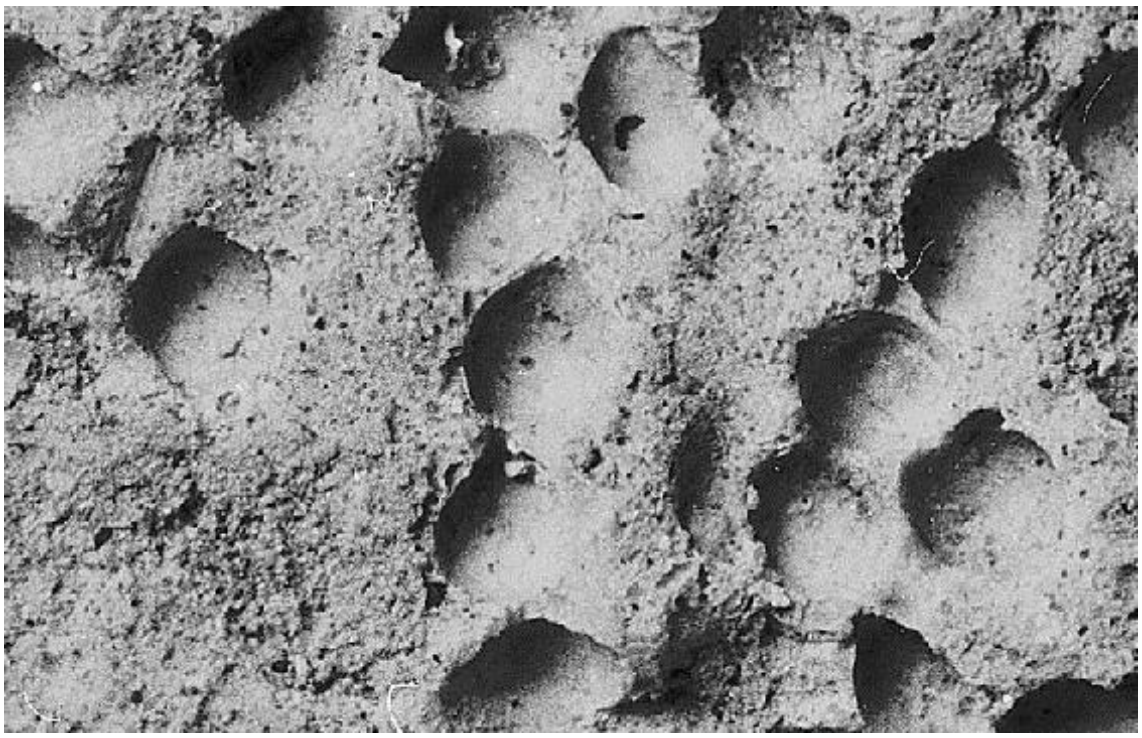
Sarianidi, Victor. 1998. Margiana and Protozoroastrism. Athens: Kapon Editions.

Pictures



Picture 1: Two pieces of material found within a vessel in Togolok-21 of the BMAC, sent by Prof. Sarianidi in July 1999 (photo by Jan Houben).

Picture 2: Photograph of the material from Gonur temenos under a microscope (photo by Prof. Bakels).



Picture 3: Photograph of the material from Togolok-21 under a microscope (photo by Prof. Bakels).

Margiana And Soma-Haoma

Victor Sarianidi

It is a well-known fact that at all times everywhere in the world when people wanted to forget the hardships of their everyday life they used intoxicating drinks made of different local plants. For most of them this habit became a routine part of their life style; but in Zoroastrianism it acquired a special place in the religion. The intoxicating drink was used as a cult drink and had an important ritual meaning. In the Avesta they called this drink "Haoma" and in the *Rigveda* - "Soma"; to this drink they dedicated the most poetic hymns, a fact that speaks for its special place in Zoroastrianism and Vedism.

Zoroastrianism is known to have originated in an Iranian environment and, more precisely, in a society of "Iranian paganism". It is logical then to assume that the Soma-Haoma cult appeared in this society and that later Zoroaster included it in his new religion.

For a long time searches for "Iranian paganism" were fruitless and only in the last decades the signs of it were found in the territory of Outer Iran, more precisely in Bactria (northern Afghanistan) and especially in Margiana (east Turkmenistan). Archaeological discoveries in Margiana, the country mentioned in the Beihustan script under the name of Margush, have yielded material that pointed to the ritual cult of the intoxicating drink of Haoma which took a central place in the religious ideas of local tribes.

Most representative are the monumental temples (Togolok-1, Togolok-21, temenos Gonur), their sizes and elaborate principles of the layout easily comparable to the famous temples of Mesopotamia. The Togolok-21 temple (Fig.1) can be looked upon as a kind of "cathedral" that served the needs of the whole ancient country of Margush (Sarianidi 1998a: 90-102).

In each of these three temples the main place is occupied by the so-called "white rooms" with a common layout principle. Along the walls of these rooms there are located low brick platforms with dug-in vessels that are fixed in the platforms and that contain thick layers of gypsum. The vessels contain the remains of ephedra, cannabis and poppy, in other words, substances which are known to be used for making narcotics. There is no doubt that in ancient days these plants were also used for an analogical purpose (Meyer-Melikyan, in Sarianidi 1998a: 176-179).

Electronic Journal of Vedic Studies, Vol. 9, Issue 1, 2003: 53-73.
DOI: http://dx.doi.org/10.11588/ejvs.2003.1.787

It should be mentioned that some scientists doubt the contents of these vessels (Hiebert 1994: 123-129; Parpola 1998: 127). This doubt is based on the negative results of the analyses of some samples from the Gonur temenos that were received in the laboratory of the Helsinki University. This negative result may be easily explained by the fact that the samples for this analysis were taken from the vessels that for five long years were exposed to the direct influence of the sunlight, rain and snow and this must have had a major influence on the remains of the vessels. In summer of 1999 on the request of the Leiden University new samples from the Gonur temenos were sent for another independent analysis.

So, for the first time in the world archaeological practice, monumental temples were found in which intoxicating beverages of the Soma-Haoma type were prepared for cult ceremonies. Two of them, the Togolok-21 and Gonur temenos, had fire altars as well, that were always located in secret places inside the temples and were hidden behind high blind walls. Their location speaks for their secondary status compared to the Soma-Haoma.

In the Gonur temenos there was found a separate “tower complex” also related to the preparation of the cult beverage (Sarianidi 1995: 296-299, fig.5). In one room on the floor there was a large basket lined inside with a thick layer of gypsum. Next to it was the half of a so-called miniature stone column and a hand-made vessel typical for the nomads of the Andronov culture (Fig.2, No 2). It is significant that fragments of the same type were also found in the temples of Togolok-1 and 21 testifying to the existence of contacts between the agricultural and nomadic tribes of Margiana, at least in the field of the preparation of cult beverages. But this statement needs additional research.

Each of the Margiana temples has a specific set of finds related to the process of producing a drink of the Soma-Haoma type. Such sets may be looked upon as an illustration to what was written in the Avesta and Rigveda. It is quite significant how these written sources are supported by the archaeological data from the excavations of the Margiana temples (Fig.3).

As already mentioned, the excavations documentally proved that poppy, cannabis and ephedra were used for making the Soma-Haoma drinks, and thickets of these plants were found in excess in the vicinity of the excavated temples of Margiana.

Since these alkaloid plants had an unpleasant smell they were first wetted in water. The archaeological excavations of the Margiana temples have yielded

huge vats, “small baths” (and sometimes weaved baskets) that are plastered inside with gypsum layers and were used for this purpose. On the bottom of these containers there were preserved remains of alkaloid plants, cannabis, first of all. In this respect the excavations of the Gonur temenos are very significant. There, around a small temple there were scattered a lot of private houses the inhabitants of which were engaged in the everyday service of the temple. Over twenty five rooms found in these private houses have yielded either large vats or “small baths” made in the special brick platforms (Fig.4). In these vessels also there were found remains with the offprints of seeds, ephedra stems and cannabis, mostly (Fig.5).

The hymns of the Avesta and Rigveda described how these alkaloid plants were processed. First they soaked these plants in liquid, then they ground them on stone plates, using stone pestles and grinders. The archaeological finds support these written data. Numerous stone articles connected with grinding of the alkaloid plants were found in all Margianian temples (Fig.3, No.8). One can only guess what a complicated ritual has accompanied this process! In the Avesta, for example, they speak about the “first priests of mortar”, while in the Rigveda many hymns describe the process of soma making.

According to the hymns, the moment of squeezing out the juice was hardly the most important in the whole process of the preparation of this intoxicating drink. To obtain this the alkaloid plants that were previously roughly ground by pestles and grinders were squeezed out with the help of special pressing stones (the word “haoma” in the Avesta is translated as “the thing that is squeezed”).

All three temples of Margiana and especially the Gonur temenos yielded the archaeological material that documentally illustrate the process frequently mentioned in the Avesta and Rigveda. In one of the rooms of the Gonur temenos, next to the vat that was obviously connected with the process of soaking the alkaloid plants, a round and flat pressing stone was found with a half-spheric projection in the centre (Fig.3 No.4). It is easy to imagine that this stone coupled with another similar one that had a corresponding deepening in the centre could be ideally used for squeezing the juice out of the plants previously soaked.

It is important to mention that besides Margiana the excavations of the settlement of Ulug Tepe near Dushak in south Turkmenistan in the Late Bronze layers (Fig.3, No.11) have yielded one complete “pressure set”, that consisted of a huge stone mortar and a pestle, a pressing stone with a half-

spheric projection in its centre and next to it a similar one with a half-spheric deepening. This find shows that the preparation of a soma-haoma juice was spread not only in Margiana but in south Turkmenistan as well, where related tribes of the Bactria-Margiana Archaeological Complex were living.

According to the Avesta and Rigveda on the final stage the soaked plants were mixed with barley, milk (sour milk as well), then water was added and the whole mixture was kept for several days in special vessels for fermentation.

The archeological finds show that this final stage of the preparation of the cult beverage took place in the above-mentioned "white rooms" of the Margiana temples (Fig.3, No.1) since all of them along their walls had brick platforms with dug-in vessels that contained remains of alkaloid plants.

After the fermentation process was finished they had to separate the intoxicating drink from stems and seeds and special strainers were used for this purpose. On the bottom of each strainer there was a hole covered with a piece of wool, a fact that is mentioned in detail in the Rigveda.

The excavations have yielded the so-called ceramic stands found in all three temples of Margiana,as well as special strainers with centrally located holes (Fig.3, No.6). Of outstanding interest was a large room in the Gonur temenos that was located next to the white room. There on the floor and benches along the walls were found five intact round ceramic stands (Fig.3,No.9) and fragments of three more (Sarianidi 1995: 293), as well as large fragments of conic strainers with centrally located holes.

It seems quite natural to suppose that such strainers with holes covered with pieces of sheep wool were placed on the above-mentioned "ceramic stands". Then the juice together with stems and seeds that was prepared in the neighbouring "white rooms" was strained through the piece of wool and it dripped down into the cup placed under the strainer (Fig.3, No.10).

According to the Zorostrian texts the ready-made juice was poured into cult vessels, and this process was accompanied by the music of eulogistic hyms. Later this juice was used during ritual ceremonies, cult libations first of all.

These textual data were supported by archaeological finds. In all three Margianian temples vessels were found with long spouts as well as vessels with frail sculptural friezes along the rim. Especially the latter finds have an important meaning since their decorated rims deny their everyday usage and most likely indicate their cult purpose. The vessels with four spouts and

sculptured images of goats standing by the “tree of life” were most probably connected with the cult of libation as well (Fig.3, No.2).

The central place among such sculptured friezes was undoubtedly occupied by coupled figures of people (men and women) clearly in fighting position. The men are usually standing in the “fighter’s” pose with widely spread arms and women in a clearly humble position have their arms behind (Fig.6, No.1-2). In Bactria was found a cult vessel with sculptured image of a man and a woman (judging by their different hair-does), who are purposely shown in what is obviously a fighting position (Fig.7, No.1).

From the Togolok-1 temple comes an intact cult vessel with a sculptured frieze in which the central place is occupied by two standing human figures. One of them, supposedely, is a man with a baby on his chest and the other is a woman in a clearly humble position with her arms behind her back and her head turned down (Fig.6, No.2). Though these personages have no sexual signs it is worth to mention that on the Togolok-21 there were found two similar figurines, one of them is clearly female also with arms behind her back and the other one is obviously male with arms on the chest (Sarianidi 1998a: 102-103, fig.50).

These sculptured friezes constantly repeated on the cult vessels in the territory from Bactria to Margiana most likely reflect some definite myths that were spread in these two related historic areas. Keeping in mind that these vessels were used for cult drinks of the soma-haoma type, one may assume that the sculptured friezes reflected the myths and stories related to this drink and widely spread in Bactria and Margiana (Fig.8).

In this connection especially significant is one myth from the Rigveda about Soma who was a son of Parjanya and of Mother Earth. Parjanya is the god of Rain in the Rigveda, but in an Indo-european perspective his name suggests he is a god of Thunder. The Soma God is most likely representing the soma plant (Elizarenkova 1972: 300-301; and from the brief references in the Rigveda it can be inferred that Parajanya took their common child from the Mother Earth (presumably against her will), and brought him to the heaven to join him to the family of Gods.

It should be added that one cult vessel from Bactria had a male figure with arms spread in a “fighting” pose and an axe at the belt (Fig.7, No.3), pointing to Parjanya as Thunder-God. The subject frieze on the cult vessel from

Togolok-1 (as well as some others from Bactria) may be looked upon as one that reflects the definite myth of soma (Fig.9) [Fig.7? J.H.].

It is not at all accidental that every "white room" is accompanied by a corresponding vast "courtyard surrounded by corridors" that are connected by common passages. This shows that functionally these premises were interlinked (Fig.9). The courtyards are believed to be used for conducting ceremonies connected with cult libations. This assumption is supported by the finds of some small bone tubes that contained remains of poppy pollen (according to N.R.Meyer-Melikyan). One such tube was found at the entrance to the big altar of the Togolok-21 temple and exactly resembled the one that was found in the "white room" of the temple. Similar bone tubes were found in other temples of Margiana, their surfaces polished like mirrors due to their frequent and long usage (Fig.10). The poppy pollen found in them makes one assume that the tubes were used for drinking cult drinks. Significantly, these tubes are decorated with images of eyes with exaggeratedly big pupils. According to Prof. N.R.Meyer-Melikyan such pupils may belong to those who constantly use narcotics (Meyer-Melikyan and Avetov in Sarianidi 1998a: 177).

The seals and amulets with numerous images of poppy, ephedra and presumably of cannabis testify to the fact that the alkaloid plants took a special place in Bactria and Margiana (Sarianidi 1998, A.,fig.).[Number not given, not clear whether 1998a or b is intended, J.H.]

It has been argued that the country of Margush has appeared as a result of the arrival of tribes from north Mesopotamia that got mixed with a few local south Turkmenian tribes (Sarianidi 1998 [a or b, J.H.]). It is likely that long ago these newly arrived tribes practiced the cult libations of intoxicating drinks of the soma-haoma type in their previous motherland, and that they brought these traditions to the new land. And it was this cult drink or, more precisely, the corresponding deity, to whom they dedicated such monumental temples as the Margianian temples of Togolok-1 and 21, as well as the Gonur temenos.

The remains of the fossil poppy found in the area of eastern Mediterranian and Anatolia (Merlin, 1984) may indirectly prove that from there with the migration of the Indo-European tribes it began to spread all over the Old World. Some specialists (Tseiner, Kritikos, Papadakis) consider Greece and Asia Minor the motherland of the poppy cultivation.

It should also be mentioned that besides Margiana, the cult vessels with sculptured friezes on the rims in the whole system of the Near East were widely spread only in Anatolia (Kul Tepe) and in the Aegean world, mostly in Cyprus (Sarianidi 1998, A.,fig.1). Perhaps it is not accidental that in the same region, mainly in Cyprus, there were found small bone tubes with images of faces (Morris,1985, fig.263-268; Pl.190) that resemble very closely the Margianian ones.

Very representative in this connection are the ritual dishes from Cyprus in the form of altars or temples. One of them shows a man with a vessel, this scene probably depicting the process of libation (V. Karageorghis, 1982). Speaking of such Cyprian dishes it should be mentioned that similar ones were found in Elam and Shahdad (Iran). Although they were found in illegal excavations, one can assume that they were locally made though strongly influenced by the Cyprian cult dishes. Some of them represented exact copies of those of Cyprus (Sarianidi, 1998a: 36 Fig.10, No.10).

The intermediate point that marks the area where these vessels were spread is Allalah that yielded a vessel with an animal figure "seated" on the rim and some others with snakes crawling out of vessels (Woolley, 1955, Pl.LVII). Also representative are the finds from Tell Brak that represent vessels with modelled snakes similar to those from Bactria and Margiana (Sarianidi, 1998b, fig.1). They are shown crawling out and trying to reach the rims of vessels (Mallowan 1947, Pl.LXX).

In the Zoroastrian religion haoma had a triple image, that is haoma as the ritual narcotic drink, haoma as the plant used for making the intoxicating drink, and haoma as the diety or legendary priest: the personification of the plant and drink. As shown above so far only in Margiana and Bactria there were found material proofs of the usage of the alkaloid plants (ephedra, cannabis and poppy) for the preparation of the intoxicating drink of the soma-haoma type. And finally, it should be mentioned that only in Margiana the local tribes built monumental temples in honour of the intoxicating drink soma-haoma (more precisely, in honour of the Soma-haoma god), which do not leave any doubts about its divine status.

Another proof of the divine character of Soma-haoma is the fact that three out of four Margianian monumental temples were dedicated to the cult of this drink. It is clear that the above-mentioned direct archaeological proofs make one believe that the soma-haoma cult in the Zoroastrian religion found its origin among the related cults that were spread in "Iranian paganism",

precisely in Margiana and in Bactria in particular. At the same time one should not concentrate only on these two historical regions. The area where this cult drink was spread includes the whole of "Outer Iran" from eastern Iran and up to the Indus valley. This statement is supported by the accidental finds from Godari-Shah and Quetta (Baluchistan).

Thus, it was in Margiana (and partially in Bactria) that for the first time in the world archeological practice, a certain factual material has been found that illustrates the written sources of the Avesta and Rigveda. Besides, as already noticed, "...among the Iranian deities there were hardly found any other ones with the characteristics that in the Iranian and Indian tradition would correspond so much to the descriptions of haoma from the Avesta and Soma from the Veda" (Dresden, 1977: 351). And it seems very likely that on the Indian subcontinent future studies will also bring to light similar finds.

It is very significant that neither the Rigveda nor the Avesta mention the presence of temples. This is an indirect indication that the libation cult was brought to Central Asia by the tribes that came from the faraway west and that later in their new motherland they reformed it and included it in the Zoroastrian religion. Based on the fact that the "cathedral temple" of Togolok-21 dates back to the last centuries of the second millennium B.C., one may assume that this reform took place some time later, in the period between the first centuries of the first millennium B.C. and the seventh century B.C. This also corresponds to the linguistic data.

Bibliography

Dresden.M.1977. Mythology of Ancient Iran. Moscow.

Hiebert F., 1994, Origins of the Bronze Age Oasis Civilization in Central Asia, Cambridge.

Elizarenkova T. 1972. The "Rigveda". Moscow. Karageorghis, 1982, Cyprus, London.

Meyer-Melikyan N., 1998, Analysis of Floral Remains from Togolok-21// in V.Sarianidi, Margiana and Protozoroastrianism, Athens, 1998.

Meyer-Melikyan and Avetov, 1998, Analysis of Floral Remains in the Ceramic Vessel from the Gonur Temenos // in V.Sarianidi, Margiana and Protozoroastrianism, Athens, 1998.

Merlin V. 1984, On the Trail of the Ancient Opium Poppy, London.

Morris D. The Art of Ancient Cyprus. Oxford.

Parpola A. 1998, Aryan Languages, Archaeological Cultures and Sinkiang: Where Did Proto-Iranian Come into Being, and Did it Spread?//The Bronze Age and Early Iron Age Peoples of Eastern Central Asia. Journal of Indo-European Studies Monograph, v.26, n.1, Washington.

Sarianidi V. 1994. Temples of Bronze Age Margiana: Traditions of Ritual Architecture // Antiquity, v.68, n.259.

Sarianidi V. 1995, New Discoveries at Ancient Gonur// Ancient Civilization, 2,3, Leiden.

Sarianidi V. 1998, a, Margiana and Protozoroastrianism. Athens. Sarianidi V. 1998, b. Myths of Ancient Bactria and Margiana on its Seals and Amulets. Moscow.

Woolley, 1955 - Woolley L. Alallakh, Oxford.

Illustrations (see below)

Fig.1. Temple of Togolok-21. Plan (No.1) and Reconstruction (No.2).

Fig.2. Ceramics of the nomadic Andronov type. Temple of Togolok-1 (No.1) and the Gonur Temenos (No.2).

Fig.3. Summary Table.

Fig.4. “Small baths” with the inner gypsum layer from the rooms of the Gonur Temenos.

Fig.5. “Small baths” and fragments of the gypsum layer with the offprints of canabis.

Fig.6. Cult vessels with the sculptured friezes from the temple of Togolok-1 (Nos. 1,2,3) and Togolok-21 (No.4).

Fig.7. Bactria. Sculptured friezes from the cult vessels.

Fig.8. Togolok-1. Frieze on the cult vessel (1–Nos.1,2,3). Summary table of the small anthropomorphic statuettes from the Bactrian cult vessels (2–No.1-8).

Fig.9. Margiana. “White rooms” and “courtyards surrounded by corridors” from the temples of Togolok-21 (No.1), Togolok-1 (No.2) and Gonur Temenos (No.3).

Fig.10. Small bone tubes with facial images from the temples of Margiana.

Note of the editor:

When preparing Prof. Sarianidi's paper for publication I encountered several points where I wished to consult the author but communication between Leiden and Moscow was hardly possible and most of my editorial questions have remained unanswered. I was especially puzzled by the word "alcohoid" occurring nine times in the submitted paper and not known to English dictionaries. Although Prof. Sarianidi speaks of fermentation of the plants and a link with "alcoholic" could be intended, I finally decided that the word must stand for "alkaloid" and changed the occurrences accordingly. Otherwise I have only corrected a few apparent typing errors and made some minor improvements in English style. A few editorial remarks have been inserted on cross-references that were unclear (which does not mean that each reference where I did not place a remark was clear to me). I of course had to leave unchanged statements which I find problematic, such as that the Avesta and Rigveda refer to a period of several days for the fermentation of the soaked plants "mixed with barley, milk (sour milk as well)" – which must be based on some misunderstanding as the rituals hinted at in these texts seem not to leave room for such a fermentation. Regarding my question on the identity of the publication Dresden 1977 I received (summer 2000) an additional reference to Mythologies of the Ancient World, ed. by S.N. Kramer. New York 1961, Preface: I.M. Diakonov. I want to conclude this editorial note with the expression of my sincere gratefulness to Prof. Sarianidi for taking the effort to explain his findings to a group of partly enthusiastic and partly sceptic scholars in Leiden, and now to the readers of the EJVS. Even if it was so far not possible to confirm his identifications and conclusions in all details, Prof. Sarianidi's excavations in Margiana are of the greatest interest for the cultural and religious history and prehistory of Central Asia, Iran and India.

J.H.

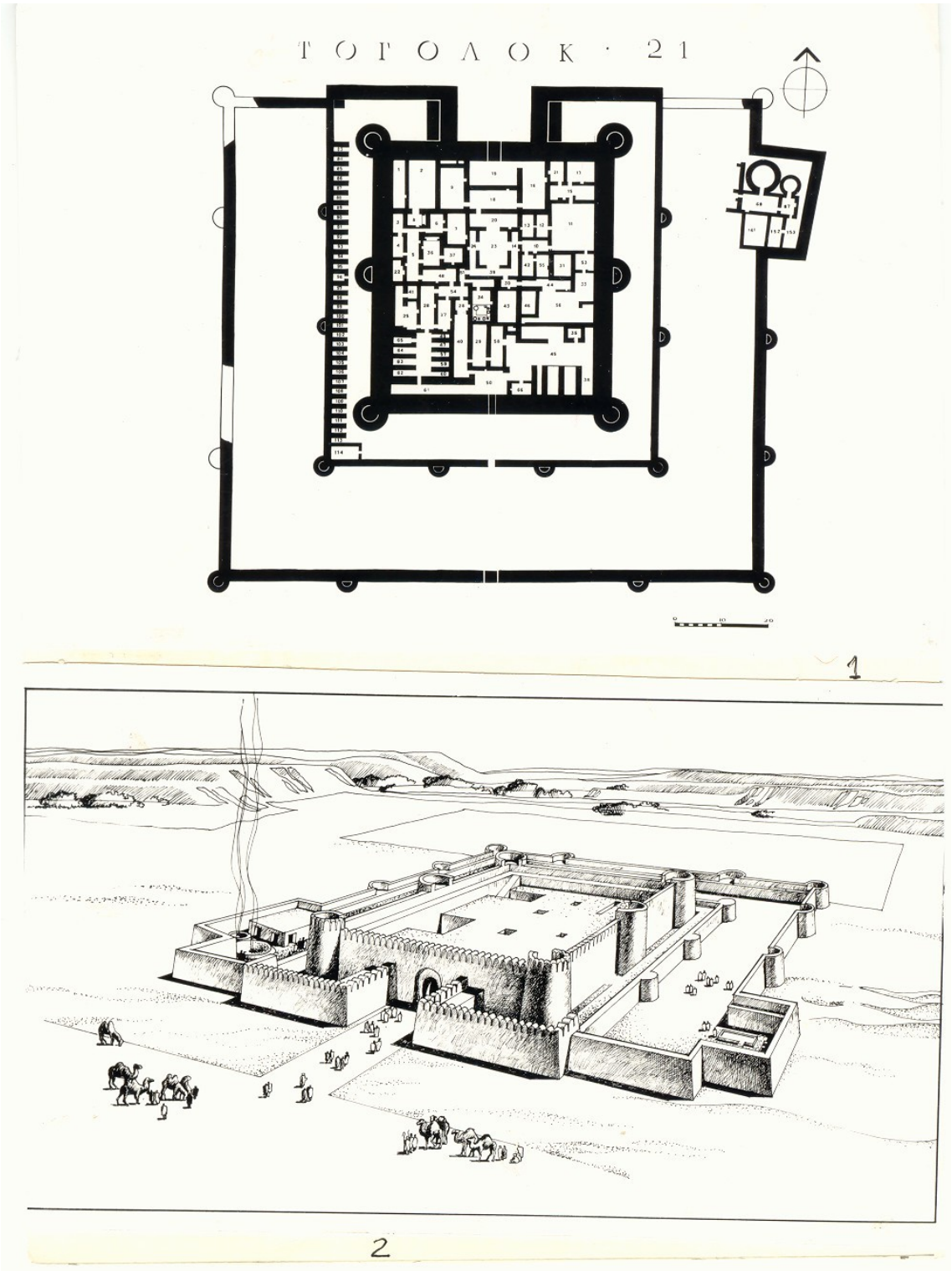


Fig.1. Temple of Togolok-21. Plan (No.1) and Reconstruction (No.2).

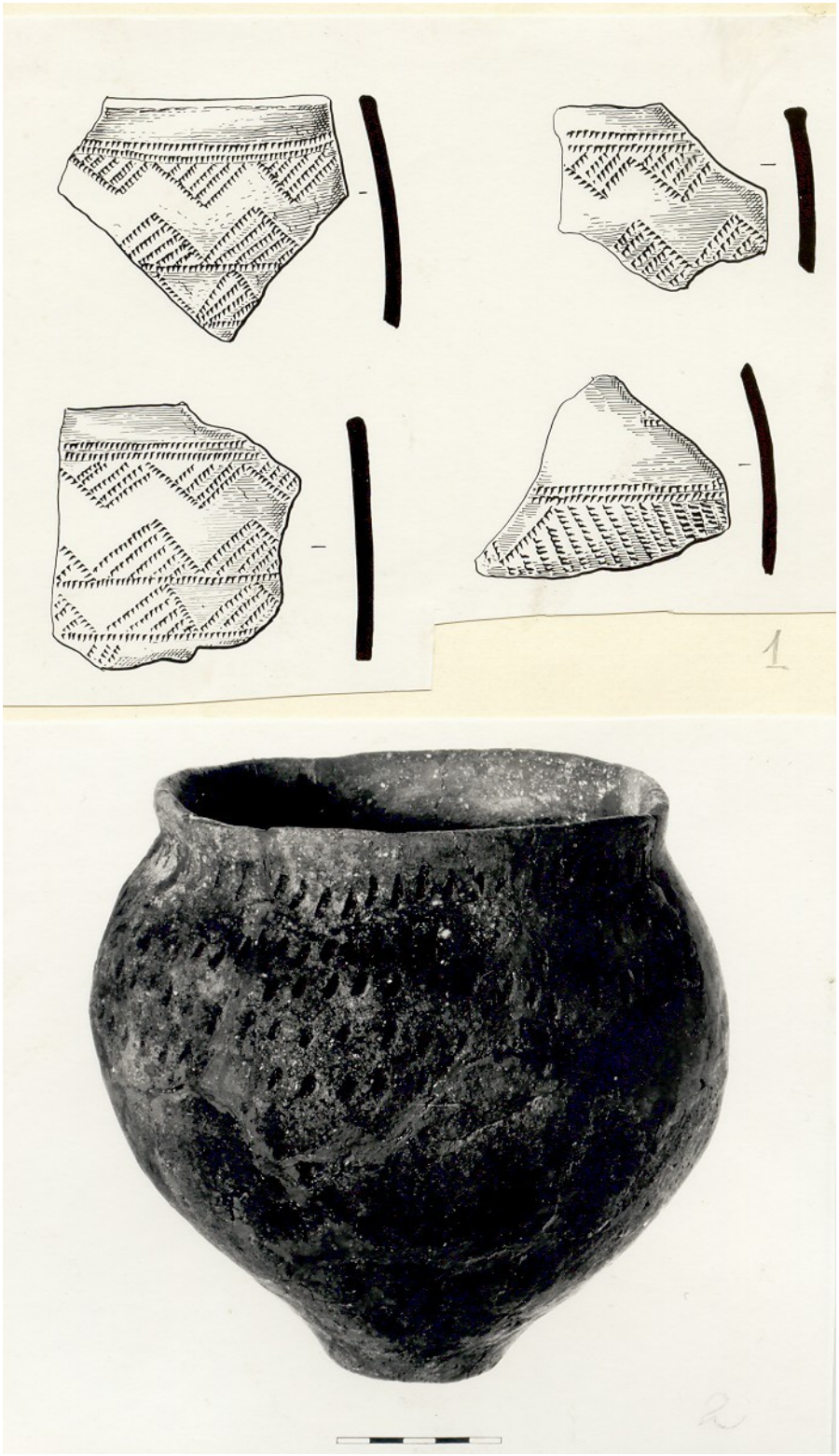


Fig.2. Ceramics of the nomadic Andronov type. Temple of Togolok-1 (No.1) and the Gonur Temenos (No.2).

Fig.3. Summary Table.

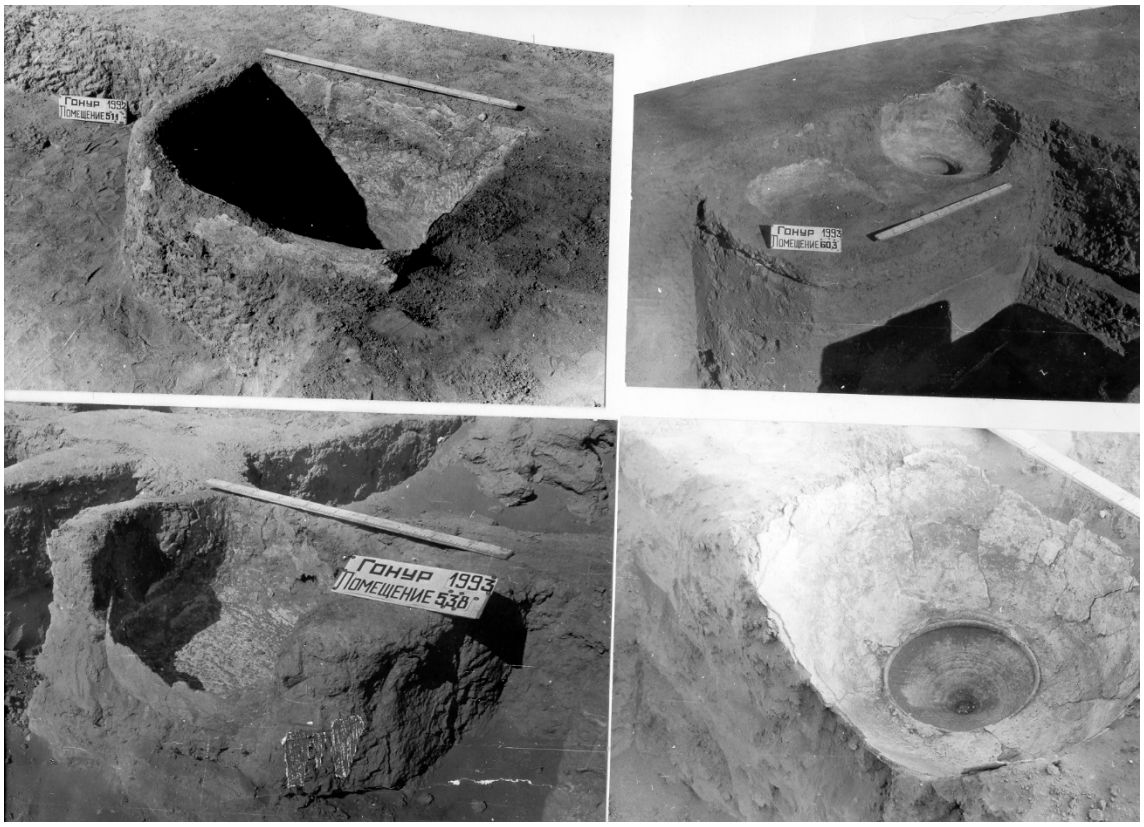


Fig.4. “Small baths” with the inner gypsum layer from the rooms of the Gonur Temenos.

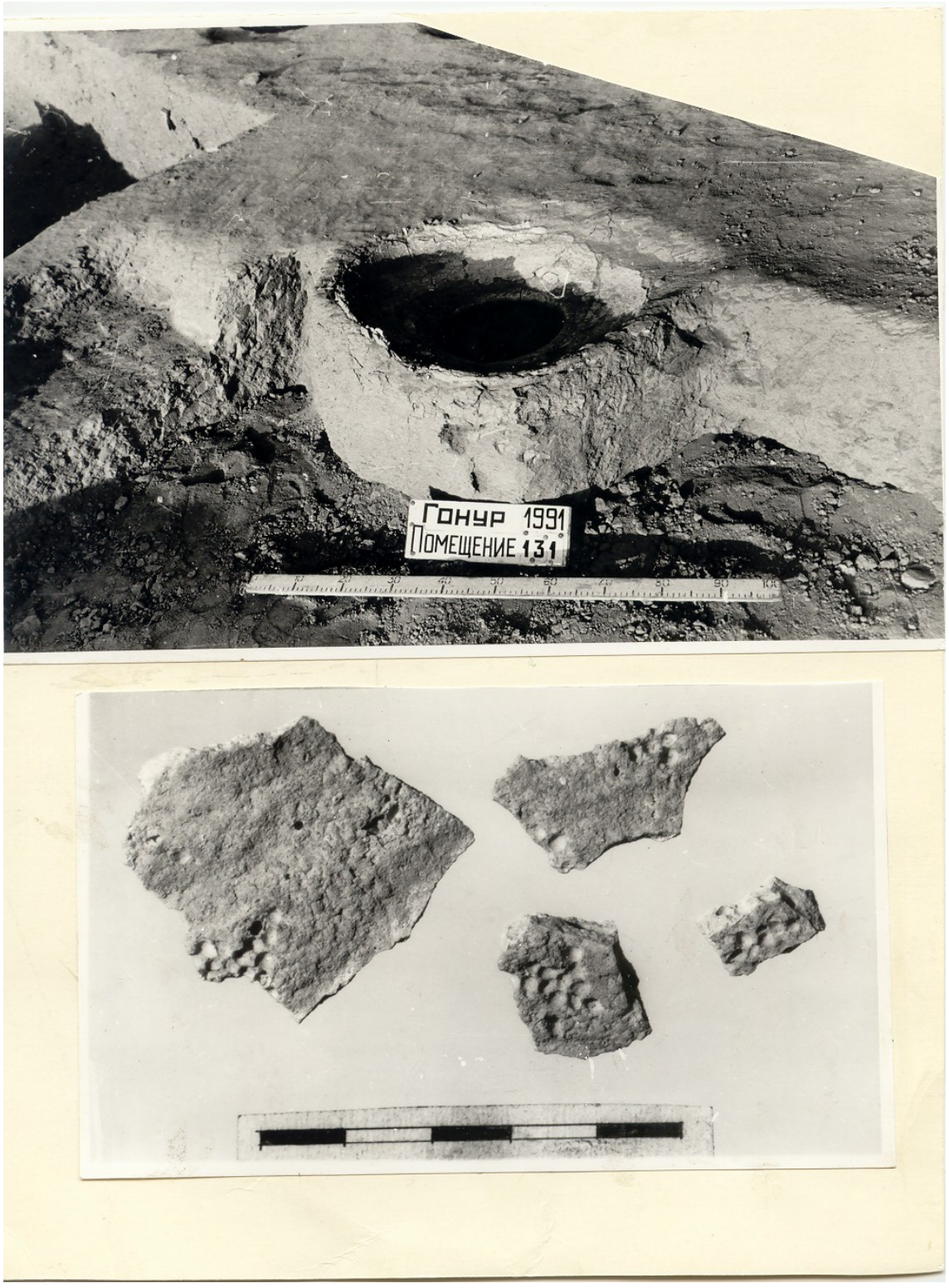


Fig.5. “Small baths” and fragments of the gypsum layer with the offprints of canabis.

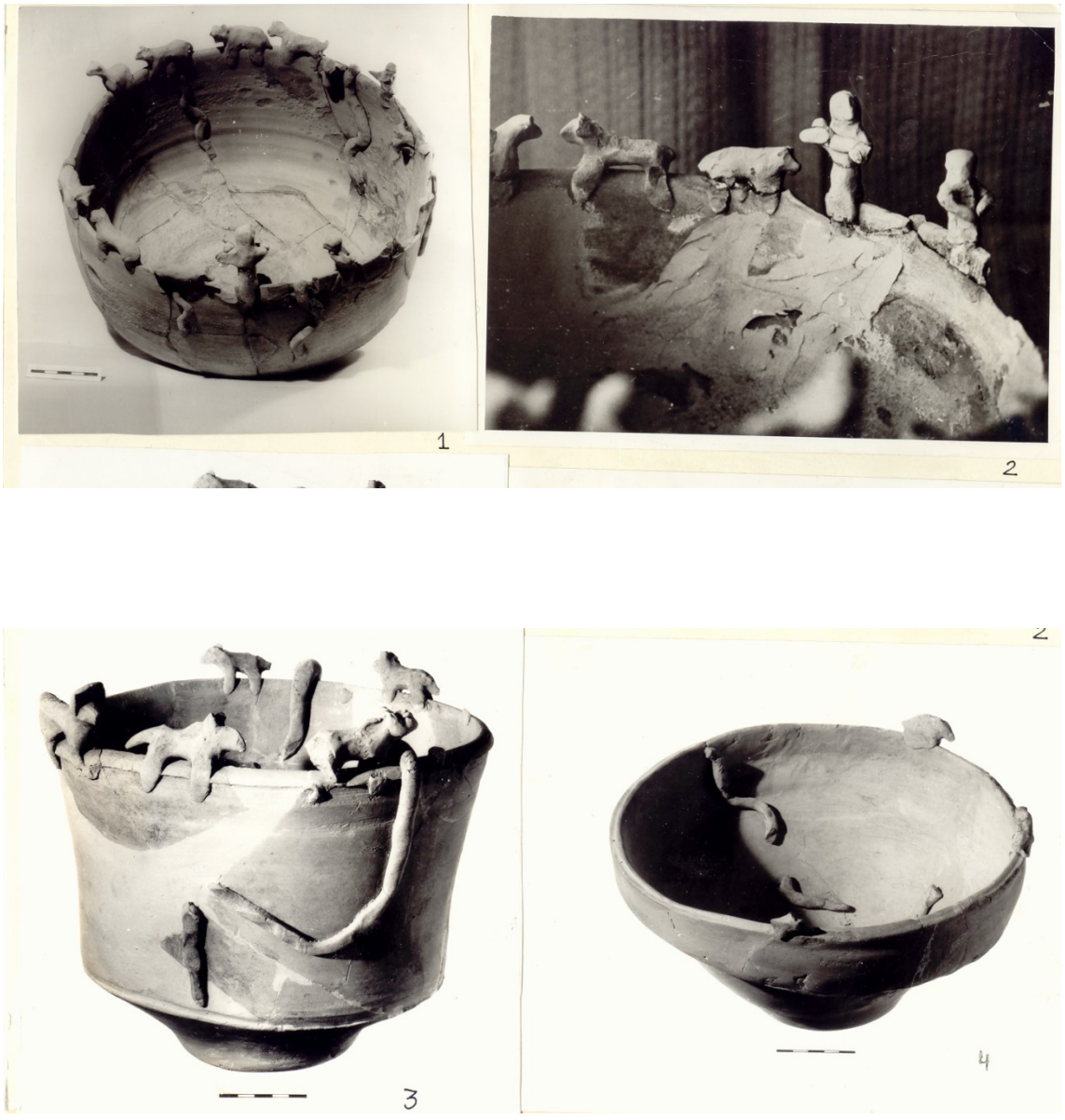


Fig.6. Cult vessels with the sculptured friezes from the temple of Togolok-1 (Nos. 1,2,3) and Togolok-21 (No.4).

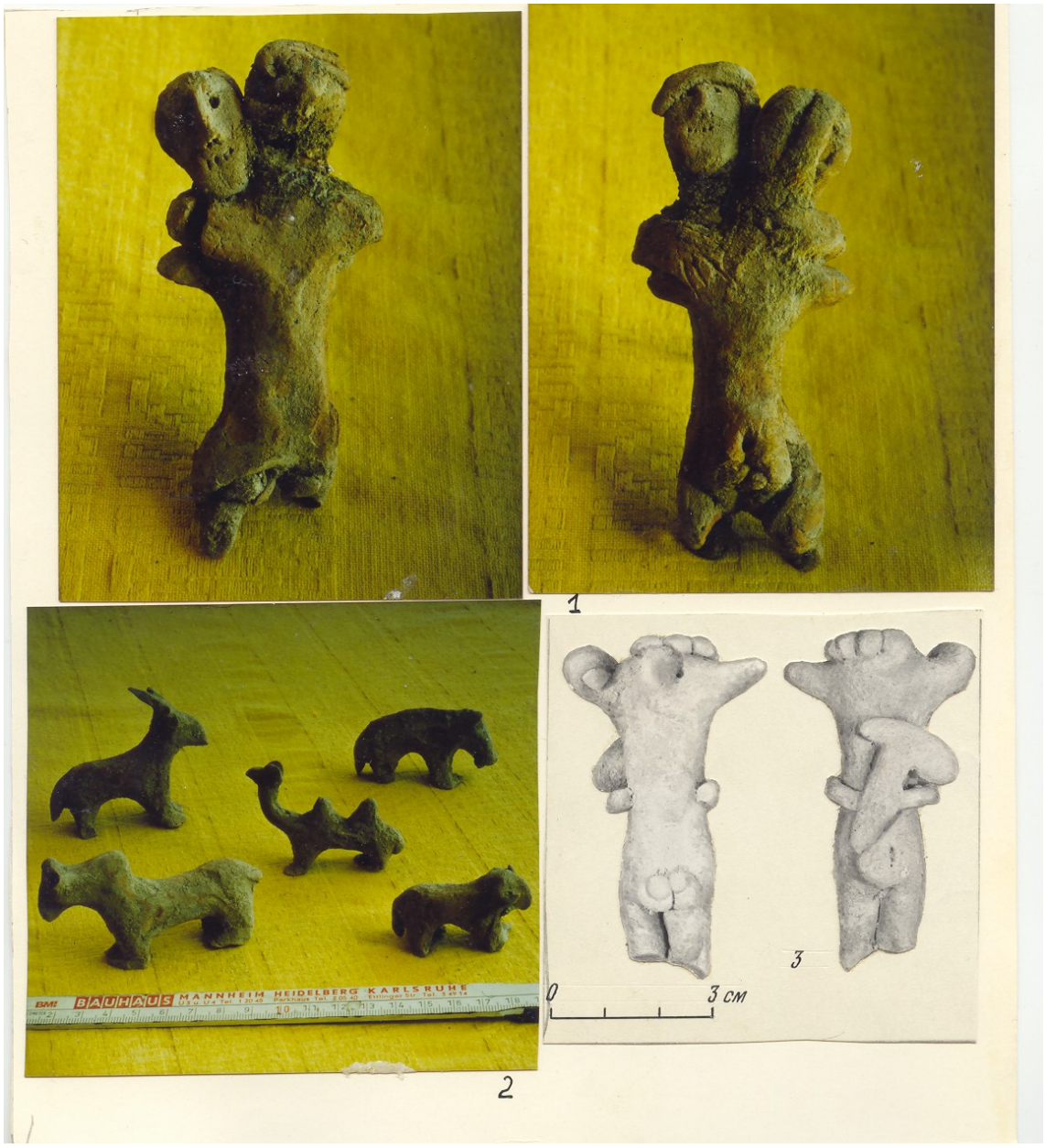


Fig.7. Bactria. Sculptured friezes from the cult vessels.

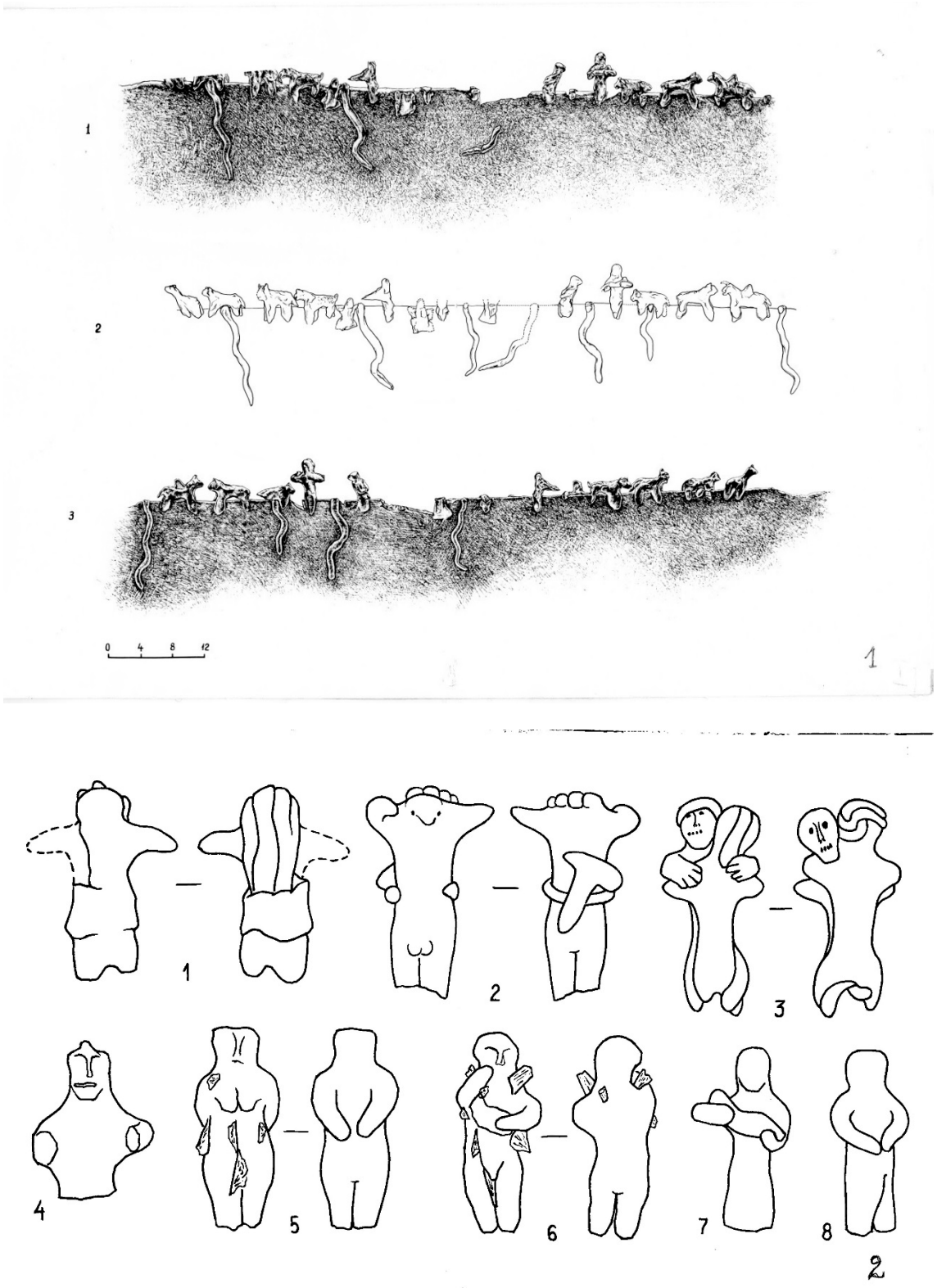


Fig.8. Togolok-1. Frieze on the cult vessel (1–Nos.1,2,3). Summary table of the small anthropomorphic statuettes from the Bactrian cult vessels (2–No.1-8).

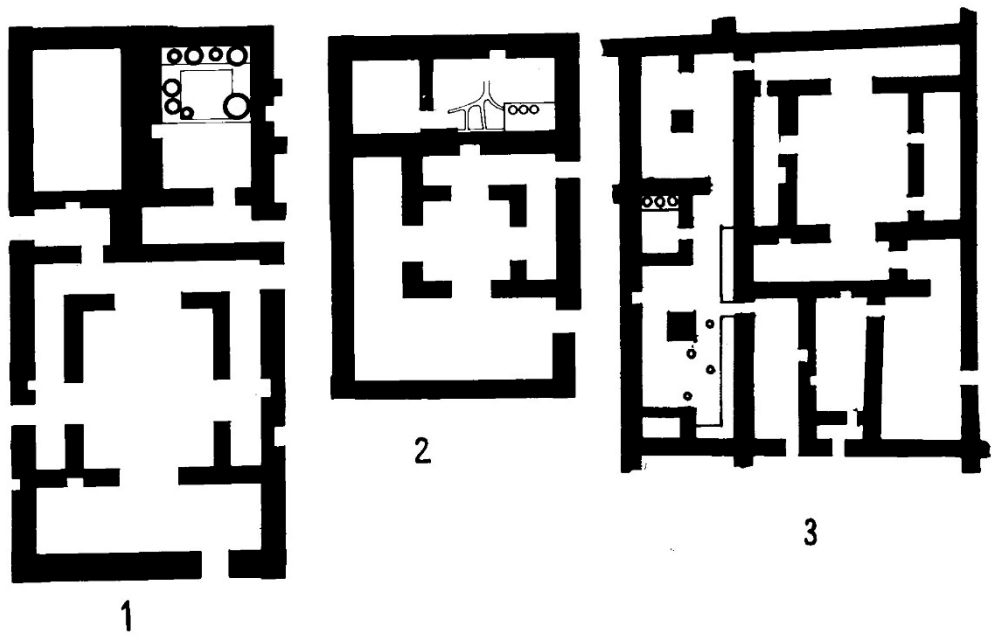


Fig.9. Margiana. “White rooms” and “courtyards surrounded by corridors” from the temples of Togolok-21 (No.1), Togolok-1 (No.2) and Gonur Temenos (No.3).

Fig.10. Small bone tubes with facial images from the temples of Margiana.

Soma and Ecstasy in the *Ṛgveda*[*]

George Thompson

For Frits Staal, *gurudakṣiṇā*

I took up the perennial and seemingly intractable problem of Soma more than a year ago, after a desultory, richly stimulating conversation with Frits Staal and Michael Witzel that ranged over many, many topics having to do with the recent revelations about the Bactrian-Margiana Archaeological Complex (BMAC) [cf. Sarianidi 1998 and 1999]. We all agreed at that time that Victor Sarianidi's claim that the BMAC was a proto-Zoroastrian culture was certainly provocative and important, but perhaps quite a bit premature. But there was less agreement among us, and much less certainty, concerning the significance of Sarianidi's apparent discovery of traces of ephedra at various BMAC sites. On the one hand, such traces seemed to confirm the well-known and influential thesis of Harry Falk, which asserted that the Vedic sacred drink Soma, and thus also Avestan Haoma, was an extract from an ephedra. On the other hand, Sarianidi claims to have found at BMAC sites traces of other pollens as well – hemp, poppy, and cannabis among them – and he repeatedly characterizes Soma/Haoma as a hallucinogenic beverage. Such claims would seem to directly contradict Falk's view that "there is nothing shamanistic or visionary either in early Vedic or in Old Iranian texts" [Falk, 1989, p.79]. Furthermore, Sarianidi implicitly characterizes this Soma/Haoma beverage as a "concoction" consisting of a probably variable number of extractions. This characterization of course runs directly against the grain of the current opinion among Vedicists that there must have been one, and only one, soma-plant. It is puzzling therefore that in spite of these rather glaring disagreements, the consensus that was established by Falk's article seems not to have been troubled at all, and it is even more puzzling that Sarianidi's work continues to be cited in support of it.[1]

---

[*] Note: the author has represented Sanskrit according to the Harvard-Kyoto table, well known to readers of EJVS, here transfored to Unicode.

[1] I have unfortunately not had the opportunity to see the papers that have developed out of the 1999 conference in Leiden on the Soma/Haoma cult, with which, I am pleased to

Electronic Journal of Vedic Studies, Vol. 9, Issue 1, 2003: 75-94.
DOI: http://dx.doi.org/10.11588/ejvs.2003.1.788

I will admit at the outset that I have no adequate alternative to the ephedra-theory, at least when it comes to an identification of the ur-plant from which the sacred drink Soma was extracted. I will admit also that in my intrepid youth I was charmed, as I think many of us were at the time, by the mushroom-theory of R. Gordon Wasson [Wasson 1968]. But I quickly became an agnostic after reading Brough's very persuasive critique of that theory [cf. also Kuiper 1970], and ever since then I have been more or less agnostic about the identity of the sacred drink Soma [adopting a position rather like those of Elizarenkova 1996 and Oberlies 1998] I also acknowledge the influence of David Flattery and Martin Schwartz [Flattery & Schwartz 1989], whose book identifying Soma/Haoma as *Peganum harmala*, a mountain rue, I have found illuminating, particularly in their insistence on the importance of the Iranian evidence. In fact, it has taken me fifteen years to come to terms with their rather counter-intuitive insistence [so it seemed to me at the time] that the Vedic evidence was not as important in this matter as the Avestan evidence. I have come to think that they may have been right after all about the secondary value of the Vedic evidence. But I have also come to the conclusion that the Avestan evidence may be "secondary" as well. But that is the matter for another paper, so I won't pursue it here.

My interest in examining the Soma-problem was re-kindled by Frits Staal's insistence that the ephedra-theory was not at all persuasive. In a recently published article he has presented a criticism of the ephedra-theory with which I generally agree, and to which I will attempt to contribute a few more arguments in this paper. I must acknowledge publically that when Staal insisted that the matter must be reconsidered, and when Michael Witzel suggested that it would be a good project for me to look into the matter, I quickly backed away from it. I knew that it would be an enormous task, and I knew that it would be a difficult one to complete. Nevertheless, the importance of the matter eventually lured me into the task. As I have observed elsewhere [in Festschrift Staal], one of Staal's great contributions to Vedic studies has been his resolute determination to question received

---

say, the present paper is now included. I look forward with great anticipation to the publication of the proceedings of this conference, which will surely move us forward on the Soma-question, interest in which among Vedicists is, as far as I can tell, gaining a great deal of momentum at the moment.

opinion. It is in recognition of his remarkable independence of thought that this paper is offered to him, as a *gurudakṣiṇā*.[2]

Rather than summarizing the ephedra-theory [which I trust will be unnecessary for most of this journal's readers], I would like to respond in detail to a few points in Falk's paper, which is in my opinion the best articulation of the ephedra-theory, and one of the best summaries of the Ṛgvedic material that we have. The first point is his insistence, rather surprising to me, that there is no evidence of shamanic or visionary experience in Vedic, and no evidence whatsoever also that the Soma-drink was hallucinogenic, itself also surprising [not that I claim that Soma *was* hallucinogenic; rather, I reject the suggestion that it could not have been so]. Much of what Falk says in this article rings absolutely true to me, but these two claims don't ring true at all, and it is the primary goal of this paper to argue against them. Of course, the ephedra-theory has been around for a long time,[3] primarily because of the well-known fact that Parsis have been using ephedra in their rituals for many centuries, and they have been calling it something like '*um*', '*oman*', '*hum*', '*huma*', or '*hom*', etc., in Iranian languages [all obviously from '*haoma*'], or in Indic '*som*' or '*soma*' or '*somalatā*', etc. [all obviously from 'soma'].[4] Flattery & Schwartz were the first to point out the rather significant implication of this fact: "that ephedra was called **sauma* already in the common ancestral Indo-Iranian language" [p. 68]. Now, for Falk, the obvious conclusion to draw from this is that the inherited term **sauma* referred, as it still does among Parsis, to the juice or extract of an ephedra plant, which in fact is readily found throughout the relevant regions.[5] For Falk, then, there is no need to look elsewhere for the ur-plant: it is straight-forwardly an ephedra [as was assumed much earlier by Geldner in his still standard translation of the *Ṛgveda*]. But Flattery & Schwartz resisted this conclusion, for one simple reason: in their view, "ephedra is without suitable psychoactive potential" [p.73]. According to

---

[2] It should be noted that Staal's paper and this one were written entirely independently of each other. I did not learn of Staal's until I had sent him an early version of this one based on a paper presented at the 2001 AOS conference in Toronto. At that time his paper was already in press.

[3] On the history of the ephedra theory, see O'Flaherty in Wasson, 1968, pp. 95-147. Cf also Falk's brief but illuminating summary.

[4] For details, see Flattery and Schwartz, pp.68-72. They cite also certain Dardic forms that indicate that **sauma* was not exclusively a Sanskritic or Sanskritizing form.

[5] Recent reports indicate that ephedra has been found also among the mummified bodies discovered in the Tarim Basin; cf. Mallory & Mair, pp. 138, 186, 200, etc.

them, the juice that one extracts from ephedra is a rather mild stimulant, ephedrine [similar in effect to adrenaline] which, besides providing some relief for those with asthma, is, as Falk rather dramatically says, "a reliable stimulant for warriors and a great aphrodisiac" [p.87].[6] Flattery & Schwartz, on the other hand, emphasizing the frequent association in both Vedic and Avestan between **sauma* and **mada* ["intoxication"], have insisted that the ur-plant must have contained psychoactive or hallucinogenic properties. And so Flattery & Schwartz, seeking a better-fitting candidate, turned to *Peganum harmala*, a mountain rue also well known in the relevant regions, and which, by the way, also has names in Iranian languages that derive from **svanta* [Avestan *spenta*], 'numinous, sacred,' and which therefore has a suggestive linguistic pedigree of its own.[7] Falk [p.78-9] has usefully classified the various proposals for identifying the original **sauma*-plant into three general categories, according to the pharmacological properties of the plant: the 1st group, that it was hallucinogenic [e.g., hemp, cannabis sativa, the mushroom *Amanita muscaria*, or the wild mountain rue, *Peganum harmala*; also opium & mandrake]; the 2nd, that it was alcoholic, fermented from the likes of rhubarb, common millets, rice, or barley, and even grape;[8] the 3rd, that it was a stimulant of some sort [besides ephedra, ginseng has been proposed by Windfuhr, 1986]. Falk has offered strong, largely persuasive, evidence that the Ṛgvedic Soma must have been a stimulant [see his extensive discussion of the RV word *jā́gṛvi*, "alerting," etc, applied to Soma]. Soma was used, for example, at the night-long *atirātra* rites, to chase away sleep, to inspire poetic thoughts [cf. Kavi Soma as *janitā́ matīnā́m*, as *ṛṣikṝ́t*, etc], as well as inspiring battle-courage [particularly in the case of Indra] and even as an aphrodisiac [perhaps especially among women: see RV 8.91.1 & 1.28, cited

---

[6] For a more technical discussion of the psychopharmacology of ephedras, see Spinella 2001, pp.114-117.

[7] See the discussion of Flattery and Schwartz, pp.45ff. Without going into detail, the main objections to the identifcation of **sauma* as *Peganum harmala* have been proposed already by Falk and Staal: first, that *harmala* is burned for fumigation, not pounded and pressed, as in our early-Indo-Iranian texts; second, that it is a rather commonplace weed, not a rare and difficult-to-find mountain plant, as the early evidence clearly shows **sauma* to have been. Furthermore, in contrast with the much later Arabic evidence offered by Flattery &Schwartz [pp.32f.], there is no mention of seeds in the early Indo-Iranian evidence. Also, there is no evidence in these later texts of the pressing of *harmala* and the mixing of its juice with milk and honey, as in the early texts. Of course, it should be added that if the second objection [its easy availability] is valid in the case of *Peganum harmala*, it may also be a valid objection to the ephedra-theory.

[8] Besides Falk, pp.78ff., see also the broad survey of O'Flaherty, in Wasson, pp. 95-147.

by Falk]. Each of these uses can be identified in Avestan texts as well.[9] It is or should be obvious that Falk has made a renewed, much-strengthened, case for the old ephedra-theory. However, it seems to me that the evidence for the claim that the Soma-plant was a stimulant needs to be examined more closely. This claim rests largely on the use of the term *jā́gr̥vi* as an epithet of the god Soma. [cf Falk, pp. 79f]. The term is attested 23x in the RV: 3x it is used to refer to the hymns that awaken, inspire, or stimulate Indra [3.39.1 + 2; 8.89.1]; 9x it refers to the awakening, stimulating virtue of Agni [1.31.9, 3.2.12, 3.3.7; 3.24.3; 3.26.3; 3.28.5; 5.11.1; 6.15.8; 8.44.29]; 11x it refers to the awakening, stimulating effects of Soma [3.37.8; 8.92.23[10]; 9.36.2; 9.44.3; 9.71.1; 9.97.2; 9.97.37; 9.106.4; 9.107.6; 9.107.12; 10.34.1]. Admittedly, such a distribution would seem to confirm Falk's claim that this epithet suggests that the Soma-plant is a stimulant. But in fact this distribution raises interesting questions. First of all, notice that there are no attestations of the word at all in three of the family books [Books 2, 4, and 7], and it is attested only once in two of them [Books 5 and 6]. Also noteworthy is the fact that *jā́gr̥vi* occurs only once each in the two large later addenda to the RV, Books 1 and 10. This suggests that there is no chronological significance to the distribution. In light of the rareness of this word in the vast majority of the RV, it is very striking indeed that it occurs as many times in Book 3 as it does in Book 9 [8x each], especially when one considers that Book 9 is almost twice as long as Book 3. In Book 3 the word occurs as an epithet of Agni 5x, of the hymn 2x, and of Soma 1x. In Book 8 meanwhile its three attestations are distributed equally to Agni, to the hymn, and to Soma (though transferred to Indra) [1x each]. Now, it is conceivable that the Soma hymns that have been extracted from the family books and collected into Book 9 could have been drawn from any of those books, and this might explain why the word *jā́gr̥vi* is so poorly attested in them. If this is the case, then this remarkable distribution would be more or less insignificant, and the high frequency in Book 9 would simply confirm Falk's view that the term is as appropriate to Soma as it is to Agni, the two gods who accompany and keep awake the priests as they perform their *atirātra* rites. But this fails to take into consideration the relatively much, much higher frequency of the word in

---

[9] Cf. Y. 9-11 [Hom Yasht] passim.

[10] Strictly speaking, it is Indra who is addressed here as *jāgr̥ve*, but clearly, as Falk, p. 80, has pointed out, he is addressed so because he has consumed Soma. It is a transferred epithet here.

Book 3. A better alternative, it seems to me, would be to grant more weight to the evidence of the older family book, Book 3. There it would appear indisputable that Agni is the primary recipient of the epithet *jā́gr̥vi*, whereas it is a transferred epithet when applied to Soma and the hymn [*matí*]. This is not to say that the term is applied inappropriately to Soma. No, Falk has convincingly demonstrated its appropriateness. Rather, it is to suggest that the word might be better understood as an element within traditional Vedic formulaics. Interpreting *jā́gr̥vi* in this way is consistent with the fact that the other terms cited by Falk in this context [*vípra*, *kaví*, *r̥ṣikŕ̥t*, etc.] are more frequently attributed to Agni than to Soma. Furthermore, since it is clear that there was a marked preference for this divine epithet *jā́gr̥vi* [11] among the *viśvāmitra* clan, it might be reasonable to suppose that this is the clan to whom we should attribute the best authority.[12] The attestations of *jā́gr̥vi* in Book 9 seem to me to be a secondary extension of a formula that is more appropriate to formulaics of the Agni-cycle. For this reason, I am not entirely persuaded that the word refers to the soma-extract as having a specific psycho-pharmacological effect. As for RV 5.44.14-15, which Falk [p. 80] cites as perhaps "the most convincing example" of a passage showing that Soma is a stimulant, the theme of staying awake and alert through the night is certainly central there [cf. the extensive repetition of the verb *jāgāra* in both stanzas]. But the reference there is not to the Soma-plant, but rather to the god Soma, who asserts that "It is I who am at home in your friendship" [*távāhám asmi sakhyé níokāḥ*], and in fact the one to whom the god Soma asserts this is the god Agni, as is evident in stanza 15. I have argued extensively in Thompson 1997a [pp.32ff.] that this pair of stanzas is a variation on the Vedic *brahmodya* pattern, and that, in a highly indirect and riddling way, the poet here [the author of what Geldner considered to be the most difficult hymn in the RV!] has identified himself with the god Soma, and his "alert, awake" audience with the god Agni [see the discussion of stanza 13, which in fact initiates the theme of wakeful alertness, but in that stanza it refers to a human patron, not a god, and his name appears to be

[11] The use of *jā́gr̥vi* as a divine epithet must go back to an old, common Indo-Iranian tradition, since it is attested in exactly the same usage in the Avestan cognate *jiγāuruuah*, applied to Mithra, as well as to a divinized *hãṃvareiti*, "Manly Valor."

[12] Note also that 29 of the 62 hymns of Book 3 are devoted to Agni [vs. 24 to Indra].

Sutambhara, "the one who bears the Soma-juice"[13]]. In short, the many obscurities of this hymn make very problematic the interpretation of this passage. To use it as secure evidence that the Soma-plant had to have been a psycho-pharmological stimulant seems to me to be premature. I think that Falk has also studiously avoided the enormous evidence, in both Vedic and Avestan, that links **sauma* with **mada*, "intoxication." Instead of delving into the interesting question of the very broad semantic range of the term **mada* [and related forms] – e.g., whether it would cover all three of the types of soma-theories that have been proposed:(1) hallucinogenic? (2) alcoholic? (3) stimulant?– as, in fact, it certainly does[14]– instead I will simply point out that in the RV the vast majority of attestations of *máda* [and related terms] occurs clearly in Soma-contexts, so it is Soma-*mada* in particular that we should be concerned with. As far as I can see, these attestations strongly suggest something like the sense 'ecstasy', rather than an alcoholic inebriation, or a general stimulant effect like that of an ephedra-extract. As Brough has also suggested of *máda* and related terms: "It is difficult to give an adequate equivalent, but the tenor of the hymns indicates something like 'possession by the divinity', in some way comparable to Greek μ" [Brough, p. 374; cf. similarly Staal, pp.752, 759, where he glosses the verbal root mad- as suggesting "rapture or bliss"]. In other words, the physiological effects of **sauma*-intoxication in early Indo-Iranian, as far as I can tell, cannot easily be reduced to the effects resulting from a rather mild stimulant, or of an aphrodisiac even of the strongest sort, as ephedrine seems to be.[15] Instead of defending in any detail the truth of these claims for the connotations of *sómasya máda* and related terms in the RV [which I will attempt in a forthcoming article[16]], I'd like to take a close look at one hymn from the RV,

---

[13] A small cycle of Agni-hymns is attributed to Sutambhara at RV 5.11-14. In this cycle there are two references to the theme of awakening: at 5.11.1 [*jā́gṛvi*, of Agni] and 5.14.1 [the impv. *bodhaya*, taking the direct object *agním*].

[14] See KEWA 2.568 for the relevant literature. It is puzzling to see that in his magnum opus on Soma T. Oberlies has completely ignored this question, even in the 57 page chapter on "Der Soma-Rausch und Seine Interpretation" [Vol. I, pp.449-506].

[15] Again, see Spinella 2001, already cited. Of course, it may well be that ephedrine may be potent enough in some cases to induce visionary or ecstatic experience. – such as that extracted from the mountain varieties of ephedra mentioned by Falk, p. 83 [also Nyberg, 1995]. If so, then I will give up my objections to the identification of ephedra as the ur-Soma-plant. But so too, it seems to me, Falk will have to give up the claim that Soma could not have induced visionary, ecstatic, or even shamanic experiences.

[16] *máda* is attested 279x in the RV. If we include compounds and variant forms like *madirá*, etc., the total amounts to roughly 400x. There are also roughly 200 attestations

10.119, a very well-known and much discussed hymn, the so-called *laba-sūkta*, 'song of the lapwing.' And, in doing so, I'd like to return to Falk's claim that there is no evidence of visionary or shamanic experience in Vedic, and his view that the Soma-extract was therefore not likely to have been a drug that induced ecstasy.[17] Here is Falk in his own rather remarkable words: "The only half-serious reason to expect hallucination as an effect of Soma-drinking in an Indian context is the well-known *laba-sūkta*, RV 10.119" [Falk p.78]. I must say this is an astonishing remark. First of all, this hymn is not at all "the only reason" for such a view – whether half-serious or full-serious or not serious at all. There are many other hymns in the RV which also seem clearly to indicate visionary experience, or ecstatic experience, whether induced by Soma or by other means. One obvious example is RV 8.48, which Falk [p.80] cites only to refer to *nidrā́*, 'sleep,' in stanza 14, while ignoring all of the evidence in this remarkable hymn for ecstatic and visionary experience. Another is 10.136, which portrays the *keśín* in ecstatic experience [of shamanic flight, as I would suggest] induced by the consumption of some unidentified poison, *viṣá*. Furthermore, it is likely that visionary experience may have been induced by entirely non-intoxicant, non-pharmacological, ritual means, such as the Ātmastutis, to be discussed in what follows. In any case, I do not insist that Soma must have been an hallucinogen. But I do insist that visionary and ecstatic experience is well-attested in the *Ṛgveda*, and that it is frequently attributed by the poets themselves to the consumption of Soma. Shouldn't we take the poets at their word in this matter, since it involves, as I will try to show, their own personal, very real, experience? As for 10.119 itself, Falk's argument against its depicting visionary or ecstatic experience is based on the claim that the hymn describes the experience of Indra, or at least of Indra in the guise of a bird [*labá*], probably a lapwing – rather than the experience of a human being who is "in the intoxication of Soma" [cf. *sómasya* of the hymn's refrain in

---

of verbal forms of mad-. Clearly, this material points to a major preoccupation of the Vedic poets. Much work remains to be done.

[17] In response to the oral version of this paper presented at the AOS annual meeting in Toronto, March 2001, objections were raised against the admittedly indiscriminate use of such terms as 'visionary,' 'ecstatic,' and 'shamanic.' But I should point out that all of these terms were introduced by Falk. Of course, these terms are not synonymous, but they do cover a semantic territory that should be recognized as continuous and related. In any case, I feel no obligation to defend in this brief paper my use of these terms. More will be forthcoming on the notion of a Vedic shamanism, and on the precise semantics of *sómasya máda* in the RV.

light of the formula *sómasya máde*, as well as its variants]. In particular, Falk calls attention to stanza 11, where, after consuming Soma, "some winged creature", he says, touches both the earth and the sky with its wing, and stanza 8, where the bird's body expands beyond the extent of earth and sky. Falk concludes: "nowhere is it said that human Soma-drinkers feel that they are growing. To fill the whole cosmos is a feature of several gods [e.g., Agni, Ūṣas, Sūrya, as well as Soma]..." [Falk, p. 78 – parenthesis added]. Therefore, in Falk's view, the hymn does not offer even half-serious evidence that Soma was hallucinogenic, or that the experience described in the hymn was ecstatic or visionary. Here, again, I must disagree: there are good reasons to reject Falk's too-rigid interpretation of the hymn as a strictly mythological narrative. Let us look at the hymn in detail.

10.119.1

íti vā́ íti me máno	Yes, yes, this is my intention.
gā́m ázvaṃ sanuyām íti	I will win the cow, the horse. Yes!
kuvít so'masyā́pām íti	Have I drunk of the soma? Yes!

10.119.2

prá vā́tā iva do'dhatā	Forth like raging winds
u'n mā pītā́ ayaṃsata	The drinks have lifted me up.
kuvít so'masyā́pām íti	Have I drunk of the soma? Yes!

10.119.3

u'n mā pītā́ ayaṃsata	The drinks have lifted me up,
rátham ázvā ivāzávaḥ	as swift horses lift up the chariot.
kuvít sómasyā́pām íti	Have I drunk of the soma? Yes!

10.119.4

úpa mā matír asthita	Inspiration has come to me,
vāzrā́ putrám iva priyám	like a bellowing cow to her precious son.
kuvít so'masyā́pām íti	Have I drunk of the soma? Yes!

10.119.5

ahám táṣṭeva vandhúram — I, as a craftsman the chariot seat,
páry acāmi hṛdā́ matím — I bend around in my heart this inspiration.
kuvít so'masyā́pām íti — Have I drunk of the soma? Yes!

10.119.6

nahí me akSipác caná- — Not even a blink of the eye
achāntsuḥ páñca kṛṣṭáyaḥ — have the five tribes seemed to me.
kuvít so'masyā́pām íti — Have I drunk of the soma? Yes!

10.119.7

nahí me ro'dasī ubhé — Neither of these two worlds to me
anyám pakṣáṃ caná práti — seems equal to one of my two wings.
kuvít sómasyā́pām íti — Have I drunk of the soma? Yes!

10.119.8

abhí dyā́m mahinā́ bhuvam — I have overwhelmed heaven with my greatness,
abhī́mā́m pṛthivī́m mahī́m — I have overwhelmed this great earth.
kuvít so'masyā́pām íti — Have I drunk of the soma? Yes!

10.119.9

hántāhám pṛthivī́m imā́ṃ — I myself, I myself will set down this
ní dadhānīhá vehá vā — earth, perhaps here, perhaps there.
kuvít sómasyā́pām íti — Have I drunk of the soma? Yes!

10.119.10

oṣám ít pṛthivī́m ahám — Heatedly will I smash the earth,
jaṅghánānīhá vehá vā — I will smash it, perhaps here, perhaps there.
kuvít so'masyā́pām íti — Have I drunk of the soma? Yes!

10.119.11

diví me anyáḥ pakṣó- — In heaven is the one of my two wings.

adhó anyám acīkṛṣam	The other I have dragged down here below.
kuvít so'masyā́pām íti	Have I drunk of the soma? Yes!

10.119.12

ahám asmi mahāmaho'-	I myself, I am become great, great,
abhinabhyám u'dīṣitaḥ	impelled upward to the clouds.
kuvít so'masyā́pām íti	Have I drunk of the soma? Yes!

10.119.13

gṛho' yāmy áraṃkṛto	I go forth a home[18] that is well made,
devébhyo havyavā́hanaḥ	a vehicle of oblations to the gods.
kuvít so'masyā́pām íti	Have I drunk of the soma? Yes!

First, some general comments and observations: This remarkable hymn has received a great deal of attention,[19] not only because of what it may or may not teach us about Soma, but also because of the many difficulties which it has presented to interpretation. There is considerable disagreement, for example, about the identity of the assumed speaker, whether it is Indra, or Agni, or the lapwing itself, the *laba* to whom the hymn is attributed by the native tradition, or whether it is Indra in the guise of a lapwing, or perhaps finally a human poet expressing the exhilaration induced by the soma that he has consumed. Here is Falk's summary of his own interpretation of the hymn: "The traditional explanation of the Laba-*sūkta* is the only credible one: a bird, assumed to be Indra in disguise, has drunk from the Soma offered and is thought to feel the same as the god in his usual, non-material form. Because all the proponents of Soma as a hallucinogenic drug make their claim on the basis of a wrong interpretation of the Laba-*sūkta*, their

[18] As Hauschild has argued at length [1954, pp. 276f.; cf. also Rau 19xx], a *gṛhá* in early Vedic was likely to have been a domestic wagon. This sense seems to be confirmed in this passage by the collocation with *havyavā́hanaḥ*, "vehicle of oblation," in the following line.

[19] Besides the standard translations and commentaries of Geldner, Renou [besides EVP 14.39 &110, cf. also Renou 1956] and Elizarenkova [1999], see also the very detailed study of Hauschild; also Schmeja; Mylius; Stuhrmann, et al. The remarks of Gonda, "The So-Called Secular, Humorous and Satirical Hymns of the Ṛgveda," Selected Studies 3.379f., remain pertinent. On the other hand, it is also important to note that this hymn has been surprisingly ignored by Wasson, as well as by Flattery & Schwartz. It is also neglected by Oberlies, already cited, in note 11.

candidates must be regarded as unsuitable" [Falk, p.79]. Perhaps an adequate response can be summoned here to this rather peremptory dismissal of some of the best Vedicists of the past 100 or more years. One crucial fact about this hymn, it seems to me, has been under-valued by everyone who has dealt with it, and that fact is that it is an Ātmastuti, that is, a 'hymn of self-praise.' The fact has been noticed, of course [in particular by Hauschild in his admirable article, and also by Geldner in his introductory comments on the hymn], but until fairly recently the Ātmastuti, as a significant genre of RV poetry, has been more or less ignored. The fact that this hymn is an Ātmastuti, in my view, makes superfluous all of the discussion, including Falk's, concerning the hypothetical identity of the speaker of this hymn. As Toporov [1981] and Elizarenkova [1995] have pointed out, the RV Ātmastutis are marked by the emphatic use of forms of the first person pronoun, as well as first person verbal forms. But such formal features also mark clear pragmatic features of the genre, two in fact, as I've tried to show in Thompson 1997b. One of these, rather self-evident in fact but to my knowledge never fully appreciated, is the act of self-assertion which such hymns express, and in fact which they enact. As is well-known, Vedic poets often find themselves in a position where boastful self-assertion is more or less obligatory [as in the case of the respondent in a *brahmodya* dialogue: cf. Thompson 1997a]. An interesting instance in the RV of direct self-assertion [independent of verbal contests] is RV 10.159, in Geldner's words a "Triumphlied einer Frau." This hymn dramatically conveys the "Selbstverherrlichung" of a wife over her rivals – i.e., her rival-wives.[20] But in fact the Ātmastuti is not a simple matter of self-assertion, and therefore it should be distinguished from a direct, straightforward act of self-assertion such as in 10.159 [to mark this important distinction, I have adopted the traditional term *ahaṃkāra* to refer to the strictly human act of self assertion, in contrast with the Ātmastuti]. The Ātmastuti is, in my view, a psychologically much more complicated matter of impersonation, of self-conscious role-playing, as in the well-known case of RV 10,125, where the poet, known traditionally by the name of *vāc āmbhṛṇī*, actually impersonates, i.e., adopts the persona of, the goddess Vāc, who is herself the mythological embodiment of the Vedic poetic tradition.[21] In brief, all Ṛgvedic Ātmastutis are performances wherein a human performer

[20] For a full translation and commentary on this hymn, see Thompson 1997b.
[21] For a full translation and commentary, see again Thompson 1997b.

impersonates, and speaks both for and as, a divine agent.[22] Here, at RV 10.119, the poet, who is known by the traditional but uninformative name of Laba Aindra,[23] has clearly adopted a role, apparently a traditional role. Admittedly, it is hard to determine precisely which role he has adopted in this hymn [is he impersonating Indra? Agni? some mythological bird?]. But a proper view of the pragmatics of Vedic speech-acts, and in particular the pragmatics of Ātmastutis,[24] suggests that the particular role that is being played in this hymn is far less important than the fact itself that a poet, a human being and not a god, is indeed playing a role, like an actor in a Greek tragedy, perhaps, or perhaps rather like a Central Asian shaman, which in my view is a much more appropriate comparison.[25] In other words, from the

---

[22] To my knowledge it has not been noticed before, but as a matter of fact there are traces of both the *ahaṃkāra* and the Ātmastuti motives in Avestan as well: see in particular the azEm sequence in the Hom Yasht: Y 10.15-18 [the poet's *ahaṃkāra*, in fact, a kind of pledge of allegiance to the god Haoma]. Y 9.2 is a brief Ātmastuti attributed to Haoma; Yt 8.25 is a brief Ahura ṃazdā Ātmastuti; Yt 14.3f., etc. Perhaps the best examples are Yt 1.7-8 attributed to Ahura Maśdā, and the very interesting "I am" sequence immediately following at stanzas 12-15. A brief Ātmastuti is also attested at Yt.10.54-56 [Mithra Yasht].

[23] This name is uninformative because it is merely inferred from the text of the hymn. In fact, neither element of the name is attested in the hymn, nor is the name of any other deity [the term *sóma* clearly refers to the juice that has been drunk, and not to the god Soma]. In my view, neither the traditional name of the poet nor the traditional interpretation of the hymn can be accepted [pace Falk].

[24] Thompson 1997b has already been cited, but it seems necessary to stress the point here. Stuhrmann [1985, p.91] has made the following remark, which has been affirmed by Oberlies [Vol. 1, p. 496]: "Die Somalieder sind... wesentlich Wir-Dichtung und Preisliedern auf Soma; individuelle Rauschprotokolle können wir nicht erwarten." In general, this is probably a valid remark, but RV 10.119 shows that in fact there are exceptions, as Ātmastutis in general also show. In fact there is a clear record of individual experience of ecstasy in the RV, as a direct result of Soma consumption. Furthermore, a brief look at the concordances of Bloomfield or Lubotsky will show that there is a good amount of evidence for an Ich-Dichtung genre, both in the RV in general, and among Soma hymns in particular. Oberlies in fact appears to contradict himself at Vol. 2, p.39, when he notes the "I am" sequence at the beginning of RV 4.26 as the utterance of an "ekstatisch erregten Seher" [the hymn is cited several times in Thompson 1997b, where more evidence and a more detailed analysis can be found].

[25] In his notes to stanza 1, Geldner compares RV 10.97.4, the words of a "Medizinmann." This passage will be treated in a forthcoming paper on the particle *íti*. Cf. more recently Meissig 1995 [on RV 10.108, which, by the way, displays Ātmastuti features] and Deeg 1993 on Vedic shamanism [I have not had access to these articles, which are cited by Oberlies, vol.1, p.311]. Frederick Smith is presently working on the notion of a Vedic shamanism; I eagerly look forward to his discussion. As for older literature, see Gonda, Oldenberg, Hauer, et al. Note that Flattery & Schwartz, pp.24f., briefly allude to Amazonian shamanism.

point of view of pragmatics it does not matter who is *supposed* [or *imagined*] to be speaking in this hymn. The fact remains that it is *actually* the poet himself who utters these words, and through whom these words pass, just like the streams of Soma [as the poets of the RV themselves are prone to say]. The refrain of this poem, then, is to be attributed not to this or that god or to some other mythological creature. No, it belongs, strictly speaking, to the poet who formulated it, whose emphatic repetition of the personal pronoun places him pragmatically at the very center of the hymn, as the person through whom the performance passes, and through whom the impersonated being – in my view, most likely, Agni[26] – becomes manifest, palpable, or *satyá*, 'true,' for his audience. It is therefore legitimate, in my view [pace Falk], to interpret the experiences evoked in RV 10.119 as genuinely human experiences, whether directly felt as the result of drinking Soma, or theatrically enacted [or perhaps re-enacted], that have been experienced by the poet himself. In other words, behind the mask of the performance of RV 10.119, genuine human experience is undeniably evoked and enacted in it. Consider the great prominence of first person forms. First of all, the refrain, conveying the hymn's central motif, is conspicuously marked by the first person root aorist *ápām*, "I have drunk [of the Soma]." But in every stanza of the hymn the refrain is accompanied by at least one other first person form, whether an enclitic variant of the first person pronoun [e.g., *mā* in stanzas 2 and 4, me in stanzas 6 and 7, etc.], or by a first person verbal form [e.g., *bhuvam* in stanza 8 and *yāmi* in stanza 13]. But far more frequently one finds a combination of both pronominal and verbal forms [e.g., *me* and *sanuyām* in stanza 1, etc.]. This slowly accelerating but highly dramatic accumulation of first person forms culminates in stanzas where the first person pronoun *ahám* emphatically [and in fact redundantly] accompanies a first person verbal form [stanzas 5, 9, 10, 12]. This emphasis is reinforced in stanzas 5 and 12, where *ahám* takes the highly marked stanza-initial position; in stanza 9 where it takes second position following

[26] If stanza 13, the hymn's finale, is not a later addition to the hymn [as has been suggested by S. Jamison, personal communication], then the phrase *devébhyo havyavā́hanaḥ* would strongly suggest that Agni is the god impersonated in this hymn. Of course, Agni is often represented as a bird in the RV [a motif culminating in the bird-shaped altar of the *agnicayana*]. I see this hymn as an expression of a kind of Soma-and-Agni fire mysticism, although this is not the place to go into the matter. Cf. also the largely unpersuasive interpretation of *gṛhá* as *gráha*, and of *yāmi* as a passive "was filled," proposed by Hillebrandt [I.277].

the exhortative particle *hánta*; and in stanza 10, where it stands in line-final position, followed immediately by the first person subjunctive of the intensive form of the verb *han-*, *jaṅghánāni* [which itself (along with *ihá vehá vā*) echoes the first person subjunctive *ní dadhāni* (*ihá vehá vā*), etc., of the preceding stanza]. This highly elaborate, skillfully managed, network of first person forms is further strengthened by an extraordinary sequence of word and phrase repetitions, rhymes, rhythmic syncopations, puns, etc, which itself could sustain an extensive analysis. Even without going into such an analysis here, it is readily evident that this hymn is a poetic tour-de-force, even when judged against the very high standards of Ṛgvedic poetic tradition at its best. There should be no ambiguity about the function of all of these first person forms [called 'shifters' by certain linguists and semiologists of discourse]: they are designed to call attention to the speaker as speaker – not only within the pretended mythological context which has preoccupied the interpreters of this hymn, but also outside of that context, i.e., the context of the performance itself. Recall that in his interpretation of RV 10.119 [quoted above], Falk refers to the supposed "usual, non-material form" of the god Indra. Well, let us assume for the sake of the argument that this hymn is about Indra. In my view, the assumption that the "usual form" of the god Indra was "non-material" for a Vedic audience needs to be seriously re-examined. I'm not so sure that a Vedic audience would have recognized a "non-material" form of Indra, or of any other Vedic god for that matter. In any case, there is good evidence that Indra did in fact manifest himself on occasion in very material form. Of course, there is better, more obvious, evidence that a god like Agni was constantly present to his Vedic devotees in clearly material, visible, if not quite tangible, form, in the ritual fires, for instance. And Soma is clearly manifest in material, quite tangible, form both in the Soma-plant itself [in my view called *aṃśú*] and in the Soma-juice. As for Indra, one place where one finds him manifest in material form is the RV Ātmastutis [most of which in fact are dedicated to him]. In RV 10.119, if indeed it is Indra who is represented in it, he is given the form of a bird, a lapwing [this is the mythological, non-material, form that Falk rightly emphasizes]. But the god is manifest also in quite material form, that is, in linguistic [i.e., audible] form, in the sequence of first person forms that dominates and in fact gives structure to the entire hymn. Furthermore, I think that it is legitimate to say that the impersonation that is clearly performed in this hymn shows the god in a palpably material form, embodied literally in

the performer of the hymn. For the audience of RV 10.119, Indra can be seen there standing before them. For the duration of this performance, the R'Si's body is Indra's body. The *ṛṣi's* words are Indra's words. The ecstatic flight of the *ṛṣi*, induced by the drinking of Soma, is also the ecstatic flight of Indra. The members of this Vedic audience, I trust, would have been capable of asserting, without delusion or deceit, that they had indeed seen Indra. Such certainty, it seems to me, would have been the product of shamanic performance, that is, a highly theatrical and physical performance, and not of mythological fancy alone. The flight that is clearly alluded to in the hymn is not mere mythological flight. It is the shamanic flight of a *ṛṣi*, who seems to me to be experiencing genuine ecstasy which, as the refrain emphatically tells us, has been induced by the drinking of the Soma-juice. A god has entered into this *ṛ́ṣi* and speaks through him. As far as I can see, what is described and enacted in this hymn is entirely consistent with the performances of shamanic flight that one encounters in the literature [besides the classical account of Eliade 1951, see the essays collected in Diogenes 158, 1992].[27] Besides the basic theme of magical flight made notorious by Eliade's treatment of it, there are many features in the hymn that strike me as shamanic. The boasting which has struck some scholars as bordering on megalomania or simply a crude joke ["Scherzspiel", thus von Schroeder] is frequently encountered in shamanic performance. Shamanic dance is probably attested here at RV 10.119.8-10 [shamanic dance certainly is attested at RV 10.97]. The suggestion that the hymn is a parody, which goes back to von Schroeder and which re-surfaces on a regular basis, needs to be mentioned here too. I am willing to entertain the notion that RV 10.119 might well be a parody in some sense. The heavy repetition of the quotative particle íti may in fact mark some sort of parodic intent.[28] But again, parody is a phenomenon well-known to students of shamanism. As for "visionary" experience of a shamanic kind, admittedly there is no straight-forward, explicit evidence of it in this particular hymn, but it is certainly evident at RV 8.48.3 [et passim], with which I will rest my case:

---

[27] On early interpretations of the hymn that suggest its shamanic features, see Gonda, pp. 379f, cited above.

[28] A very lengthy discussion of the quotative particle *íti*, and a defense of my translation of it here, has been deleted from this paper, which even without it is overly long. This discussion, and some observations on the evolution of its syntax, will be presented in a forthcoming paper.

ápāma so'mam amṛ́tā abhūma-	We have drunk the Soma. We have become immortal
-aganma jyótir ávidāma devā́n	We have gone to the light. We have found [i.e., seen] the gods.
kíṃ nūnám asmā́n kṛṇavad árātiḥ	O immortal one, what can the indifference
kím u dhūrtír amṛta mártyasya	the malice, of a mortal man, do to us now?

In spite of the many difficulties which this remarkably energetic and finely-crafted hymn,[29] RV 10.119, presents to interpretation, in my view it nevertheless offers us good evidence for both ecstatic and indeed shamanic experience in the RV, experience which is directly and explicitly linked by the poet himself with the drinking of Soma. Falk's claims to the contrary seem to me to stand, in the end, on surprisingly weak foundations. Considering the fact that several of the major claims in his article are subject to serious objections [ranging from the claim that Soma must have been a stimulant, tout court; the claim that it could not have been psychotropic; the claim that there is no evidence of shamanic experience in the RV; and finally to Falk's abrupt interpretation of RV 10.119 as a strictly mythological narrative which reveals nothing whatsoever about the effects of Soma consumption on real human participants in the Vedic Soma cult], it seems to me now, as it seemed to Frits Staal well over a year ago, that it is time to re-open the question of the specific psycho-pharmocological properties of

[29] It is frequently suggested [e.g., Brough, p.376; several members of the audience in Toronto who responded to an oral version of this paper] that such craftsmanship could not have been achieved by a poet "in the intoxication of Soma." This has been rebutted already by Staal, p.761 [note his remarks re the fallacy of the excluded third possibility: that the poet could nevertheless have been familiar with Soma-ecstasy, even if not intoxicated while composing the hymn]. I would add this point, taken unchanged from an earlier version of this paper: "Second, the famous example of the German Romantic poet Hölderlin demonstrates that the poetic function is [or can be] autonomous from the proper functioning of the other intellectual and social functions of the mind. If Hölderlin was capable of composing exquisitely crafted, metrically perfect poems, while suffering the debilitating symptoms of severe schizophrenia, it seems to me that this anonymous but very fine RV poet likewise might well have been capable of composing an extraordinary hymn like RV 10.119, consciously impersonating this or that god for his willing and susceptible audience, while undergoing whatever strange symptoms, any whatsoever, that that potent Vedic god Soma, whatever He was, was able to induce in him."

Soma, and to explore with renewed seriousness the possibility of a Vedic shamanism that is intimately related to Soma.

References

Brough, J. 1971. "Soma and Amanita muscaria" BSOAS, xxxiv, 2. 331-362. [Reprinted in Collected Papers, ed. M. Hara and J.C. Wright. School of Oriental and African Studies, University of London. 1996].

Deeg, M. 1993. "Shamanism in the Veda: The Kezin-Hymn (10.136), the Journey to Heaven of Vasiṣṭha (RV 7.88) and the *mahāvrata*-Ritual." Nagoya Studies in Indian Culture and Buddhism. Sambhāṣā 14 (1993) 95-144.

Elizarenkova, T. 1995. Language and Style of the Vedic Ṛṣis. Albany: SUNY.

Elizarenkova, T. 1996. "The problem of Soma in the light of language and style of the Ṛgveda." In Langage, style et structure dans le monde Indien. Colloque international pour le Centenaire de la Naissance de Louis Renou (ed. par N. Balbir et G.-J. Pinault). Paris. 1996. 13-31.

Elizarenkova, T. 1999. Rigveda. Three Volumes. Moscow: Nauka.

Falk, H. 1989. "Soma I and II." BSOAS. 52.77-90.

Flattery , D. and Schwartz, M. 1989. Haoma and Harmaline. University of California Publications. Near Eastern Studies 21. Berkeley: University of California Press.

Geldner, K. 1951. Der Rig-Veda: Aus dem Sanskrit übersetzt und mit einem laufenden Kommentar. Harvard Oriental Series, Vols. 33-35. Cambridge, Mass: Harvard University Press.

Gonda, J. 1948. The So-Called Secular, Humorous and Satirical Hymns of the Ṛgveda. Orientalia Neerlandica: A Volume of Oriental Studies published under the auspices of the Netherlands' Oriental Society. Leiden. [Reprinted in Gonda, Selected Studies 3.379-397].

Hauschild, R. 1954. "Das Selbstlob (Ātmastuti) des somaberauschten Gottes Agni (Ṛgveda X.119). Asiatica (Festschrift F. Weller). Leipzig. 247-288.

Hillebrandt, A. 1999. Vedic Mythology. Two Volumes. Delhi: Motilal Banarsidass [English translation of Vedische Mythologie, Second Edition, 1929].

Mallory, J.P and Mair, V. 2000. The Tarim Mummies: Ancient China and the Mystery of the Earliest Peoples from the West. London: Thames & Hudson.

Meissig, M. 1995. Eine Schamanistische Séance im Ṛg-Veda (RV 10.108). Mitteilungen fuer Anthropologie und Religionsgeshcichte 10. 119-142.

Mylius, K.(Hg.) 1978. Aelteste indische Dichtung und Prosa. Vedische Hymnen, Legenden, Zauberlieder, philosophische und ritualistische Lehren. Leipzig: Reclam Universal-Bibliothek..

Nyberg, H. 1995. The Problem of the Aryans and the Soma: The Botanical Evidence. In The Indo-Aryans of Ancient South Asia: Language, Material Culture and Ethnicity. Ed. G. Erdosy. Berlin: Walter de Gruyter. 382-406.

Oberlies, T. 1998-1999. Die Religion des Ṛgveda. Two Volumes. Wien: Publications of the the De Nobili Research Library.

Renou, L. 1955-1969. Études védiques et pāṇinéennes. Paris: Publications de l'Institut de Civilisation Indienne. [= EVP].

Renou, L. 1956. Hymnes spéculatifs du Véda. Paris: Librairie Gallimard. Sarianidi, V. 1998. Margiana and Protozoroastrism. Athens: Kapon Editions.

Sarianidi, V. 1999. Near Eastern Aryans in Central Asia. Journal of Indo-European Studies. 27.3-4. 295-326.

Schmeja, H. 1987. Interpretationen aus dem Rigveda. Innsbrucker Beitraege zur Kulturwissenschaft, Sonderheft 61.

Spinella, M. 2001. The Psychopharmocology of Herbal Medicines: Plant Drugs that Alter Mind, Brain, and Behavior. Cambridge: MIT Press.

Staal, F. 2001. How a Psychoactive Substance Becomes a Ritual: The Case of Soma. Social Research 68.3. 745-778.

Stuhrmann, R. 1986. Ṛgveda 10.119: Der Rausch des Kiebitz. Studien zur Indologie und Iranistik. 11/12. 299-309.

Thompson, G. 1997a. The Brahmodya and Vedic Discourse. Journal of the American Oriental Society 117. 13-37.

Thompson, G. 1997b. ahaṃkāra and Ātmastuti: Self-Assertion and Impersonation in the Ṛgveda. History of Religions 37.2. 141-171.

Thompson, G. 1997c. On Mantras and Frits Staal. In India and Beyond: Aspects of Literature, Meaning, Ritual and Thought: Essays in honour of

Frits Staal. Ed. D. van der Meij. London: Kegan Paul International, in association with The International Institute for Asian Studies. 574-597.

Toporov, V. 1981. Die Urspruenge der indoeuropaeischen Poetik. Poetica 13. 189-251.

Wasson, G. 1968. Soma: Divine Mushroom of Immortality. New York: Harcourt Brace Jovanovich.

Windfuhr, G. 1986. Haoma/Soma: The Plant. Papers in Honour of Professor Mary Boyce (Acta Iranica 25). Leiden: Brill. 699-726.