Strange Fires, Weird S0okes and Psychoactive CoDbustibles: Entheogens and Incense in Ancient Traditions

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Abstract—This paper seeks to emphasize what may be the most primary mode of altering consciousness in the ancient world: namely, the burning of substances for inhalation in enclosed areas. While there is abundant literature on archaic uses of entheogenic plants, the literature on psychoactive incenses is quite deficient. From the tents of nomadic tribes to the small meditation rooms of Taoist adepts, the smoldering fumes of plants and resins have been used to invoke and banish and for shamanic travels since humanity mastered fire. The text provides details of primary "incense cults" while highlighting some commonalities and shared influences when possible. Further speculation suggests that selective burning of certain substances, such as mercury and sulphur, may have contributed to their lasting use and veneration in alchemy from India and China to the Arabian and European protochemists. This article would have a companion online database for images and further examples of ingredients in various incenses from China to ancient Greece.

Keywords—entheogens, ethnobotany, incense, psychoactive plants

Early humankind's mastery of fire ignited new evolutions in humanity's quest for survival. In caves or in nomadic excursions, the fire's magic warmed, protected and cooked and later gave dominion in metallurgical explosions of culture as smith guilds formed, pounding out tools and weapons. The dead were bu r ed, their spirit mingling with the heavens in wafting smoke. The shaman, standing between the two worlds, was the master of the fire, inhaling the smoke for ecstatic trances and bathing in the smoke for healing and the power to heal. Cults formed around the hearth and later separate sacrificial altars evolved to allow ever more formalized rituals centered upon the mysteries of the fames.

Researchers are only just beginning to understand the effects of incenses on the brain, and even seemingly innocuous substances like frankincense (*Boswellia sp.*) are now understood to provoke psychoactivity (Moussaie f et a!. 2008). Scientists have long debated the possibility that certain *Boswellia* species have distinct psychoactive e f ects (Menon & Kar 1971) with some speculating that geography, species, time of harvest or even the climate where bu r ed could increase the active components (Luck 2006). Some scholars and media have discussed possibilities that THC is produced from "pyrochemical modifcations" that occur when the resin is bu r ed (Ratsch 2005; Faure 1990; Martinetz, Lohs & Janzen 1989). Even "olibanum [frankincense] addiction" is discussed and, as Martinetz (Martinetz, Lohs & Janzen 1989) writes, it is an example of a "mild narcotic whose e f ects are appreciated in religious rituals." The addition of other psychoactive substances, like the *kundur* incense mentioned in Shia Islamic *hadith*, which combines frankincense and the entheogen *Peganum harmala* (Flattery & Schwartz 1989), would obviously synergize and potentiate the e f ects with inhalation of MAO-Inhibiting b-carbolines.

It is clear that the ancients made a very thorough investigation of all vegetation they encountered *as a potential* food source, medicine, entheogen, weapon, or even fuel source, such as the use of *Peganum harmala* in hard Iranian

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winters (Flattery & Schwartz 1989). A very logical method of investigation would be to note the effects of burning a plant to judge its smoke in terms of aromatic and magical (psychoactive) qualities, noting more toxic examples whose inhalation could be lethal. A plant's effects on the mind and body would be remembered and enshrined as holy or as containing a god or the means of communicating with the spirits. Ancient texts and scholarly treatments reveal a highly developed complex of psychoactive incense cults, some of which held secret recipes for incenses used for oracular purposes. The Biblical associations of illicit magical incenses and foreign women informed the world-view of religious persecutors into the Early Modem Era and revealed the persistent use of psychoactive plants. This article discusses Old World incense mystics in the context of the "strange fires" (*'eš zarâ*) mentioned in the Bible, extending to peripheral nomadic groups and ancient cultures and to Medieval mystics, witches and alchemists.

UNAUTHORIZED COALS IN THE TRYSTING TENT

"Oil and *ketoret* make the heart rejoice" (Proverbs 27:9)[1]

The incense cults of Israel have been the subject of a wide variety of theological and academic treatments. Researchers have speculated on the use of entheogens of a variety of species in the Bible (Shanon 2008; Merkur 2000; Allegro 1970) as well as linking a shared entheogenic heritage with Persia in such crucial texts as the Book of Ezra, which sheds much light on foreign influences on Jewish cultic practices (Dobroruka 2006). A number of scholars have discussed the psychoactive incense used in the temple with various theories as to ingredients (Ruck, Staples & Heinrich 2001) and cannabis has been suggested as the *kaneh bosom* (appearing throughout the Old Testament with the first mention in Exodus) that eludes - along with the other ingredients of the holy incense - positive or at least complete identification (Benet 1976). These theories are attractive for linguistic reasons and also because the "wandering Jews" were essentially nomadic and offering holy smoke (cannabis mixed with other psychoactive ingredients) in closed tents in a manner similar to the Scythians (Clarke 1995; Touw 1981) as was described famously by Herodotus. But the Old Testament incense is sometimes immensely powerful and dangerous to the point of being lethal or instigating violent destruction (Leviticus 10; Numbers 16; 2 Kings 26) as well as representing the presence of the Lord. Yahweh was both "incensed" and pacified by various odors and there was a perpetual fear of the wrath of god appearing in a thunderous cloud for some mistake in the ritual.

In some ways the Old Testament is the story of this mysterious incense in combat with strange barbarian smokes. The wandering Hebrews followed a pillar of smoke by day, and a fire by night (Exodus 13) and Exodus 19:18 links the Lord with smoke: "And Mount Sinai was altogether on a smoke, because the LORD descended upon it in fire: and the smoke thereof ascended as the smoke of a furnace, and the whole mount quaked greatly." Soon the great fires of the mountain were rendered portable in the tabernacle, constructed of acacia wood, which enclosed the Altar of Incense (Exodus 30) with Moses' brother conducting the rites at morning and twilight. Exodus 30:9 is very revealing with the injunction: "Ye shall offer no strange incense thereon . . ." which is indicative even at this early juncture for the fledgling nation and people that "strange" (as in "foreign") incenses *might* be burnt on the altar, with the implication that other incenses were known. The priesthood, through the descendants of Aaron, therefore must control not only the manner, time and "hierophant" to conduct the incense offering, but they must control the ingredients as well. To misuse god's proprietary blend of incense was a capital offense with punishment coming from the smoke and tent/temple itself.

The ingredients in the sacred incense (*ktoret*) are the matter of much debate and endless speculation as with the mentioned theoretical linking of cannabis (Benet 1976) to various "aromatics."[2] The anthropologist Margaret Joyce Field speculated that Moses might have inhaled crude nitrous oxide, by placing crystals of ammonium nitrate on hot metal dishes or censers (Luck 2006), in an intriguing theory in view of the Chinese sources discussed below. There seem to be different levels or "grades" of incense, which were the proprietary knowledge of first Moses and his immediate circle and later the prophetic guilds. The House of Avitnas possessed and ultimately kept the knowledge of at least one secret ingredient, the *Maaleh Ashan*, of which nothing further is known (this is discussed in the Midrash Shir Ha Shirim Rabbah). There is clearly a sophisticated pyrotechnical science displayed, and the nomadic Jews had "skillful craft" enough to work metals (Exodus 30), which was used to awe and intimidate while psychoactive fumes wafted "the glory of the Lord."

This problem of "unauthorized coals" has been linked by religious scholars with the moral understanding and justification of the emergent "priesthood" in controlling the rituals in the tabernacle and later in the temple. A close reading of Leviticus 10 reveals that Nadab and Abihu, sons of Aaron, had their own "personal" hand-censers from which they attempted to offer incense but "fire went out from the Lord and devoured them, and they died before the Lord."[3] Likewise in Numbers 16, Korah and his band bring their censers to the tent in a trap to offer incense in the wrong manner to further their ambitions and question why some are set above the community, i.e. the priesthood. The fire of the Lord was to consume the whole community, but for Moses' interventions and withdrawing the people from the "space around the Dwelling," (of Korah, Dathan and Abiram) at which point the ground erupts: "And fire from the Lord came forth which consumed the two hundred and fifty men who were offering the incense." A skin disease

(leprosy being just a general term) is the fate of King Uzziah for trifing with the incense rites in defance of the priests and he suffers the proclaimed fate of all those who dabble in "unauthorized coals" and is buried far off, "being cut off from the people."

The Hebrew priests of the Old Testament were burning many things, from animal burnt offerings and red heifers to more esoteric ingredients, which alterately were "pleasing to God," destroying sinners, or facilitating a meeting with the Lord as with Moses in Numbers 12.8 "face to face, mouth to mouth." The Altar of Incense is a major source of contention in a power struggle in the Old Testament between the Levite priest class and the community to the "alien" cults infiltrating and perverting the pious patriarchs in the form of foreign wives. The Altar of Incense was also an issue in the tensions between the secular power of the kings and the priestly/prophetic guilds. As the nation of Israel replaced its tent of meeting with the temple after pleading for a monarchy, the Altar of Incense and its attendant rites were diminished (I Kings 13; II Kings 23). I suspect the subjugated role of the Altar of Incense in the tent of meeting is refected in II Chronicles I, where Solomon requests or invokes wisdom from the Lord, a practice of theophany that seems to have fallen out of favor with the priests. The Lord required a thousand burnt offerings to appear to Solomon, which would refect, in terms of an entheogenic hypothesis, a loss of ingredients or degradation in the preparation or recipe. Solomon employs Hiram of Tyre to build the temple to offer "fragrant incense" (II Chronicles 2.1) and sometimes the clouds of smoke that were the "glory of the Lord" were so thick that the priests could not enter the temple (II Chronicles 7).

This entire scene of the incense, in contrast to the burt offerings that follow (and the two are distinct but blurred in certain portions evolving from the time of Moses to the era of Solomon, could be understood as Solomon reintroducing the incense as *ktoret ha-samim* or incense of drugs.[4] Perhaps Solomon's knowledge stemmed from his "many foreign wives and concubines" that enticed him to worship alien gods and goddesses leading ultimately to ruin. The twisting, intertwining prophetic legends in the Old Testament eventually have a prophecy of the incense altar being destroyed (I Kings 13), which comes to fruition with Josiah, who burs the idolatrous priests ordained by the kings of Judah to burt incense and thus desecrates the altar (II Kings 23). This massacre is begun by Josiah: "Because they have forsaken me and have burted incense to other gods . . . therefore my wrath will be kindled against this place, and it will not be quenched." (II Kings 22:15-17).

THE SMOKE OF FOREIGN FIRES

The exact recipe of the Old Testament incenses (Levitical and foreign), if there ever was an offcial recipe that persisted with exact continuity, will likely never be known. Some of the ingredients may be deduced from other examples in the ancient world of incense cults and their psychoactive aromatics. A starting point would logically be Egypt, from which the Israelites made their Exodus, and their various temple incenses and magico-medical fumigants, which included benzoin, cannabis, *Hyoscyamus*, bitumen and arsenic sulphide (Shehata 2006). Psychopharmacologists link Egyptian plants found in the various Greek writings and Egyptian medical papyri with the *soma/haoma* of the ancient world and *Peganum harmala*, which is still used as a magical incense to this day. Linked with the *nybt* of the Papyrus Ebers (Flattery & Schwartz 1989) *Peganum* is also mentioned by Dioscorides as being used by ancient Syrians as *besasa*, or "Plant of Bes" and that it was burted in Egypt before the statue of Bes. The ancient *kyphi* has been speculated by some scholars to have contained cannabis as well as other psychoactive plants such as *Acorus calamus* and from sixteen to fifty other ingredients, many of which are unidentifed.[5]

The pagan worship of the Greco-Roman world is infused with psychoactive smoke rituals that are discussed in a much more overt manner due to the heavily shamanic component to much of their mystery traditions. Euripides (*Hippolytus* 954; Hamilton 1982), writing of the Orphics, says that they "go into ecstasy honoring the smokes. . . " and the smoke is the "means to achieving frenzy." The Orphic communes speak of Orpheus' mystical regimen as including a special diet and "smoke" (incense inhalation) (Ruck 2007). The Orphic hymns contain a highly systematic array of fumigations containing some highly pungent psychoactive substances that would synergize to be more potent in combination, as with the herbs in the drink absinthe, which potentiate other ingredients. These include the usual suspects of frankincense and myrrh, storax, saffron, "every kind of seed," and unidentifed aromatics and "odoriferous substances" intimate with each invoked god.

Luck's (2006) masterpiece *Arcana Mundi* discusses magical papyri that contain many psychoactive smokes in elaborate concoctions "that are burted, consumed or rubbed into the skin." Some infernal ingredients, such as frog's tongue, with the secretion of bufotenin in various frogs and toads, to calf's snout (*Antirrhinon orontium*) continued to be used in "witchcraft," as explored further below. Luck's discussion on ritual plants and psychoactive substances is quick to suggest that the ancients could access altered states much easier than modert man, and speculates on the numerous means and methods which would elevate consciousness to a higher level. Indeed, some speculate that the mere odor of the mandrake was what instigated its acclaimed aphrodisiac properties (Fleisher & Fleisher 1994).

The "magical smokes" of the Greek medical papyri - and distinctions between medicine and magic were not made in the ancient world - led them to ascribe marvelous effects to sacred fumigants. Luck quotes the scholar William Brashear discussing the importance of the *epithymata* whose

magic rites make sacred a profane world of "foul odors" with smoke

the heirs of these entheogenic traditions, as with the surviving Mandeans, and the Shia of Iran, who burn *ephedra* and *Peganum harmala* for apotropaic purposes. The *Isphand (Peganum harmala)* of the Prophet and early Shia Imams was ingested for bravery according to *hadith* and was burnt for blessings and exorcisms, as well as with frankincense for prayer as *kundur*, echoing Zoroastrian tradition (Flattery & Schwartz 1989). The Avesta (Yast 22) links these rites to the immortality/plant complex with the occurrences of such passages of "a fragrance awakening the dead" (Flattery & Schwartz 1989).

The Indo-European complex of holy plants as means of communicating with the gods is found throughout Persian and Indian religious texts that group the plants together in prayers. The truly ancient Atharva-Veda (Book XI.6.15, translated by Whitney 1905) is such a text and speaks "to the five kingdoms of the plants with *soma* as the most excellent among them. The *dharba*-grass, hemp, and mighty barley; they shall deliver us from calamity!" Crevatin (1983) argues for the use of hemp and of psychoactive dharba-grass in the Atharva-Veda, which was the seat for the god Agni on the fire altar. Flattery and Schwartz (1989) argue against this by simply stating, the "Atharva-Veda is not medical but magical," but as scholars like Luck (2006) and Strickmann's (2002) *Chinese Magical Medicine* demonstrate, these designations of magical and medicinal are thoroughly modem distinctions.[6] The often bewildering digressions of Schwartz yet link Avestan words with a sense of "burning" or "hard to burn" to many of the same words that associate with *haoma* and a drink of immortality. The dismissal of hemp, as being purely used for fiber or "binding" and not burning, would seem to contradict the meticulous research of Flattery in the same volume of the simultaneous use of "*Peganum harmala* as incense and intoxicant." That a culture obsessed with psychoactive plants and fire rituals would be ignorant of cannabis as either a fuel or entheogen would seem patently absurd, especially as it is mentioned explicitly in the Atharva-Veda in the context of *soma*, and has an ancient use in the region (Touw 1981).

The discussion of *bhanga* as a general term for psychoactive plants, but specifically hemp and henbane, would confirm the hypothesis that these plants are linked in fire rites, as both produce psychoactive smokes. Schwartz makes an etymological argument against *bangha* coming from the Old Iranian *banga* "psychotropic or narcotic plant." Flattery argues that *bang/mang* are general terms for psychoactive plants, cognate with the later Arabic *banj* (henbane or datura) as ordeal plants (for initiation) in Persian legends. Yet in discussing the word *duraosa* in the Gathas, Schwartz notes the *sauma* is mentioned in the context of burning and he links this with the apotropaic magic of later Iran. That the burning of the plant is a matter of inhalation of the smoke either of cannabis or *Peganum harmala* (or better yet combined together and/or with other substances) is never considered, and Schwartz thinks of its burning as purely symbolic or towards apotropaical ends. Yet this was a primary mode of experiencing the psychoactive effects of plants.[7] Schwartz's etymology of the Iranian drug term *svanta* as the foremost name for *Peganum harmala* returns to incense with a tangle of words that might include sandalwood. Again this combines the plant in the context of a psychoactive incense blends that blur with the above mentioned cognates that may include hemp, *Datura* spp. and henbane. There are just too many linguistic and practical overlaps to dismiss any one of these plants.

THE WAY OF INCENSE

I believe that the Chinese mystics will shed much light on this situation, a light cast from the coals in their immense incense burners and glowing alchemical furnaces. Scholars continue to unearth various artifacts that support a staggering picture of early contact between nomadic proto-Indo-European and Indo-European cultures in reaching and influencing China (Kuzmina & Mair 2007; Barber 2000; Mallory & Mair 2000). Influences from India and Indo-Iranian cultures would meet in a very syncretistic indigenous shamanism. Scholars have associated the incense cults of Ancient Israel with parallels that trace back to the Ancient Orient (Haran 1960).

The Taoists, like the Indo-Aryan cults of holy magical plants/fungus, enshrined magic mushrooms, elixirs and minerals in their highest mysteries (Li 1978; Needham 1974; Wasson 1962). The primordial image of a death-defying plant of immortality evolved into a concept of an elixir alchemy which persisted from prehistoric metallurgical guilds into quite modern times. The numerous academic "problems" that haunt the origins of alchemy, such as even a precise definition of alchemical arts, are confronted by Needham with his typical penetrating insights. The incense burner (*hsiang lu*) is the key in the earliest shamanic Taoists as well as in the increasingly elaborate liturgical Taoism. It is the "missing element" in the origins of Chinese alchemy (Needham 1983, 1972; Schipper 1968). The incense burner is the "ancestor and begetter of the alchemical furnace" that linked the "worlds" (Needham 1974). The components of the early Taoist incenses are encoded in many esoteric texts, sometimes overtly mentioning decidedly psychoactive ingredients. The Chinese were unparalleled in their highly systematic use of smokes, from warfare to fumigations for hygiene and book insects/worms, to hedonistic and religious purposes.

The most ancient Taoist oratories (*Ching Shi or* Pure Chamber or Calm Room) are described as empty except for the incense burner (Needham 1972). The "audience of the Absolute" is "smoked" into the room via the psychoactive smoke and fumes.[8] The mercurial/sulfur theory of alchemy might then be bor of the early incense shamanism in China. As Needham writes, "the actual submission of semi-magical substances such as cinnabar, sulfur or the arsenical sulfides,

to the fire, took place in these liturgical stoves, with startling results both chemical and physiological" (Needham 1974).

The repeated burnings to purge metals of impurities, sacralized and developed into alchemical theory, are bo r of the tripod braziers smoking in enclosed rooms. Schipper, at the Bellagio Conference on Taoist studies, discussed some of the ingredients of the hallucinogenic incense as consisting of hemp and the alchemically signif cant metal lead burned in Mao-Shan rites (Welch 1970). Needham (1974) has a footnote that quotes the brilliant scholar Michel Strickmann who noted the frequent and "remarkable . . . injunction" to "don't look around" (*wu fan ku)* were directions in "obeisance to the incense-burner in the Pure Chamber oratory . . . [suggesting] the need for concentration on the hallucinogenic smoke."

Needham's intriguing discussions, with many clues in his massive footnotes, go further in describing the importance of incense cults in the cultural exchange between China, India and various nomadic cultural exchanges. "Immortals meet at the Incense Bu r er" is a refrain in the liturgy that mixes elixir terminology with magic mushrooms and the all-central incense bu r er. The elixir alchemist himself, apart from the congregation, must conduct private rites or the "Rite" before he ingests his metallic-mineral-fungi potions. Offerings and libations accompany mysterious incense rites of identif ed "ancient cereals associated with immortality" called "Steaming the *Chu-sheng*," while another is "Method of Steaming Hemp." Needham writes: "What concerns us here . . . is the possibility that the ancient Taoists generated hallucinogenic smokes in their incense-bu r ers." Certainly there is hard evidence of cannabis use in ancient China, thought to be used to shamanic ends (Jiang et a!. 2006).

The possibility is con f rmed in his discussion of magical and practical fumigations that merge in the supe r aturally inclined Taoist mind. His footnote tantalizingly raises speculations of a Taoist "quasi-orgiastic rite . . .assisted by strong olfactory stimuli, to say nothing of psychotropic drugs in aerosol form" (Needham 1974).[10] Needham con f rms the use of cannabis in incense-bu r ers in at least one Taoist collection, the Essentials of Matchless Books (Wu Shang Pi Yao), and that such use was known at least in the Han Dynasty (206 B.C.E. to 220 C.E.) or before. He talks of "group inhalations" and describes the experiences as "psychedelic." Talking of the many poems and strange incenses, he says there is "all in all much reason for thinking the ancient Taoists experimented systematically with hallucinogenic smokes" (Needham 1974).

As Needham's colleague Schaffer notes, there was "little clear-cut distinction between incense, aromatics, perfumes, drugs . . ." in the ancient world. Incense was used for time keeping (Bedini 1994), an important factor in proto-chemical alchemy, and also as a "protypal reactant" (Needham 1974). The systematic records of incense blends mention many aromatics and essences, many of which are also found in the equally systematic monographs written by Taoist scholars on elixirs. Another alchemical link is found with the wizard/alchemist and Tantric Buddhist saint Nagarjuna, who has his own legendary blend called, cleverly enough, "Incense Blends of the Bodhisattva Nagarjuna." Sidestepping the debate as to the identity of Nagarjuna (Mabbett 1998), there are known examples of Tantric psychoactive incenses composed of *Datura metel* used in the Vajramabhairava Tantra (Ratsch 2005; Siklos 1995). The Himalayan shamans and Tantric mystics have a highly evolved psychoactive incense mysticism (Muller-Ebeling, Ratsch & Shahi 2002). In the context of alchemical associations, the *homa* fire of the Tantrics yields the holy ash of sacred plants or *bhasma* (used to cover their bodies), which is also the *bhasma* of the alchemical *rasayana* of India (which is calcinated metals and herbs).

But the Taoists were the masters of quasi-lethal or even lethal incenses, and some, such as the "formula for mixing demon-killing pellets" to be burned during elixir preparations, contained twenty ingredients, nearly all poisonous, including the cinnabar and arsenic mentioned with other substances associated with immortality (Needham 1974). This was said to kill "every gremlin impeding the work of the alchemist" while certainly provoking some deleterious physiological symptoms that ironically would have been associated with success. A crucial observation made by Needham and Schipper cites the incense bu r er as the elusive link between the *wei dan* or outer-alchemy, to the inner-alchemy or *nei dan*. Thus both types of adept meditate in the smoke of their holy, magical and psychoactive incenses no matter if they ingest elixirs or not.

JINNS AND TONICS

The Arabs gleaned much of their knowledge of alchemy from China (Needham 1976, 1974) though these relationships have still not been explored satisfactorily. Mahdihassan (1951) links such words as elixir and genie (or *jinn/djinn*) with Chinese words that became ingrained into Arabian alchemy; and Needham's exhaustive research uncovers countless exchanges from metallurgical technology to religious doctrines and occult knowledge. The Arabs and Chinese seemed to have exchanged much spirit lore and quasi-mystical techniques of macrobiotic tonic elixirs and alchemical novelties. These persisted into Latinized occult works, such as the *Picatrix*, that met with indigenous pagan "incense" mysticism, to be discussed after this short digression into Arabian sources.

The alchemical fu r ace and incense bu r er meet again in certain Arabic texts that blend talismanic magic, alchemy, occult arts and astrotheology. Crucial to this discussion is the strange occurrences of potentially "lethal incenses" in the Arabic toxicological/alchemical literature. Needham (1980), in the footnotes to a lengthy digression on Chinese in f uence on Arab and Syrian alchemists, mentions the *Kitab*

al-Sumum of Ibn al-Wahshiya and the work by the same title with different but similar subject matters in the Jabirian corpus. Both mention a variety of poisonous, psychoactive vapors and there is "talk of poison smokes" and ritual demonifuges and "Persian drugs" (Levey 1963). The book is saturated with alchemy, incantations and charms and some strikingly Chinese concepts, such as the lethal incense in the context of "intercourse with a poison maiden," which is strongly reminiscent of Taoist hemp-maidens. The list of possibilities includes all manner of psychoactive, mephitic ingredients clearly presented in a magical, "Nabatean" context. The Syrian Neo-Platonist Iamblichus, in his *De Mysteriis Aegyptiorum*, writes of the incense on the altar that forms images as it rises upward, giving his *Theurgia* a psychoactive dimension. The Neo-Platonic texts are a crucial link that preserves the ancient techniques into the Common Era.

The Arabs, pre- and post-Islamic, certainly had their own incense customs, especially in Persia as the above discussion illustrates in respect to the *haoma* complex. The holy associations continued into Islamic *hadith* and in the mystical Sufi poets such as Saadi, Attar and Rumi, who speak of *harmal*. The extensive use of *Peganum harmala* as medicine, entheogen, dye and incense is well documented in a vast array of cultures and its use is continued in many Arabian countries for hedonistic purposes as well as being burned for apotropaic magical purposes (Bailey & Danin 1981; Hassan 1967). Certain Moroccan exorcisms confine the afflicted in a enclosed tent fumigated with vapors of *Peganum* until "demons are heard to cry out," and village fools are said to inhale the smoke for recreational purposes (Flattery & Schwartz 1989), attesting to widespread folk use. There are reports that some in Morocco inhale seeds of *Datura stramonium* at hallucinogenic doses (Ratsch 2005), which again describes a very widespread use of such practices in the Islamicized world. The Prophet Muhammad prescribed an incense containing *harmal* (*Peganum harmala*) and frankincense used in worship and there are numerous hadith and folk traditions that use the incense in a quasi-magical manner that is also subtly psychoactive.

There are myriads of legends of *djinn* or *jin* throughout the lands and their reality is validated by prophetic traditions as well as the Koran (Sura 72). The oldest legends of the *djinn* describe them as demons from smokeless fires (Al-Ashqar 1998) or from "blazing fire" (Koran 55:15; Ali 1987). The folk stories of the *Arabian Nights* contain numerous instances of these magical creatures issuing from burning lamps and other vaporous sources. One particular story has an unfortunate man summoning *djinn* to enter a mythical island closed to mortals by means of burning a magic powder. He has a truly entheogenic experience of mysterious caverns and superatural lands: "and the fumes of the incense had not ceased, before a dust appeared advancing from the further extremity of the valley. Then, after a while, the dust dispersed, and a Sheykh (*djinn*) appeared riding on an elephant" (Wallace 1904).

Jinn are said to love the smoke of *harmal* (Flattery & Schwartz 1989) but on the other hand *Peganum harmala* is used in exorcisms as well. Flattery quotes Henning, who remarked of *Peganum* that "the proper place of Wild Rue . . . is in witchcraft, which the Zoroastrian church ever combated; its seeds are thrown into fire to excite fat, black smoke," (Flattery & Schwartz 1989) but again there are equal references that indicate rue was burned to be rid of demons. Indeed, the predominant symbolism that remains around *Peganum* is in its customary use in being burned to protect from the evil eye (Flattery & Schwartz 1989; Donaldson 1973). But a dual role of *harmal* and the "psychedelic" smokes of the occult books of the Jabirian corpus combined with the widespread jinn lore all link with strange smokes. *Jinn* are exorcised throughout the Islamic world by burning incenses and holding the patient and Surahs of the Koran in the smoke (Hentschel 1997). There is some etymological evidence, perhaps tenuous, that links the concepts of *jinn* and even the word *Sufi* back to the Chinese mystics of alchemical tonics, fungi and incense (Mahdihassan 1959, 1957).

The occult or magical texts of Arabian mystics are exemplified in the *Ghayat al-Hakim fi'l-sihr*, (The Goal of the Wise or in the Latin the *Picatrix*). Both the Arabic and Latin version are concerned with talismanic astro-magic induced by aromatic fumigants, some inhaled through a "hollow cross" with precise directions and varied ingredients (Bakhouche, Fauquier & Perez-Jean 2003; Pingree 1986). The "noble" oracles of the pagan gods are relegated to mere demons, *jinns* and devils in the marginal realms of monotheistic religions labeled as magic and witchcraft. Translations of Arabic texts and survivals of paganism in Europe offer a context of superatural plants and shamanic practices that evidence a continued use of psychoactive incenses as a catalyst into trance or ecstatic states. As the below quotation from Burton's (1885) translation of the *Arabian Nights* demonstrates, concerning King Shahryar and his brother, the effects the magic powders echo the possible devastation of the Old Testament incense:

> The magician brought out from his breast pocket a casket, which he opened, and drew from it all he needed of incense. Then he fumigated and conjured and adjured, muttering words none might understand. And the ground straightway clave asunder after thick gloom and quake of earth and bellowings of thunder.

This quote confirms many of the nineteenth century travelogues that describe Arabic magical *jinn* appearing from the "smoke of powders thrown on fire" and that "illusions or hallucinations are still produced by such devices" (Godbey 1930). Godbey, not at all sympathetic to entheogens or mysticism, in his antiquated but still useful piece describes various "incense ordeals" and their relationship to magic. He cites modem era practices such as the powdered *ambara* thrown on braziers by "Turkish necromancers" and cites the eminent scholar Lane with his reports that Muslim intelligentsia

"declare that all *es-semiyah* or deceptive magic is merely a matter of narcotic odors and drugs" (Godbey 1930). Dr. Alderson writes that an Egyptian sorcerer gave him "a prescription of sulphur, antimony and herbs that cause the person using it to be haunted by specters" (Godbey 1930), which also brings up classical alchemical ingredients.

Traces of this reverence for visionary smoke, holy metallurgy and visionary plants followed the elixir-tonic to Europe from the Arabs. The German iatro-chemist Paracelsus and his spagyric disciples preserved much of the ancient folklore in the twilight between proto-chemical alchemy and chemistry. Van Helmont, a 17th century Belgian alchemist, worked from the Paracelsian model of sulfur, salt, and mercury in his pioneering research that "discovered" the properties of various gases, or *geists* (spirits). Interestingly, his discussions include the visionary gases of the Grotto del Cane mentioned by Pliny (Partington 1989), where the Cumaen Sybil uttered her oracles. Van Helmont says he nearly killed himself by way of carbon monoxide poisoning from burning charcoal (Partington 1989) and his research indicates that he clearly experimented with the physiological effects of the gases.

The alchemist Sir George Ripley (Waite 1992) is overtly visionary in his poetical descriptions that speak of toads in secret dens and "His Cave with blasts of fumous Air." l yren r us Philalethes, Anglus, Cosmopolita (aliases of perhaps Thomas Vaughn or George Starkey) wrote *An Exposition upon Sir George Ripley's Vision* that explains with psychedelic imagery Ripley's mystic poem:

> Also it is called a secret Den, because of the secretness of Ashes or Sand, in which in a Philosophical Athanor it is set, the doores being firmly shut up, and a prospect left to look in by a Window, either to open a little, as much as is convenient sometimes, as occasion requires, or else with Glass put into it, to admit the view of the Artist; together with a light at hand to shew the colours (Philalethes 1678).

This description echoes the tents of the Hebrews and Scythians and especially the "pure rooms" of the Taoist alchemists who inhaled the incense of alchemical furnaces in closed rooms. Though the language refers to practical alchemy this may well be a code to summon "the Spirits arising like a smoak (smoke) or Wind" (Philalethes 1678). The text describes mythical ingredients, like the Balsam of Nature mixed with astrotheologically selected substances such as "the Tyrian Colour, the sparkling Red, the fery Vermilion and the Red Poppy of the Rock," all of which produce a venom that "kills, and saveth." The operation, which is lengthy, culminates when the blends "boil and bubble together like melted Pitch, and change their forms one into another," again recalling the texts of the Arab and Taoist alchemists. Alchemists conducted much of their vaporous work in closed quarters with perhaps severe physiological effects. This appears to be the case with Robert Boyle, whose many mercural ex p riments may have induced p ripheral neuropathy (Chesire 1992). Other attribute Newton's breakdowns to inhaling noxious fumes as well (Spivak & Epstein 2001; Johnson & Wolbarsht 1979). This is not to reduce alchemy to simple madness, as some have, but it does attest to practices that ranged from the truly archaic period of proto-alchemy until the Enlightenment.[9]

THROUGH THE FOG AND FILTHY AIR

> "The daughters of Israel burn incense for sorcery." Berachoth, fol. 53, col. 1. (Hershon 1880)

The incense rites of the Hebrew prophetic guilds would be extinguished with the fnal destruction of the Second Temple in 70 C.E. Scholars will continue to debate the chronology and proper roles of incense in the Old Testament but if they are later and of foreign infuence, it is all the more reasonable to associate them with "foreign" infuences that crept into the Israelite cult. The visionary rites are present in the New Testament book of Luke I:11 "And there appeared to him an angel of the Lord, standing on the right side of the altar of incense." Likewise, the hallucinatory book of Revelations VIII: 3 finds an angel holding a censer in the midst of the four homed altar "and there was given to him much incense."

In the context of sorcery, Rabbi Galilean (2nd century C.E.) believed the burning of incense by women was synonymous with witchcraft (Bar-Han 1993), though the Talmud casts this application as being in the minority. Bar-Han's opinion confirms that of Rabbi Galilean in linking the bu r ing of incense with unknown and perhaps infernal ingredients, and with a more widespread complex of female witchcraft. But various Kabbalistic texts discuss incense rites that are associated with the *golem* or the *Ba'al ob* (Master of a Familiar Spirit) such as is found in the Babylonian Talmud, Tractate Sanhedrin.

The association of incense with various forms of magic - Babylonian, Greek or Persian in the case of the Hebrews or with remnants of the pagan cults in Europe and the *theurgia* of the Greco-Roman world - persisted in the minds of the early church fathers and later inquisitors. The diverse sources of antiquity melded into underground strains of "occult knowledge" that drew upon ancient Hellenistic (and ultimately Indo-European) sources and Christianity/Mithrasism, Judaism (Ankarloo 1999) and later Islam. The forces would merge and incite the persecutions that culminate in witch-hunts.

Many fne academic treatments of the witch phenomena have described the use of various hallucinogenic drugs (Ginzburg 1990a) as well as the use of the same substances as "truth-serums" by inquisitors (Sidkey 1997). The fying ointments and unguents suspected in the " fight" of witches were thought to be applied to the body and transdermally absorbed, as in the suspected smearing of salve on a broomstick and into the mucous membrane of the vagina (Hansen

FIGURE 1
Apparitions in Psychoactive Fumes at a Witches Sabbath
(Kupferstich von Michael Herr um 1650. Nürnberg, Germanisches Nationalmuseum)

1978). Plants containing anticholinergic alkaloids are the chief suspects and these are the classical "witchcraft herbs" of the *Solanaceae* family, such as mandrake (*Mandragora officinarum*), henbane (*Hysoscamus niger*), and thorn apple (*Datura stramonium*).

There is significant scholarly debate as to the exact role of these drugs in the "witchcraft phenomena" and modern experiments with the "flying ointments" have yielded mixed results (sometimes death) and the recipes left are often from polemical sources. But the witch's flight is connected to a legitimate shamanic tradition and is not simply the delusions of ecclesiastics and demonologists (Ginzburg 1990; Pocs 1989). Some challenge these accounts and say that drug-induced hallucinations do not account for the group flight to a Sabbat and favor a trance or dream as the likely source of the delusions (Bever 1983).

There is little discussion in the vast witchcraft literature of psychoactive incenses or fumigations as a primary mode of ingestion. Muller-Ebeling and colleagues (1998) cite some examples and even "Hecate" invoking recipes but the primary attention is still given to the role of the flying ointments. The artistic representations of witches, from the quaint German woodblocks of Jacob de Gheyn II to the masterpieces of David Teniers the Younger (also a painter of many alchemical subjects), are repositories of actual witchcraft practices or contemporary folklore beliefs (see Figure 1). The images are often gruesome and contain many famous witching implements such as the ever-bubbling cauldron that fills the room with great clouds of smoke. Given the prominence of smoke in these images, often carrying a witch out of a chimney or erupting in fumes that fly the witch on the back of a goat, one wonders if inhalation was not really the primary mode of ingestion. The thick smoke in the pictures is not really consistent with the making of an ointment or salve, as that amount of smoke would indicate scorching and thus the alkaloids would be lessened in the residue having been released into the air.

I speculate that the unguents and ointments found by demonologists and other persecutors consisted mainly of burnt residue from the toxic and semitoxic substances that were incinerated and inhaled. A smoke-filled room or cave, full of leering demonic faces, is a most common feature in these artistic representations and perhaps the witches spread the remains upon themselves (note: as there was already a connection with the incense in the Old Testament with the anointing oil, there may have remained magical associations for dual uses). This would be a more rapid and perhaps more powerful means of administering the alkaloids that inhibited the neurotransmitter acetylcholine and thus stimulating, *en masse*, the sensations of flight and similar hallucinations.

The prophetic apothecary Nostradamus exemplifies the alte r ative tradition that is the heir to traditions marginalized by the Christian Church. His visions may been induced by some of these herbal incenses, such as is described in this passage (Century ! - Quatrain I. [I. 52.]; Ward 2008:

> Gathered at night in study deep I sate,
> Alone, upon the tripod stool of brass,
> Exiguous flame came out of solitude,
> Promise of magic that may be believed.

Perhaps the secret fames of the *philosophi per igne* of the medieval ages were sprinkled with psychoactive powders that produced magic visions. The examples of possible psychoactive incenses in witchcraft, alchemy and European paganism are legion. They persisted in the occult world of the ninteenth century in the "Satanic Rites" and black magic books of characters like Eliphias Levi and other magicians that were in confict (inte r ally and externally) with the doctrines of the Catholic Church. The literary world of France produced a number of quasi-occult works of fction and poetry awash in romantic Orientalism and their own traditions of mind-altering drinks. The Satanic Black Mass of fiction, such as that discussed by J.K. Huysmans' *La-Bas* (2001), has an infe r al invocatory incense that mentions "rue" and several species from the *Solanaceae* that capture the contemporary associations between illicit magical operations compared to the heavenly scents of orthodoxy.

CONCLUSION

The fields of myth, religion and ethnobotany contain many instances of psychoactive or magical plants that seemed to have suddenly been banned, forgotten or simply abandoned (*soma/haoma*). The tension due to the Holy Incense in the Old Testament, and it would seem with the Catholic Church after Christ as well, exemplifes the struggle of religious and cultural integrity even in the most intimate rites of religion. When foreign smoke, perhaps psychoactive in a di ferent sense, fills the inner sanctum of the temple the theocracy is shaken to its very foundation. From the foreign wives of kings and prophets to the persecuted "women of the hedge," spinsters and witches, the misogyny of the priest-class can be seen to arise from a fear of the botanical knowledge of women that challenged their monopoly. The second book of the Bible, Exodus 22:18, demands the community shall not "suffer a witch to live" - which was the same justification used in the witch-hunts for "weeding out" forbidden rites w ruch more o fen than not, as seen by the above examples, contained some form of psychoactive incense.

The incense rites of foreign cultures were not strictly feminine, though the initiations of the hemp maidens of the Taoists and the poison maidens of the smokes of Ibn Wahshiya are telling, but the guilt by association was established in the Judeo-Christian mind. The bu r ing of specifc psychoactive plants in tents may have spread from the Indo-European nomadic cults, the prime example of which are the Scythians who, ironically are said to have a fundamental equality amongst the sexes in battle (as with the Amazons of Herodotus) and participation in the enclosed inhalations of cannabis vapors.[10] The conficting dynamics of wild, nomadic tribes with some semblance of gender equality with the increasingly stationary, patriarchal societies may well have centered on the psychoactive smokes that were enshrined and controlled as high mysteries of the cult.

NOTES

1. All Bible quotes are from Suggs, Sakenfield & Mueller 1992.

2. A discussion of the actual incense is far beyond the scope of this article but generally, with some secret ingredients acknowledged, was composed of the following: seventy manos of each of the following: tzari (sap of the balsam tree), tziporen (shecheles, a kind of root/annual plant or alternatively, onycha, a type of fower), chelbenah (galbanum, a gum resin), and frankincense; 16 manos of each of the following: myrrh, cassia, spikenard and sa fron; 12 manos of costus, three manos of cinnamon bark, nine manos of cinnamon. The following are not counted among the 11 ingredients, they "serve" the other spices: nine kavim of soap of Boris Karshinah (soap of Karshina; alte r atively, vetch lye); 21 sa'im of wine of Kafrisim (a fruit of the caper tree). *Leptadenia pyrotechnica* as a secret of ingredient, while providing some smoke e fects as per its name, would not justify such secrecy and its uses as a frewood was common as it still is among Bedouin. Amar (2002) posits a salt but none of these ingredients explain the diverse e f ects of the incense. Even the theophany of Mt. Sinai is suggestive "I am going to come to you in an 'Av ha'Anan (dense cloud), in order that the people may hear when I speak with you and so trust you ever after (Exodus19:9).

3 See Yeivin (1976) for images of Canaanite Ritual Vessels in Egyptian Cultic Practices, though he does not suggest that the personal censers may have been for inhalation, as he thinks the hollow tubes are for blowing on the coals. Either way would fill the air with the fumes. Compare with the personal censers of the Old Testament in Numbers 16:18: "And they took every man his censer, and put fre in them, and laid incense thereon, and stood in the door of the tabe r acle of the congregation with Moses and Aaron." Some have suggested that the gathering of w o on Sabbath might be the source of the "s t ange fres" (Robinson 1978). Magical incenses persisted into the sixteenth century Jewish mysticism with magical fumigations (*fumusterrae)* that consisted of toxic metals and minerals and plants such as black hellebore that purged demons, restored cheer and banished melancholy. This and other allusions to magical fumes and incenses can be found in Patai 1994.

4. I suspect foreign wives and concubines in this strange role of a King Solomon conducting the incense rites, which

as discussed was disastrous for King Uzziah, and the rites were to be conducted by the priests; see Exodus 30:1-10; Numbers 16:40, 18:1-7.

5. Ratsch (2005) says that *Peganum harmala* is mentioned in the Koran, but I do not believe this to be so as I have not found it in my daily readings, and the botanical literature on the Koran in Arabic is significant and does not mention this plant as being in the Koran. It is found in the Shia hadith and religious poetry of Iran. There are vague online reports of the Centre for Research and Restoration of French Museums recreating the Egyptian blend *kyphi* (incense-salve-condiment), which are described as containing "illegal ingredients" such as cannabis and is described as pungent and narcotic in effects. The website with the news story is no longer in service, but here is a quote:

> Experts from L'Oreal and C2RMF, the Centre for Research and Restoration of French Museums, succeeded in recreating the legendary Kyphi perfume. French researcher Sandrine Videault said, "Kyphi will never be sold because some of the ingredients are illegal substances. In any case the smell is probably much too pungent for the modern world."

6. Flattery and Schwartz's (1989) discussion of *duroaosa* and burning hemp seems contradictory. Assyrians added henbane (*Hyoscamus niger*) to their beer *and* incense in combination with sulfur to guard against magic (Ratsch 2005) and there are numerous other references where plants play many roles in a culture, defying the bit too rigid categories of modern scholarship. Schwartz dismisses barley as "not for beer but a food grain," as if it could not be held sacred for both ends, or held sacred precisely because of its dual roll, or triple role if it was infected with ergot - which is also a *soma* candidate, as discussed by Watkins (1978) - and safely processed. Beyond this, I still tend to favor their theory of *Peganum harmala* as having a central role in the *soma/haoma* complex.

7. Schwartz's discussion of the practice of strewing grass or heaping of grass, which he describes as making pillows for sitting of the gods, makes more sense if they are tinder and kindling for the fire and smoke that is literally the god itself. Modern Zoroastrians use an *afarganyu* (fire chalice) to purify with esfand (*Peganum harmala*), luban (olibanum), sandlewood. Schwartz's discussion of etymology and the "esfand on the fire" are meaningful to this discussion, as are the notes in the text about Morrocan folk usages wherein a madman is closed into a tent of hanna! smoke and countless other examples of psychoactive smoke. The root word *ma* in *haoma* is discussed in such word-complexes that mean, hymn, oblation, fuel, to bur and urine, collected by Schwartz. All intriguingly link the conflicting *soma* debates with: the hymns that praise the *haoma*, the oblation (such as in Jaiminiya Brahmal)a I, 1-65) of *soma* to the fire which also would accord with fuel, the urine which is imbibed for the mushroom as per Wasson's deductions (I argue that all these plants were present or used in the ritual at some point in time or substituted or combined for potentiation or overdose and the incense modulates the experience). Schwartz does not note the relationship of these terms, but later discusses the Arabic-Persian *dwpw* as an Indic vernacular derivative of Sanskrit *dhupa* or incense, fumigant. The utterly central role of these incenses in shamanic and tantric practices is discussed at length by Shahi and colleagues (2002). Subbarayappa (1999) describes various incenses for royal pleasure (bhoga) as well as for magical effects and even for winning scholarly debates.

8. The use of incense in China is usually thought of as occurring in the second to third centuries, but Needham argues much earlier. The curious episode in Taoist liturgy of the "stealing" of an incense burner has similarities to the ritual "stealing" of *soma*. For the elaborate use of incense as time-keeping devices, see Bedini (1994). The Buddhist, Sanskrit term for temple was *gandhakuti* or house of incense (Needham 1972). Burners shaped like the Isle or Mountains of the Immortals bellowing green smoke from red flames are archaic (ie, before the classical period).

9. Needham (1972) in a sort of hip vernacular discusses "smoked out" and "smoked in" spirits by way of magic psychoactive smokes, adding the mention of toxic substances to the burner, as well as mustard, horn keratin, lead etc. Also discussed is the practice of "making a stink" with noxious smokes that invoke demons. I would add the enclosure in tents or closed rooms is similar to the common practice in modern cannabis culture referred to as "hot-boxing." Needham (1972) says "hallucinogenic properties of hemp were common knowledge in Chinese medical and Taoist circles for two millennia or more for visionary power." Other ingredient mentioned are dragon's blood, vegetable cinnabar (an interesting designation in terms of alchemy), red resin from trees of the Dracacane family cinnabaris (still sold by unscrupulous drug-dealers to ignorant customers as "red rock opium" and despite all chemical analysis disproving any opiates, many still buy the product for recreational use: perhaps it has some other legitimate psychoactivity or there is a strong placebo effect; see http://www.erowid.org/chemicals/opiates/opiates_myth1.shtml#).

10. The occultist Eckartshausen describes a "fumigant for the purpose of causing apparitions" which included: hemlock, henbane, saffron, aloe (probably aloeswood), opium, mandrake, salanum, poppy-seed, asafoetida, and parsley. The one for banishing specters consisted of: sulphur, asafoetida, castoreum and "more especially of hypericum and vinegar" (Hartmann 1910). Alphonse Cahagnet, a ninteenth century somnambulist, writes of skrying in a magic mirror "All those that bear or shed a sweet, pleasant smell, are suitable for the good spirits; such as incense, musk, gum-lac, etc., and for evil spirits, the seeds of henbane, hemp, belladonna, anise, or coriander, etc. Each seeks his own atmosphere, or one akin to it; but, above all, shun the assistance of evil spirits." (Cahagnet 1851) These may stem from the writings on magic by Albertus Magnus describing

the use of henbane in conjuration. Consider this line from the Bad Angel in Marlowe's (2001) Doctor Faustus: "now draw up Faustus, like a foggy mist, Into the entrails of yon lab'ring clouds, That, when you vomit forth into the air, My limbs may issue from your smoky mouths, So that my soul may but ascend to heaven." All of these examples suggest a psychoactive agent in the various arts of libanomancy and skrying. There is also an interesting similarity with the alleged control that Solomon had over *jinn* by enclosing them in stoppered vials and the Victorian smelling salts which were composed of *aqua ammonia*, spirits of hartshorn with ammonium carbonate and perfumes, camphor etc., recalling also the Chinese stinks produced from sal ammonica and ammonium carbonate, *chhi sha*, the "pneuma-producing sand."

11. The Ainu, suspected as having Indo-European origins, inhale a species of wild rosemary *Ledum palustre*, as did Tungus shamans for trance purposes. The Indo-European tribes descended from the Scythians in the Ossetian region "go to caves to inebriate themselves on the smoke of *Rhododenron caucaiscum*, which would cause them to sleep deeply" and inspire prophetic dreams (Ratsch 2005; Ginzburg 1990b).

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