

fecting a bodily transformation conceptualized as the fixing of the Thought of Enlightenment (*bodhicitta*). This is not to say that mercury-based alchemy (called “gold-making”) had no place in Indo-Tibetan Buddhism: rather, because the practitioner was dependent on external elements rather than his own contemplative practice, it was deemed inferior.

In India, external, laboratory-based Hindu alchemy would also become internalized from the thirteenth century onward. No original works on the subject appear after 1300 CE, and much of elixir alchemy becomes applied to more modest therapeutic ends in the emergent field of iatrochemistry. There was, however, a final phase in the history of Indian alchemy that may be referred to as Siddha alchemy. This is most readily identified by its emphasis on combining the use of mercurial preparations with the practice of external sexual and internal yogic techniques, with the aim of attaining both an immortal, unaging body and the status or mode of being of a semi-divine Siddha. Practitioners of Siddha alchemy often referred to themselves as *Siddhas*—that is, the “Perfected Beings” they aspired to become through their practice. This two-pronged approach is already alluded to in the *Rasārṇava*: “Mercury and breath [control] are known as the Work in two parts” (1:18). Over time, the external, laboratory techniques, as well as the use of mercury-based compounds as elixirs and agents of transmutation would come to be fully internalized in the various techniques of *hathayoga*; however, a close examination of the terminology and dynamics of the latter tradition shows that it developed, at least in part, out of the former.

One may deduce from internal textual references, manuscript colophons, and Siddha lists that most of the authors of the major tantric alchemical works were either court physicians or members of one of the medieval Śākta-Śaiva or tantric religious orders. Many of these authors had names ending in the *-nātha* suffix, and their names figure in a number of lists of Siddhas found in both Indo-Tibetan Buddhist and Hindu sources. These include lists of the Buddhist Mahāsiddhas and of a number of Hindu groups: the Tamil Sittars of the eastern Deccan, the Māheśvara Siddhas of the western Deccan, the alchemical Rasa Siddhas, and the hathayogic Nāth Siddhas. Internal geographical references point to the Vindhya region and western Deccan as the heartland of Indian alchemical practice, in spite of the fact that the literature identifies the Himalayan region and Inner Asia as the source of many of its botanical and mineral reagents. Śrīśailam, a sacred Śaiva mountain located in the eastern Deccan, is the most frequently mentioned “paradise” of Indian alchemy, and it is here, on the outer walls of the Mallikārjuna Temple, that one finds the sole extant sculpted images of Siddha alchemists and their apparatuses. These bas-reliefs date from about 1300 to 1400 CE.

Apart from the foundational *Rasahrdaya Tantra* and *Rasārṇava* already mentioned, the “canonical” works of Indian alchemy include the following, all from the common era: the twelfth-century *Kākaçaṇḍeśvarīmata* and *Rasopaniṣat*;

Gorakhnāth’s *Bhūtiprakaraṇa* and Somadeva’s *Rasendra-cūdāmaṇi*, both from the twelfth or thirteenth century; Yaśodhara Bhaṭṭa’s *Rasaprakāśasudhākara*, Nityanātha’s *Rasaratnākara*, and the *Māṭṛkabhedā Tantra*, all from the thirteenth century; Nāgārjuna’s *Rasendramaṅgala* and Vāgbhaṭṭa the Second’s *Rasaratnasamucchaya*, both from the thirteenth or fourteenth century; the fourteenth-century *Ānandakanda*, and Ādinātha’s *Khecari Vidyā*, also from the fourteenth century.

SEE ALSO Āyurveda; Gorakhnāth; Nāgārjuna.

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ALCHEMY: HELLENISTIC AND MEDIEVAL ALCHEMY

By the beginning of the Christian era, a change in secular and religious attitudes can be discerned. The rationalism that had guided the thinking of the elite in previous times waned, and the rise of skepticism and loss of direction led to a philosophical vacuum that stimulated a recourse to mystic intuition and divine mysteries. The area of the Roman Empire in which this process became primarily manifest was Egypt, where, after the conquest by Alexander the Great (in 332 BCE), the culture of Hellenism with its fusion of Greek and Eastern features was centered. The fashionable mystery beliefs subsumed under the names of Gnosticism and Hermetism exerted a strong attraction for practitioners of the occult sciences (astrology, magic, and medicine) as well as alchemy, the art of making gold: previously, men of science had by thought process and investigations obtained what they now expected to receive through divine revelation or supernatural inspiration. In short, science—as revealed knowledge and, for the alchemist, as a means of creating gold—turned into religion.

Such a link between alchemy and Gnosticism and Hermetism is most tangibly documented in the occult literature of Hellenistic Egypt from about the second to the fourth century. This emphasizes, first, the fact that alchemy, beyond being a craft devoted to changing matter, has a place also within the history of religions and, second, that in the alchemist's religious beliefs the general Gnostic tenets blended with his specific alchemical approach to the world. The impact of the craft can be discerned in four aspects of the cult: its doctrine, its ritual, its language, and its roots.

DOCTRINE. The soul is enchained in matter and is to be freed. Science as traditionally expounded in the schools was unable to liberate it. Only gnosis, the knowledge of God, could accomplish the task, and to convey gnosis, alchemy transformed itself into an esoteric religion. The beliefs were fantastic: visions, the chemical apparatus as a temple, the alchemical operation as a sacrificial act, mental baptism in the Hermetic vessel called the *kratēr*, and the ascension to God by means of a mystic ladder that transports the soul from the discord and suffering below to the divine order above. The doctrines of alchemy as a religion echoed the principles of alchemy as a science. These were essentially three: primal matter, sympathy, and transmutation.

Primal matter. The *opus alchimicum*, ("the alchemist's labor") centered on matter. Nobody knew, of course, what matter was, and it remained a secret of alchemy, although many chemical, mythological, and philosophical definitions were ventured in the course of time (Jung, 1953, p. 317). Thus, the *Tabula Smaragdina* (the revelation of secret alchemical teaching, of the ninth century but based on Hermetic sources) identified matter with God, because all created objects come from a single primal matter; and Comarius, an alchemist-philosopher (first century CE?) identified it with Hades, to whom the imperfect souls were chained (Jung, pp. 299, 319). Such perceptions of matter echo the alchemist's craft: his operation was, in mythical terms, a replica of divine creativity, aiming at the liberation of imprisoned matter. The inherent anthropomorphic view of matter, the "vitalist hypothesis," was going to play a fundamental role in the "sacred art," alchemy: metals, that is, matter, were considered living organisms, which are born, grow, and multiply. With the alchemist's preoccupation with matter and his belief that the divine soul is enchained in matter, he "takes upon himself the duty of carrying out the redeeming *opus*" (Jung, p. 306). Thus seen, the alchemist evolves into a priest.

Sympathy. The anthropomorphic perception of matter that assigned to the metal a human soul correlated with an occult system according to which the supposed affinity between substances expressed itself in a mutual attraction or rejection, that is, either "sympathy" or "antipathy." Such a bond linked, in particular, our world "below" to the world "above," the microcosm of man to the macrocosm of planetary divinities. The system of correspondences elaborated, for example, by the second-century astrologer Antiochus of Ath-

ens (Sheppard, *Ambix* 7, p. 46) embraced, in addition to "above" and "below," also elements, metals, and colors.

Already Maria Prophetissa (fl. early third century), also known as the "founding mother of alchemy," heralded the principle of parallelism: "Just as man results [from the association] of liquids, of solids, and of spirit, so does copper." Zosimos of Panopolis in Egypt (fl. c. 300), recognizing the identity between the behavior of matter and the events in his own (unconscious) psyche, condensed this complex insight into the formula "What is within is also without."

Transmutation. The third facet of alchemical religiosity was also linked to the alchemist's practice. A basic alchemical tenet stated that all substances could be derived through transmutation from primal matter. The technique of change consisted essentially in "coloring": the Egyptian alchemists did not intend to "make" gold but to color (*baptein*) metals and textiles through tinctures and elixirs so that they would "appear" like gold (or silver or some other metal). A "changed" metal, then, was a "new" metal. The technique of coloring evolved, in the end, into a powerful symbol of alchemical doctrine; for just as the alchemist transformed lead into silver, and silver into gold, so too he posited for matter, in his anthropomorphic view of it, a similar change, from body to spirit to soul. And in the frame of his doctrine, he identified this escalation with the renewal of man, to which he assigned the same chain of transmutations to reach the goal of redemption.

The ritual. Although the alchemist, who represented the religious bent of his profession, has been viewed as a priest, the identity of his congregation remains unknown. The sources, reading somewhat like tracts of edification, transmit no detail. Some have sensed in the texts evidence of the existence of a loosely structured brotherhood. Others, above all Festugière (1950, pp. 427–428), took the alchemical devotion (like the Hermetic) to be a cult adhered to by individuals or groups who practiced the "sacred art" and came under the spell of the mystic beliefs inherent in their work. Those nonpractitioners of alchemy who felt attracted were possibly members of the intelligentsia drawn to that particular version of modish Gnosticism.

The code that the devotee observed had various specific features. They concern the transmission of the creed, first to him and then from him, and the way of life expected of a spiritual father.

The mystagogues. The myth of transmission added the religious component to alchemical mysticism. The spokesmen invoked the authority of the supreme being, or its prophets, or the sages of old: "Behold [says Isis to her son as alchemist], the mystery has been revealed to you!" (Festugière, 1950, p. 260). Maria Prophetissa claimed that alchemical secrets were revealed to her by God. The Byzantine monk Marianus quoted alchemists saying to Maria: "The divine, hidden, and always splendid, secret is revealed to you."

With Egypt providing the setting of the cult, Egyptian mythical figures and divinities were the prime well-spring of

inspiration: chiefly Thoth (Hellenized as Hermes Trismegistos), the legendary author of the Hermetica, and Isis, turned into the creators and teachers of alchemy to whom alchemical sayings and doctrines were attributed. Various Greek writings on alchemy that contained traces of Jewish monotheism were ascribed to Moses, probably in a homonymic transfer from the alchemist Moses of Alexandria. Later on, Jewish alchemical tradition evoked Enoch, the Jewish counterpart to Hermes. The Greek alchemist Pseudo-Democritus, looking in Memphis for enlightenment, conjured the ghost of the Persian Ostanos, the "Hellenized magus" of alchemy, who advised him: "The books are in the temple." Zosimos, our major source, owed his knowledge to the wisdom of Hermes.

Traditio mystica. The "sacred craft" was a secret craft. The goddess Isis instructs her son Horus: "Keep it a great secret [*megalomusterion*]." The initiated were forbidden to divulge their knowledge; they could pass it on only to their "legitimate sons" and to those who were "worthy." Alchemy, known through revelation, remained a privilege of the few, and the taboo of disclosure, well guarded through the ages, in an impressive example of *traditio mystica*, a very Hermetic feature.

Portrait of the alchemist. Just as revelation strikes the priest, so the divine mystery overwhelms the alchemist and shapes his way of life. His *opus* is not so much determined by technical knowledge and manual skill but, rather, by its true goal, redemption. His soul is to be saved. He has to strive for detachment from matter, for liberation from his passions, and for suppression of his body. He is spiritual man, alone, in search of himself, on a silent quest for God.

THE LANGUAGE OF ALCHEMY. Alchemy, like every other movement in the history of civilization, found its own forms of expression. Their pseudoscientific orientation imparted to the alchemical writings the stamp of mystery, and by displaying the "jargon of mysteries" (Festugière, 1950, p. 82) these texts produced the effect of liturgy and secured a screen against the profane. Three stylistic markers stand out:

Symbols. The alchemist, in the formulation of Wayne Shuhmaker, "did not analyze but analogized," and his own universe, metallurgy, provided the mythical imagery and stimulated new meanings. The alchemical *opus* centered on the change of matter, and transmutation of matter turned into the recurrent theme of the alchemist's cult. To him, the soul imprisoned in matter symbolized the spirit striving to purify itself from the roughage of the flesh. Matter was represented above all by metal and symbolized life and man, its growth comparable to the growth of the fetus. "The achievement of metallic transmutation became symbolic of the religious regeneration of the human soul" (Sheppard, *Ambix* 17, p. 77). With technical alchemy providing the similes that expressed Gnostic religiosity, the two-tiered semantic construct evolved that was characteristic of Hellenistic and medieval mystic language: the worldly, exoteric lexicon furnished the "surface," the *sensus litteralis*, but when applied

to esoteric experience it yielded the hidden meaning, the *sensus allegoricus*.

Many lexical items were drawn into the process: thus, in the Valentinian system of Gnosticism (deriving from the second-century Egyptian Valentinus), metallurgical terms such as the following symbolized spiritual concepts. *Pneuma* signified, first, the product of natural sublimation, then, "divine spirit"; *ebullient* ("boiling up"), referring to the alchemical process of "separating the pure from the impure," was applied to wisdom; *sperma* (the "embryonic germ") yielded the "seed" of gnosis; in a similar way, such terms as *refine*, *filter*, and *purify* acquired spiritualized meanings. The transfer, through alchemy, from the literal to the symbolic realm contributed richly to the language of religion and, generally, abstraction. It indicates a conscious effort of the alchemist to frame his views in the terms of his craft.

Antonyms. Hellenistic alchemy tended to emphasize the varied contraries inherent in the craft: hot/cold, moist/dry, earth/air, fire/water. Antonymic structure was symbolically superimposed on matter: Maria Prophetissa distinguished metals as male and female as if they were human, and Zosimos distinguished between the metals' souls and bodies. The same antonymy, but with the focus on man himself, characterizes Gnostic dualism with its model of spiritual versus carnal man.

Aphorisms. Technical prescriptions, and in particular those that aimed at the transformation of matter, tended to be sharpened and honed so as to sound, in their lapidary style, like keys to mysteries. Such aphorisms, often bordering on the abstruse, were a favored feature of alchemical doctrine. For example, the first commandment requires secrecy and elitism: "One man to one man." Pseudo-Democritus, on the subject of liberating the imprisoned soul, declared "Transform the nature and make the spirit that is hidden inside the body come out." Maria Prophetissa said likewise, "Invert nature and you will find that which you seek."

Transmutation was tied to the law of sympathy and antipathy: "One nature rejoices in another nature; one nature triumphs over another nature; one nature masters another nature." One of Maria's axioms that subsumed a complex alchemical procedure was read by Jung (1953, p. 23) in psychological terms, according to which the even numbers signified the female principle and the odd numbers the male, the latter overwhelming the former: "One becomes two, two becomes three, and by means of the third the fourth achieves unity; thus two are but one." Maria focuses also on an analogy made between metals and humankind: "Join the male and the female, and you will find what you seek." A well-known aphorism expresses the analogy between macrocosm and microcosm: "That which is above is like to that which is below, and that which is below is like to that which is above." Several maxims rest on the principle of antonymy. The symbol of the serpent biting its tail is used to circumscribe diversity in unity: "The All is one and the All is through itself and the All goes to itself, and if it had not the All there would be no

All." The philosophers' stone is simply defined as "a stone that is not a stone."

ROOTS. The essence of the strange and complex phenomenon of alchemy is elusive, and its various interpreters were inclined to stress the feature that each considered, in genetic terms, to be its foundation. In particular, four possible sources have been isolated: classical philosophy, mystery creeds, the lore of the craft, and the workings of the unconscious.

Classical philosophy. The great cognitions of the classical tradition, from the pre-Socratics to Plato, Aristotle, and the Stoics, resurfaced in eclectic Hellenistic philosophy. Numerous doctrines prefigured crucial phases of the alchemical worldview: the concept of a primal matter; the unity of matter (seen in, say, water or fire); cosmic correspondences; the affinity of the similar; the microcosm reflecting the macrocosm; the notion of sympathy; transformation through *pneuma*, the all pervading spirit; genesis, that is, the origin of one element from another, proceeding by way of opposites.

Mystery creeds. Hermetism and the alchemical cult overlap in various features. The tie between them is substantiated in the writings of Zosimos, the "divine," the "highly learned," and the outstanding representative of both creeds. The common ground consisted of "mystic reveries" (Festugière): observation and inquiry were rejected, and intuition replaced science; the "sacred craft" was revealed through divine grace; the chosen were few, bound to secrecy; and the goal was the liberation of the soul from the body.

The lore of the craft. Alchemy, hopelessly aiming at the transformation of metals into gold, has often been viewed as something like a misguided application of chemistry. Yet its significance lies, indeed lay even for its practitioners, not so much in the experimental method and the outcome of metallic transmutation as in other spheres, notably anthropology, religion, and folklore. The story has been reconstructed by Mircea Eliade: it goes back to archaic times and surfaced in Hellenistic Egypt. Its protagonist was the smith, the adept who dominated matter by transforming it. The insights deriving from his work gave rise to new meanings and symbols: matter was suffering; transmutation perfected matter; redemption was freedom from matter. In short, the primary function of alchemy, physical transmutation, escalated into metaphysical transmutation: the *opus alchimicum* became a symbol of the *opus divinum*. The title of one of the prominent alchemical works of the early post-Christian era by Pseudo-Democritus (and ascribed to Bolos from Mendes, in Egypt) stressed the dichotomy: *Phusika kai mustika* (Natural and Mystical Matters).

Depth psychology. The attribution of life to matter was the foundation of alchemical belief. Enticed by the resemblances between the dreams of his patients and alchemical symbols, C. G. Jung read this belief from his psychoanalytic standpoint as the projection of inner experience onto matter, and thus as the identification of matter with the Self.

"Matter" evolved as a name for the "self." It represented an unconscious archetype, primordial images, and the alchemical *opus*, aiming at freeing, saving, and perfecting matter, and was a symbolic replica of the universal quest for the Self. Jung called it the "individuation" process.

Convergence. These four components of spiritual alchemy can be traced in Hellenistic Egypt. The craft of the goldsmith was flourishing, and metallurgy yielded the imagery while boosting, by its very nature, the identification, ever present in the human mind, of self and matter; Greek philosophy, in a stage of revival then and there, provided the basic concepts of the doctrine; and Hermetism supplied the vital climate of mystery.

Alchemy is described here as a facet of the ancient mystery religions, and this description centers on its style and manifestations in the Hellenistic period. But other cultures, tending in a similar direction, produced other varieties of spiritual alchemy. In China, it aimed at physical immortality and thus came into the orbit of medicine, with some link to the religious movement of Taoism. In India, as Eliade has shown, alchemy evolved as an analogue to the mystic discipline of yoga: that purification sought by the yogin for the body, the alchemist seeks through the purification of metals. The relationship (involving the question of polygenesis or monogenesis) between the Chinese, Indian, and Hellenic forms of spiritual alchemy is not very clear. Islamic culture, on the other hand, played a vital role in the transmission of alchemical knowledge; many of the Greek texts were translated into Arabic and through this link, reached the West during the late Middle Ages. Thus, the transmutation of matter continued, with its occult framework, into the Renaissance and beyond. But then modern science rejected ideology, and with the loss of its "exoteric" component to chemistry, alchemy was reduced to its "esoteric" questions about man's relation to the cosmos. In our day the mystic movement of the Rosicrucians, which appeared during the seventeenth century, is a typical relic—and faint echo—of the vanished Hellenistic cult.

SEE ALSO See also Gnosticism; Hermetism; Rosicrucians.

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ALCHEMY: ISLAMIC ALCHEMY

The Arabic term for alchemy is *al-kīmiyā'*. The word *kīmiyā'* is alternately derived from the Greek *chumeia* (or *chēmeia*), denoting the "art of transmutation," or from *kim-iyā*, a South Chinese term meaning "gold-making juice." Greek and later Hellenistic writings are generally regarded as the initial impetus behind Muslim learning, thus the wide acceptance of the Greek origin of the word.

In the Islamic context, *al-kīmiyā'* refers to the "art" of transmuting substances, both material and spiritual, to their

highest form of perfection. The word *kīmiyā'* also refers to the agent or catalyst that effects the transmutation and hence is used as a synonym for *al-iksīr* ("elixir") and *hajar al-fālāsīfah* ("philosopher's stone"). The search for the ideal elixir has been an ancient quest in many cultures of the world; it was supposed to transform metals to their most perfect form (gold) and minerals to their best potency and, if the correct elixir were to be found, to achieve immortality. All matter of a particular type, metals for example, were supposed to consist of the same elements. The correct *kīmiyā'* or *iksīr* would enable the transposition of the elements into ideal proportions and cause the metal concerned to be changed from a base form to a perfected form, for instance, copper to gold.

On another level, the philosophical theory of alchemy was used to conceptualize the purification of the soul. The terminology and procedures of alchemy were allegorized and applied to the transformation of the soul from its base, earthly, impure state to pure perfection. Elementary psychological postulations were allegorized as chemical properties. For the mystics, the *iksīr* served as a symbol of the divine truth that changed an unbeliever into a believer. In Ṣūfī literature, the spiritual master purifies the soul of the adept via various processes of spiritual alchemy. This usage of alchemical principles in the spiritual realm reflects the worldview of the ancients, including those of medieval Islam, whereby the human soul was regarded as a microcosm of the forces and principles contained in the macrocosm of the universe.

HISTORICAL BACKGROUND. In Muslim tradition, alchemy enjoys ancient roots. The cultivation of alchemy is traced back to Adam, followed by most of the major prophets and sages. This chain of transmission is then connected to the "masters" from the ancient world, including Aristotle, Galen, Socrates, Plato, and others. Muslims are considered to have received the art from these masters. In Islamic times, the prophet Muḥammad (d. 632 CE), is said to have endorsed the art, lending it grace and power; his cousin and son-in-law, 'Alī ibn Abī Ṭālib (d. 661), is regarded as its patron. 'Alī's descendant Ja'far al-Ṣādiq (d. 765) is portrayed as the next major transmitter. The Umayyad prince Khālid ibn Yazīd (660–704) is depicted as both a practitioner and a patron of alchemy who encouraged the translation of relevant Greek and Syriac texts into Arabic. Legendary tales indicate that he learned the art from a Syrian monk named Marianos, whom he sought out on long journeys to strange lands. Jābir ibn Ḥayyān (d. c. 815), who is held to be the disciple of Ja'far al-Ṣādiq, is credited with more than three hundred treatises on alchemy; consequently, the name of this quasi-historical figure came to imply the authority and teacher par excellence.

The Jabirian corpus. By contrast with these legendary accounts, modern scholarship places the development of Islamic alchemy in the ninth century. Jābir ibn Ḥayyān is indeed recorded as the first major alchemist, but the writings attributed to him are mainly pseudepigraphical, and many