11.1 Mystic chemistry: The effects of MDMA and psilocybin

Students of mysticism have long noted that psychedelic drugs may evoke experiences very similar to those that religious mystics report. MDMA (Ecstasy, Molly) produces a feeling of union with everyone around, a universal communion (several informants). People report that when they take MDMA, they feel extremely close to everyone around them; the feeling is extremely sensuous, but usually not erotic (Reynolds 1998; Bravo 2001; Holland 2001a, b; Klam 2001; see also the MAPS literature reviews at http://www.maps.org/research/mdma/litupdates/). Consistent with the idea that consubstantial assimilation is the conformation system of CS (Fiske 2004, Fiske & Schubert 2012), it is notable that the intense CS emotions produced by MDMA involve strong desires for mutual physical contact, such as back rubs, hugging, hand-holding (Beck & Rosenbaum 1986, Klam 2001). When a group of people take MDMA together, they may form a “puppy pile,” lying on each other. But this wish to gently touch and be touched, to snuggle and be cuddled, is affiliative, not erotic. The synergy in raves between MDMA and prolonged dancing to very rhythmic techno music also accords with conformation systems theory: “The community of ravers loses its sense of self in favor of a larger, stronger, and perhaps healthier entity…. Ravers are bonded to one another as members of a single tribe dancing around the fire” (Holland 2001b:346, 347). People experience “a hunger for human connection and a desire to empathize” (Klam 2001:40). The effect occurs in diverse settings, with or without prior expectations. MDMA makes people feel this way about everyone: partners, friends, casual acquaintances, strangers, even rival gangs (Beck & Rosenbaum 1986, Reynolds 1998, Klam 2001, Olaveson 2003). An appreciable sense of communion often lasts for days or weeks after taking MDMA (Greer & Tolbert 1986). In one of the very few systematic quasi-clinical trials, all 27 participants who took MDMA in the presence of others “felt closer and more intimate with anyone present” (Greer & Tolbert 1986:320).

A synthesis of the major sources on MDMA experiences outside the lab yields a consensus about what people typically experience:

- Love (agape, not eros), intimacy, tenderness, deep sharing, warm friendship.
- Hunger for human connection, urge-to-merge.
- Connectedness, oneness, cohesion, community, merging with collective, group mind, collective consciousness, oneness with the universe.
- Unconditional acceptance, openness, kindness, empathy, understanding, tolerance, conciliation, niceness to everyone.
- Greater ease in relating across boundaries, respect, improved relationships.
Enhanced, more open communication, greater self-revelation.

Trust, loss of defensiveness, breakdown of social inhibitions, forgiveness, overcoming conflicts, pity for others’ suffering.

Desire to touch others and to dance collectively.

Euphoria, exhilaration, joy, self-acceptance, reconnection with oneself, self-love, comfort, peace, tranquility.

(Greer & Tolbert 1986; Beck & Rosenbaum 1994; Reynolds 1998; Bravo 2001; Holland 2001a, b; Rushkoff 2001, Klam 2001, Olaveson 2003.)

In short, the social experience resulting from MDMA appears in every respect to be very strong, euphoric and generalized CS. MDMA apparently evokes CS by increasing oxytocin levels (Bershad et al 2016). Oxytocin and its cousin arginine vasopressin are involved in parental bonding and pair bonding, so one might well imagine that one or both are involved in kama muta.

But it is not clear whether the characteristic sensations of kama muta are prevalent in people intoxicated with MDMA, although MDMA-intoxicated people may be more prone to experience kama muta evoked by a rave’s electronic dance music and feel the characteristic sensations when the music induces kama muta. But if MDMA alone is not sufficient to evoke kama muta, why isn’t it? With oral ingestion of MDMA the CS feelings may come on too gradually, over many minutes—which is not rapid enough to evoke kama muta. On the other hand, it is also conceivable that people taking MDMA do experience kama muta motes, but MDMA blocks the autonomic processes that produce tears, goosebumps, and feelings in the center of the chest.

But if it is confirmed that MDMA alone does not evoke kama muta, that would make it less likely that high levels of oxytocin are sufficient to evoke it, suggesting that µ-opioids, dopamine, or other hormones may be necessary, quite possibly in conjunction with oxytocin or vasopressin. Or, more simply, that very rapid increases in concentrations of such hormones may be necessary to generating motes.

Under favorable circumstances, psilocybin may evoke mystical experiences. There is one carefully designed double-blind cross-over study comparing 30mg/70kg of psilocybin with 40mg/70kg of methylphenidate hydrochloride (“Ritalin”) in 36 participants (Griffiths, Richards, McCann, & Jesse 2006). Monitors reported the participants on psilocybin showed more joy, peace/harmony, and tearing/crying, as well as more [evidently affiliative] physical contact with the monitor. At the end of their sessions, participants rated their experiences. The ratings of those who took psilocybin were much higher (compared to when they took methylphenidate) on several CS-like scales: Oceanic boundlessness (“a state common to classic mystical experiences including feelings of unity and transcendence of time and space”); introvertive mysticism; extrovertive mysticism; internal unity (e.g., “Freedom from the limitations of your
personal self and feeling a unity or bond with what was felt to be greater than your personal self"; external unity (e.g., "Experience of oneness or unity with objects and/or persons perceived in your surroundings"); and deeply felt positive mood (e.g., “Experience of ecstasy; Feelings of universal or infinite love”). (On all of the above observer- and self-ratings, the effect sizes were very large and the significance levels beyond 001.) Other studies have confirmed that psilocybin has large effects on oceanic boundlessness (Tylša, Páleničeka, & Horáčeka 2014). Studies on rats, mice, cats, and dogs show that psilocybin produces piloerection (Cerletti 1958), but human participants apparently have not been asked about goosebumps or chills. However, studies show that psilocybin makes the skin tingle (Tylša, Páleničeka, & Horáčeka 2014). Is ‘tingling’ of the skin another description of goosebumps?

These results suggest that psilocybin frequently creates feelings resembling intense CS and quite possible kama muta. This interpretation is consistent with participants’ tears and tingling skin, affiliative touch, and feelings of great joy, harmony, ecstasy, and universal or infinite love. In any case, future elucidation of the neurochemical processes and phenomenology of psilocybin is likely to shed light—direct or oblique—on the interactions among the neurochemistry, phenomenology, and drivers of kama muta in general, and mystical experiences in particular.

CS is a ordinarily a reciprocal relationship with another being or something beyond, so it is important to consider both sides of the mystical union relationship. One case reported from Eugene, Oregon, suggests that the psilocybin taker’s feeling of unity with the universe is not always reciprocated:

Noting that it had yet to experience any sort of oneness with the 22-year-old, the universe confirmed Friday that it felt absolutely zero connection to a local man currently tripping on hallucinogenic mushrooms. “As far as I can tell, all the boundaries between myself and this guy remain completely intact, so I certainly wouldn’t say that he and I have become one with each other at all,” said the collection of all space and matter, which added that, if anything, it was feeling further removed from the man after he ate two grams of psilocybin mushrooms and spent the ensuing three hours just sitting on his basement couch. . . . “Frankly, I feel like he and I are as separate and unconnected as we’ve always been. . . [H]ave we at some level blended together into a single cosmic entity, flowing through each other and commingling our energies? Definitely not.” The Onion 2016.
11.2 Mystical variations, combinations, and related religious emotions

Some scholars have contrasted two or more subtypes of mystical union. In particular, Otto (1932) formulated an influential contrast between extrovertive and introvertive mysticism. The extrovertive worshipper feels a pantheistic or monistic union when she apperceives that she participates in a universe in which everything has something essential in common. This is a realization that there is a unity of everything that transcends the apparent multiplicity that superficially separates things; with this insight, the self, no longer separated from all other, can merge with all. This union need not be theistic; it may occur in secular transcendental experiences with nature, or in some kinds of Taoism. In contrast, introvertive union begins with introspective withdrawal from everything in the world, seeking oneness in the innermost depths of the self (Otto 1932). The introspective mystic finds unity by dissolving the self into the ultimate. Although Otto does not emphasize the dynamics, one can formulate this as a contrast in the directionality of the unitive experience: the self may grow to encompass the other, or the other may expand to encompass the self. Several scholars have built on Otto’s influential contrast, but none have argued that either kind is closely linked with any particular religion (Stace 1961, Pike 1995:66-86, Marshall 2005; for a succinct summary see Parrinder 1976:39-40). Other taxonomies are possible. Based on Muslim, Hindu, and other ‘Eastern’ religious accounts, Zaehner (1957, 1960, and later works) identifies at least five types of mystical union; for the most part, Zaehner defines these five types experientially, not with respect to their particular cultural and historical frameworks.

Religious texts, theologians, and scholars of religion sometimes make distinction among degrees or stages of union. In the first, the worshipper and the other become connected but remain distinct, so that the worshipper retains a sense of his own self; in the second, the mystic fully merges with the other, so that they become an indistinguishable whole (Stace 1961; see Parrinder 1976:119-120). In our own mathematical terms, we could describe these as, respectively, equivalence versus identity (see Fiske 1991). In his comprehensive account of Western Christian mysticism, McGinn (1991) finds that while very few people report experiences of full union with God (which would violate theological tenets), many have meaningful moments of consciousness of the presence of God (including Jesus, the Virgin Mary, the godhead). In formal analytic terms, one can say that Hassidic and Cabalistic Jews, Christians, and Sufis generally recognize equivalence, but reject the possibility of identity with God.

Across religions, Otto (1932) characterized three stages of union. Similarly, analyzing Christian mystical experiences, Pike (1992) argues that there are three distinct degrees of union. The first is closeness or contact which still maintains the distinction between self and God. The second is union in which the worshipper becomes a part of God, immersed and absorbed in
God, the soul absorbing God, but still aware of self. The third and final possible stage is ecstatic rapture in which all distinction between self and God disappears.

While all the theorists of mysticism think typologically, it is not altogether clear to us whether there are two or three phenomenologically discrete types of union, or distinct stages of union. It seems that there may be just a continuum of degree of CS intensity (for theory and methods to distinguish between continuous dimensions and discrete categories, see Ruscio, Haslam, & Ruscio 2006; Haslam, Holland, & Kuppens 2012). But to find out for sure, direct participant observation will be necessary, along with interviews with informants immediately after their mystical experiences; all of these scholars have based their theories on texts; none have collected data directly from informants, much less done any ethnographic fieldwork. But these texts, at least, all show that whatever the process, cultural-historical variants, stages, or degrees, ultimately the mystical experience is that of oneness, where the boundaries of the self dissolve so that there is no longer separation, but equivalence of all. That is, CS. And there is considerable consensus that ordinarily the state of mystical union does not last indefinitely. However, there are intriguing suggestions in some texts that mystical kama muta motes might occasionally last more than a minute or two. If such prolonged motes do occur, they would afford new insights into the kama muta psype and the mystic drivers that enable them.