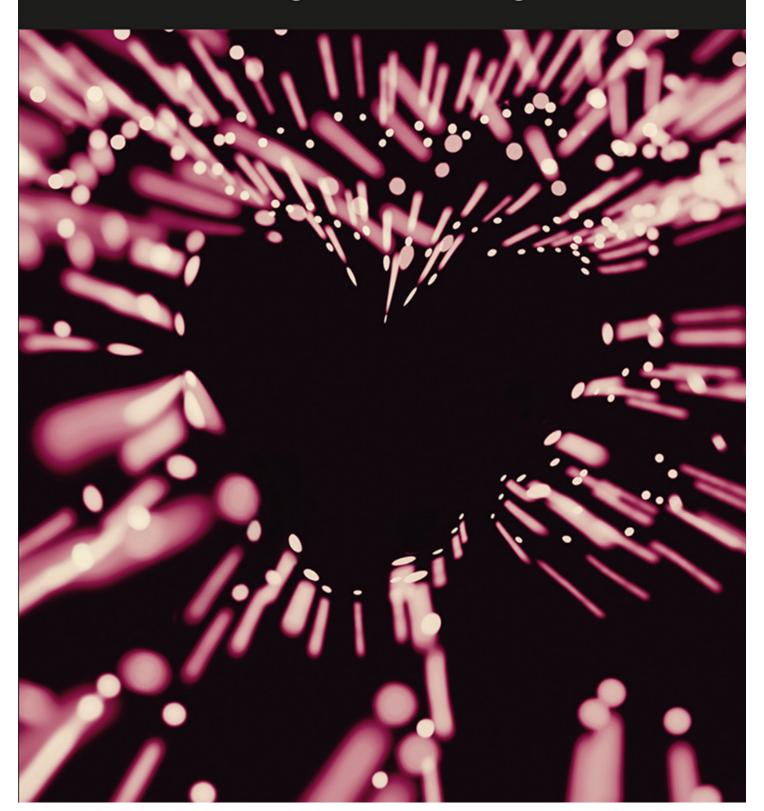
Alan Page Fiske



Kama Muta

Discovering the Connecting Emotion



CUTENESS AND COSMOS

Contemplant un jour un beau bébé de deux ans, frais et rose, aux cheveux bouclés, qui dormait paisiblement en plein air, caressé par le soleil d'une douce matinée en printemps, j'ai été 'ému.'

[Observing one day a beautiful two-year-old baby, fresh and pink, with curly hair, sleeping peacefully outside, caressed by the sunshine of a mild spring morning, I was 'moved.']

(Claparède 1930:335)

If kama muta has a prototype, it is the experience of hearing, seeing, and/or holding an infant. Indeed, 'imprinting' or 'attachment' to one's infant is presumably the primordial evolutionary function of kama muta. Responses to blog queries such as "how does it feel to hold your newborn baby for the first time" on sites such Yahoo! Answers indicate that many English–speaking mothers and fathers weep when they first see and hold their newborns. On another website a woman writes of her childbirth:

As the labor progressed, three things helped me more than anything else: Alex fed me ice chips, which were hugely refreshing. He put cold damp paper towels on my forehead and wiped my face during each contraction, which felt wonderful and helped distract me from the intense pressure. Most of all, I responded enormously to his positive encouragement. He'd say things like, 'You're doing a great job; you're so amazing; I'm so proud of you; our sweet baby boy is coming into the world because of you.' (Those words still make me tear up!) Every time he'd say something

buoying, I'd feel a huge new wave of energy. I was amazed at how well positive encouragement helped, and I was so grateful to him.

So it was at 12:40pm that the doctor placed teeny Toby into my arms. He was purplish-red and wet and crying, and my heart felt like it was going to burst. He felt soft and smooth, and I was weeping and laughing. It was so magical to be cuddling our sweet sweet baby in my arms after nine months. I would have a million babies just for that moment.

Remembering that day still makes me weepy.¹

But the cuteness of any child, animal, cartoon character, doll, or stuffed animal can evoke kama muta. People are often instantly attracted to others' infants and toddlers, as well as kittens, puppies, and other baby animals that match the neotenous *Kindchenschema* (Lorenz 1943, 1988:164–165). Lorenz described the *Kindchenschema* as a gestalt comprising relatively large head compared to body size, a high and protruding forehead, large eyes, chubby cheeks, a small nose and mouth, short and thick extremities, and a plump body shape. Sounds and smells are probably also important (Kringelbach et al. 2016), as is a certain configuration of clumsy awkwardness in locomotion. Many breeds of dogs are tailored expressly to the *Kindchenschema* template – buyers prefer cute dogs and breeders select for this schema.²

The cuter the image of an infant or child, the more participants rate themselves as motivated to take care of the infants depicted (Glocker et al. 2009; Nittono et al. 2012; Sherman et al.; Coan 2012). Similarly, Volk and Quinsey (2002) found that the younger the age of the face depicted in a photograph (aged six months to six years), the more viewers expressed hypothetical willingness to care for and to adopt the depicted child. The immediate motivations evoked by seeing cute babies are to feed them, touch and hold them, and keep them warm, which are exactly what a newborn needs. Bodily contact between parent and child is the primary medium for this permanent attachment or bonding, and it is our impression that these moments of cuddling the baby are frequently the events in which parents and other family members report kama muta.

People tend to perceive cute beings as helpless, physically weak (Lorenz 1943), naïve, warm, and kind (Berry & McArthur 1985), and hence vulnerable and needing care. Susan T. Fiske and colleagues' extensively and cross-culturally supported Stereotype Content Model posits that the perception of a person or category of person's warmth and low competence evokes the perceiver's pity and sympathy toward the person(s), in turn eliciting helping and protective behavior (Cuddy, Fiske, & Glick 2007; S. Fiske 2010; S. Fiske 2012). And there is direct evidence that facial cuteness does evoke help-related behavior, such as returning lost resumes (Keating et al. 2003). Dijker (2014) theorizes that there is an adaptive psychological disposition to feel "sympathy" when a person perceives that another person is cute and vulnerable. Dijker posits that this disposition has

evolved because it prevents harm to kin. Dijker suggests that the emotion of being moved is closely related to the tender feelings prompted by cute targets. Indeed, one intriguing American study found that the more "attractive" (cute?) an infant, the more affectionate and attentive the mother was, measured by her objective actions (Langlois et al. 1995).

The International Affective Picture System consists of 606 photographs intended to evoke the full range of human emotions (Bradley & Lang 2007). A large sample of American participants rated each of the photos on what the authors call "valance" by selecting a schematized "manikin" from an array that varied in facial expression and body position. Of all 606 photos, the seven photos rated most positive were photos of, respectively: puppies, bunnies, a kitten, a human baby, a seal, a human baby, and another human baby. This suggests that the cuteness kama muta response to images is very strong indeed.

Kamilla Knutsen Steinnes (2017) interviewed (in Norwegian) seven women who were at an animal shelter near Oslo and were interacting with cute animals at the time she interviewed them. In response to questions about their feelings at the moment, four spontaneously labeled their emotion rort, the nearest term to the English moved, which is the word that Norwegians typically use to name kama muta experiences. Most of the sensations that are characteristic of kama muta (see Chapter 2) were reported by most of the seven women (Steinnes 2017:13). Table 1.1 summarizes the sensations they reported.

One 56-year-old respondent said that "Whenever I get that feeling after spending time with her [informant's cat], I just want to do kind things for others.

TABLE 1.1 Sensations of women interacting with animals at an Oslo animal shelter

Sensation	Total	Number of women $(N = 7)$		
		Volunteered information	Reported when specifically asked	Observed
A floating, buoyant feeling	7	5	2	0
Moist eyes,	6	2	3	1
teary-eyed A warm feeling	6	5	1	0
Tears, crying	5	1	2	2
A feeling in the chest	5	3	2	0
Goosebumps, chills	4	1	3	0
Hand on chest (observed)	4	0	0	4
Choked up	3	0	2	1
Difficulty speaking	3	2	0	1

Source: Steinnes 2017.

I get really friendly" (2017:12; all quotations translated by Steinnes). She also said,

I have certainly felt it [the feeling] before. [Interviewer: When?] After the birth of my first and second child. ... Other times that I've felt this same emotion is when I was in love. I just feel happy. It's pure bliss, this feel-good experience. I feel like I'm helping the animal and I receive plenty in return. She [informant's cat] appreciates my affection and care, you know. She talks to me, purrs, and I can just tell how much she is enjoying herself. It's really rewarding.

(Steinnes 2017:13)

Another, age 26, said,

I would compare it with my boyfriend. You know, the feeling I have here right now [at the animal shelter surrounded by seven kittens] is the same as what I usually feel around him. I feel safe and completed. It is reassuring somehow. It might not be the exact same because these are two completely different situations. But I do think the feeling is the same in both. For me anyway.

(2017:13)

A 16-year-old informant "compared the feeling to the same one she experienced when she celebrated Christmas Eve with her family. She highlighted unity, love and happiness to describe the feeling she felt in both contexts." (2017:13) And she described the pleasant sensation of warmth from inside. Narratives relating to caretaking and parental protection surfaced in five out of the seven interviews. One woman told how she and her dog have a child-parent relationship: "He is like a small child. I feel this maternal instinct coming to life in me, I want to protect him, to take care of him." (Informant F, age 24) Another woman described the mutual caretaking bond she had formed with her cat: "She can always tell when I need her. She comes over and takes care of me, just like I take care of her. She puts her paws around my neck, almost like she is giving me a hug" (Informant G, age 23).

Steinnes (2017) also ran a study using data kindly provided by Ad Vingerhoets and Tim Wildschut, combined with new data she collected. Participants rated seven photos of young animals and seven of adult animals. Dutch participants were asked how much the image evoked felt physical sensations or made them feel moved (*Wekt dit plaatje lichamelijke beroering op?*) and how much it touched them (*Raakt dit plaatje u?*). Norwegian participants were asked (in English) to rate how cute each image was. Across the 14 images, cuteness ratings were correlated with how moving it was (r = .73, p = .003) and how touching it was (r = .82, p < .001). In another study she pretested videos of animals to select four especially cute videos and four not particularly cute ones. Then she showed the videos to

a Norwegian sample and a US American sample. As predicted, the cute videos evoked significantly more intense sensations typical of kama muta (see Chapter 2); higher ratings of being moved, touched, and heart-warmed; more positive ratings of the valence of the participant's feelings; and stronger motivation to form or strengthen close relationships (all p < .001). There were no significant differences between the results from the samples of Norwegians and US Americans.

When preparing this study, we noted that most of the videos on the Internet that social media users found especially cute depicted affectionate interaction between an animal or human baby and another animal or person. We wanted to test whether affectionate interaction indeed makes videos both cuter and evokes stronger kama muta responses. So, for another study, Steinnes (2017, Steinnes et al. 2019) made pairs of comparable videos; one of each pair showed affectionately touching or licking between two cute puppies, cute kittens, or one cute animal and a human hand. The other video in each pair showed the exact same two animals or animal and a hand moving, but not touching or otherwise interacting. As predicted, the Norwegian participants rated the videos depicting affectionate interactions as cuter, and as evoking more intense sensations typical of kama muta; and responded with higher ratings of being moved, touched, and heart-warmed (p = .004 and p < .001, respectively). Moreover, ratings of the sensations partially mediated the effect of video type on cuteness ratings, and ratings of being moved, touched, or heart-warmed also partially mediated the effect of type of video on cuteness ratings. That is, as predicted, two components of the kama muta response to the videos substantially affected how cute the videos seemed to participants.

What Steinnes' research shows is that the emotional responses that people have to kittens, puppies, bunnies, baby hedgehogs, and the like consists of at least four of the components of kama muta: a distinctive set of physical sensations, especially a warm feeling in the chest, moist eyes or tears, and goosebumps; a definitely positive feeling; labels such as moving, touching, and heart-warming; and motivation to strengthen close relationships or form new ones. I'll have a lot more to say in this book about the kind of relationship that for the moment I am just calling "close"; our conceptualization of the nature and dynamics of that relationship were the foundations for Steinnes' research. I think that the joy of kama muta in response to images and videos of cute animals and human babies, as well as in response to social events, is a major motivation for posting, sharing, and liking social media content (for a similar idea about being moved by social media, see Dale et al. 2017). We will look into that a bit more in Chapter 8.

It is intriguing that there is no definite standard English, Norwegian, or German lexeme for the emotional response to cuteness (though the Uralic languages - Hungarian, Finnish, and Estonian - do have lexemes for precisely this). However, there is an English slang word, squee, that comes pretty close. The leading results of a Google search for squee are images and compilations of images of truly cute kittens, dogs, and cats cuddling with dogs. Squee is also used to denote the screams of fangirls and fanboys when they see and hear singers and bands they love. On the Internet, some young speakers of English use the phatic squee for

the response to cuteness, indexically naming the emotion onomatopoetically by the squeeee! sound that some girls and young women may utter when they see a cute animal or event. Squee also denotes the utterance and emotion of fangirls (and sometimes fanboys) make or feel when they see or hear their idol.³ It is notable that the same lexeme is used for both the emotional response to cuteness seen on the Internet and the emotional response of fans seeing their celebrity idol - and that both uses are onomatopoeia for the sound of the exclamation, suggesting that people in these two situations utter the same sound and feel the same emotion. This is not conclusive evidence that the predominant or ideal emotion is the same in the two contexts – many words are polysemic – but it's a strong hint that the emotions are the same or apperceived as very similar. Note further that squee! is a phatic – a speech act (performative utterance) that, as the Wikipedia article on phatic expression elegantly puts it, "performs the important function of establishing, maintaining, and managing bonds of sociality between participants." To vocalize the exclamation Awww!, or type squee! on social media, is not just to communicate information, but to declare that one feels an emotion, and hence that one is the kind of person who feels this emotion about this social relational event. Furthermore, these vocal or typed phatics invite the listener or viewer to join in the emotion, and, perhaps, to intensify the listener or viewer's close relationship with the kitten or idol, and with the speaker. This illocutionary effect makes them what Rett (2018) calls "emotive markers."

It is not obvious how one might account for the absence of any accessible, prevalent oral lexeme for kama muta that occurs in this particular domain, cuteness. But it is notable that even without a universal accessible term for the emotion, BuzzFeed employs several Beastmasters who pick out the cutest videos and photos to display prominently on its web site (Baron 2014).

I hadn't seen my 20-month-old grandson for 4 months, and didn't really expect him to remember me. But when I arrived he immediately agreed to letting me take him from my daughter's arms, and put his head down against my neck and snuggled. Later when my daughter and he were going out, he came and took my hand to bring me along.

He loves chocolate, but the next day, when my daughter gave him a tiny chocolate treat after changing his diaper, rather than eating it, he kept it in his little hand and, when he got down, brought it out and fed it to me.

(A. P. Fiske)

Kama muta is evoked by cute features, but probably it is strengthened by the perception that the infant or child needs to be cared for, fed, or held. People may feel a kama muta 'tenderness' when they see or hear about a person who is helpless, injured, lost, fleeing, frightened, hungry, or otherwise vulnerable – especially a cute child or animal that is in jeopardy. That is, vulnerability seems to amplify

the response to cute physical features of the target. This emotional experience is probably an important motive to rescue, donate to, or adopt humans and animals – or simply be attentive and kind.

Reading this passage, a UCLA undergraduate made the following connection:

Maybe this explains why fangirls tend to latch on to male characters with angsty backstories or that they see as being in distress. You see it in fanfiction all the time—male characters like the Winter Soldier/Bucky Barnes from the Marvel Cinematic Universe are portrayed as being even more distressed in fanfics than they are in the source material and (usually) this angst is followed by "fluff" or the "hurt" is followed by "comfort". The fact that the Winter Soldier has killed hundreds of people is ignored because he has been through so much emotional and physical trauma. It is as though the perceived emotional vulnerability of these characters enhances fangirls' sense of connection and attraction to them. Back when I was a frequent user of the teen-girl dominated social media platform Tumblr, fans of the Winter Soldier, the 10th or 11th Doctor from the long-running BBC sci-fi classic Dr. Who, and other popular films and television shows would frequently post "gif sets" of their favorite male characters in distress and would affectionately refer to these 30 to 50-year-old men as "my sweet baby angel," "my son," or "my child" in the captions or tags. I no longer speak the lingo, but when you type "my son" into Tumblr these posts are now also accompanied by "so soft," "sad puppy," and "my precious little angel muffin." The Tumblr bloggers also still appear to be putting flower crowns on characters they love.

(Rowan Hong)

People often feel kama muta in response to cute faces and clumsy infantile movement, especially when the cute babies (human or other animals) play, or snuggle. A baby's kiss or offer to share his food, or a kitten's lick, can also evoke a kama muta experience. Even an idea can be cute enough to evoke a little kama muta. Lewis Carroll's Through the Looking Glass opens with Alice talking to her kittens as if they were children and then as if they were friends, pretending they are responding, as one of them plays with a ball of yarn that Alice constantly has to roll up again. She scolds and kisses the kitten she is holding. Then Alice says to the kitten,

Do you hear the snow against the window-panes, Kitty? How nice and soft it sounds! Just as if someone was kissing the window all over outside. I wonder if the snow LOVES the trees and fields, that it kisses them so gently? And then it covers them up snug, you know, with a white quilt; and perhaps it says, 'Go to sleep, darlings, till the summer comes again.' And when they wake up in the summer, Kitty, they dress themselves all in green, and dance about – whenever the wind blows – oh, that's very pretty!'

(Carroll 1897:18)

I was going to Central Station one evening, and I took the tram. There was a drug addict, carrying a lot of plastic bags. After a couple of stops a drunk man came on the tram; he began speaking very rudely to the addict, insulting him loudly, telling him to get off the tram. He kept saying nasty things to him. I wanted to tell the drunk to stop but I didn't know what to do. I was angry but embarrassed. Then, while the tram was going, an old lady about 80 got up and walked up to the drunk man, pointed her walking stick at him. She told him to "stop talking like that, you can't say those things, behave like a human being." She told him to go away, and he got off at the next stop. Then the other passengers started saying to the addict, "Sorry that you experienced that. You shouldn't be treated like that." Several of them, maybe ten, went up and shook his hand, and several hugged him; people said good bye to him as they got off. I was very moved by that. Also a bit sad that the addict has to experience that. When I get moved I feel as if I'm about to cry, though I don't. When you get moved you feel that your heart is warm [gestures repeatedly toward her heart].

(Ina Emily Swann Rønneberg, dictated to ApF)

Need can be visible or audible. Calls and crying, especially in a child-like voice, evoke kama muta.

William McDougall (1919, 1923) argued that there are seven primary emotions, one of which is "the tender emotion," a concept very similar to our construct of kama muta. He construed it to be the expression of the maternal instinct common to birds and mammals that a human prototypically feels "when he hastens to comfort a little child sobbing in distress" (1923:328), or more broadly, when a person perceives something delicate or helpless that evokes a protective response (1923:335; see also 424). He posited that tenderness is evoked by the expression of need:

it is important to note that the object which is the primary provocative of tender emotion is not the child itself, but the child's expression of pain, fear, or distress of any kind, especially the child's cry of distress; further, that this instinctive response is provoked by the cry, not only of one's own offspring, but of any child. Tender emotion and the protective impulse are, no doubt, evoked more readily and intensely by one's own offspring, because about them a strongly organized and complex sentiment grows up. But the distress of any child will evoke this response in a very intense degree in those in whom the instinct is strong. ...

In the human being, just as is the case in some degree with all the instinctive responses, and as we noticed especially in the case of disgust, there takes place a vast extension of the field of application of the maternal instinct. The similarity of various objects to the primary or natively given

object, similarities which in many cases can only be operative for a highly developed mind, enables them to evoke tender emotion and its protective impulse directly—i.e., not merely by way of associative reproduction of the natively given object. In this way the emotion is liable to be evoked, not only by the distress of a child, but by the mere sight or thought of a perfectly happy child; for its feebleness, its delicacy, its obvious incapacity to supply its own needs, its liability to a thousand different ills, suggest to the mind its need of protection. By a further extension of the same kind the emotion may be evoked by the sight of any very young animal, especially if in distress ... [this] instinct ... is the source of the only entirely admirable, satisfying, and perfect human relationship, as well as of every kind of purely disinterested conduct.

In a similar direct fashion the distress of any adult (towards whom we harbour no hostile sentiment) evokes the emotion; but in this case it is more apt to be complicated by sympathetic pain, when it becomes the painful, tender emotion we call pity; whereas the child, or any other helpless and delicate thing, may call it out in the pure form without alloy of sympathetic pain. It is amusing to observe how, in those women in whom the instinct is strong, it is apt to be excited, owing to the subtle working of similarity, by any and every object that is small and delicate of its kind—a very small cup, or chair, or book, or what not.

(McDougall 1919:58-59)

McDougall's "tender emotion" is precisely kama muta when it is evoked by cuteness and vulnerability; he does not realize that innumerable other things can evoke kama muta. Without citing McDougall, Batson and colleagues (Batson, Fultz, & Schoenrade 1987; Batson et al. 2007; Batson 2010) likewise connected being moved with sympathy, compassion, tenderness, warmth, and soft-heartedness. They define and measure the personality trait of 'empathic concern' as emotional responsiveness to encountering vulnerable or needy persons. And in our research, this self-reported personality trait is consistently correlated around r = .32-.35 with participants' ratings of how moved or touched they feel when viewing kama muta-evoking video clips or remembering moments in their lives when they shed tears because of a positive experience. The self-reported trait of empathic concern is also correlated with participants' reports of warmth in the chest, with tears, and with goosebumps or chills when watching kama muta videos or remembering personal episodes of positive tears (Zickfeld et al. 2017; Zickfeld et al. 2019).

Moving experiences with adult animals

People may have kama muta experiences with characters they read or hear about, or with real or imagined ones they perceive in movies, television, or videos - actors, or animated or cartoon characters. They may also feel kama muta in encounters with animals. I often sit outside at a café in Los Angeles with my two exceptionally appealing retriever-Chow mix dogs. From time to time a passerby will look at them, stop, and say something like "Awww! How cute! May I pet them?" Typically one or both of the dogs comes over to the speaker, leans against her, then lies down, and soon rolls over on his back for a tummy-rub. If the petter stops or moves to leave, the dog gently reaches out with his paw to touch her, appealing for her to keep petting. With her voice, her body language, and her contented smiles, the petter shows that she is enthralled, calls her friends to join her, and often speaks of missing her dog back home, or the desire to get a dog herself. She may ask if I come here often and say that she wants to see the dogs again. I previously had two Newfoundland dogs in succession; they are huge, long-furred dogs with giant heads and soulful eyes. 'Newfies' love children and instinctively lie down when approached by a toddler. These dogs, too, often elicited this awww response. I think that this is a mild kama muta experience evoked by suddenly falling in love with the animal. It's quite similar to the response that many people have upon seeing a cute human infant or toddler. It doesn't ordinarily reach the intensity that provokes tears, goosebumps, or other overt physiological sensations, but the feeling is qualitatively the same as more intense kama muta experiences. And the motivational effects are the same, only milder.

An Australian surfer (putting both hands to her chest) described this mix of kama muta and 'awe' when she's in the ocean, a "very profound experience that I have with the ocean and I think a lot of surfers feel the same way"; she feels "part of nature and the world and connected."

The other day, like dolphins came and swum right up right up to the surf board and we were like super close to them and you could see them just playing and having a good time and they were just like jumping and some of them were floating and it was that pure joy that we feel when we're surfing, the dolphins were experiencing the <u>same</u> thing right next to us, and moments like that are definitely very heart-warming.

(Hannah Wang, transcribed from an audio recording)

Exceptional kama muta encounters with animals can be profound. As a woman stood looking through the underwater glass wall of an aquarium, a Beluga whale came right up to her, face-to-face, making eye contact with her; she described her experiences with phrases such as "connection, communication, permanent change in perception of love, extremely powerful" (DeMares 2000:91). DeMares (2000:95) interviewed informants who had had profound, life-changing "peak experiences" with cetaceans. All five informants reported "an enduring sense of connectedness with the animal or animals which is generalized to all others of

the species." A woman who does dolphin-assisted therapy reported a personal experience with a wild dolphin:

when the dolphin is side to side with you and looks you in the eye, and you just have the opportunity to be with the dolphin in a very special way. After that experience, when I see pictures of dolphins, or I see videos of dolphins, my heart has the same feeling as when I was in the water.

(DeMares 2000:95)

Observing orcas in the wild, a man reported:

We really saw that close harmony that existed within the pod. Frequently ... there wouldn't be just one or two coming together, there might be three, four, or five. All moving in unison just right in front of us. Literally cresting, breathing at the same time, and then going down under. In very close proximity, so you'd see quite a few orca fins all at once as they moved en masse under the water again.

(DeMares 2000:95; ellipses by DeMares)

Informants reported what DeMares characterizes as "non-duality/wholeness" and "unconditional love." Another woman made contact with a dolphin who took care to swim along at her slow pace as she walked on the beach:

And it didn't take but a couple of seconds before I started to have a feeling that I've never had before at this level. It was love, exponentially enhanced to a point that I can't describe ... I just stood there and realized that tears were falling off my chin. The feelings were so powerful and so filling.

(DeMares 2000:96-97)

Another woman spoke of her feeling of affinity, a bond between herself and the orcas, a sense of harmony among the orcas and between the orcas and their environment – a circle of harmony that she felt included herself (DeMares 2000:97). Another woman went orca-watching with her son, who had come to town to confront her about their conflicted relationship. As soon as the boat went out, they encountered

a mother and an adolescent son named Slick and Mike [who began] breaching in tandem off the bow of the boat. ... And [my son] and I were both in tears, and we felt very much that these whales were responding to our process.

(DeMares 2000:98; brackets and ellipses by DeMares)

Although DeMares did not investigate physical sensations, he mentions other informants who shed tears as well.

One of the dolphin viewer mentions that after having a special feeling alongside a dolphin, she has the same feeling in her heart when she sees photos or videos of dolphins. Many viewers sometimes seem to feel kama muta from photos or videos of animals even when they've never encountered the species up close, or at all. Depictions in art may have similar effects on occasion.

Humans sometimes form strongly affectionate relationships with animals – they love their pets and may become deeply attached to wild animals. When a person 'falls in love' 'head over heels' with an animal, suddenly feeling an exceptional bond, the person feels kama muta. In an online study where participants watched short video clips, a video of a reunification between two men and a lion was one of the most *moving* for people from Portugal, China, and Israel. Likewise, videos of people saving a baby elephant and the baby then reuniting with its mother, as well as of an elephant herd giving a last goodbye to a dead baby elephant, both *moved* audiences in Norway and the US (Seibt et al. 2017).

Do highly social animals have this feeling, too – toward their offspring, mates, or their human? Few, if any, non-human animals are definitely known to shed tears, and it's not obvious how a researcher would determine whether they have warm feelings in the center of the chest, are choked up, or feel buoyant afterwards. However, three primatologists have independently told us of an intriguing phenomenon they have repeatedly observed. Chimpanzees forage in shifting subgroups that separate and rejoin after several hours or a few days. When chimpanzees who are 'friends' meet up again after a separation, their hair stands up. Then they may hug or groom each other. The only written source I have been able to find is Frans de Waal, describing "reunion euphoria." First he quotes Cynthia Moss on joyous elephant reunions after separation, then he continues: "The greeting ceremonies of chimpanzees, both in the wild and in captivity, are well known: they involve charging about with erect hair, loud hooting, kissing, and embracing" (de Wall 1996:174). Perhaps chimpanzee reunion piloerection is homologous the human reunion goosebumps.

Humankind, nature, and the cosmos: Feeling one with the wild

Cute and vulnerable infants, children, animals, adults, and even small things evoke a sense of wanting to take care of them. It is our own concern and care for the needy creature that *moves* us. What happens, then, when, from a new perspective, something that appeared big and strong suddenly appears small and vulnerable? This is exactly the experience that many astronauts describe looking down on the earth. One writer who interviewed astronauts paraphrased their emotional experience when looking out at earth as a feeling of "unity with nature, transcendence, and universal brotherhood" (Hunt 2015:73; quoted in Yaden et al. 2016:3). Yaden et al. (2016) quote astronauts' descriptions of their extraordinarily intense emotions seeing the earth from space:

an overwhelming sense of oneness and connectedness.

abiding concern and passion for the well-being of Earth.

(Edgar Mitchell, 2016:5)

in outer space, you develop an instant global consciousness, a people orientation, an intense dissatisfaction with the state of the world, and a compulsion to do something about it.

(Edgar Mitchell, 2016:5)

I had another feeling, that the earth is like a vibrant living thing. The vessels we've clearly seen on it looked like the blood and veins of human beings. I said to myself: this is the place we live, it's really magical.

(Yang Liu, 2016:3)

yet when I first looked back at the earth, standing on the moon, I cried. (Alan Shepard, 2016:3)

You ... say to yourself, 'That's humanity, love, feeling, and thought.' You don't see the barriers of color and religion and politics that divide this world.

(Gene Cernan, 2016:3)

You identify with Houston and then you identify with Los Angeles and Phoenix and New Orleans ... and that whole process of what it is you identify with begins to shift when you go around the Earth ... you look down and see the surface of that globe you've lived on all this time, and you know all those people down there and they are like you, they are you—and somehow you represent them. You are up there as the sensing element, that point out on the end ... you recognize that you're a piece of this total life.

(Rusty Schweikart, 2016:3)

When you go around the Earth in an hour and a half, you begin to recognize that your identity is with that whole thing.

(Rusty Schweikart, 2016:5)

Before I flew I was already aware how small and vulnerable our planet is; but only when I saw it from space, in all its ineffable beauty and fragility, did I realize that humankind's most urgent task is to cherish and preserve it for future generations.

(Sigmund Jahn, 2016:3)

The feeling of unity is not simply an observation. With it comes a strong sense of compassion and concern for the state of our planet and the effect humans are having on it. It isn't important in which sea or lake you observe a slick of pollution or in the forests of which country a fire breaks out, or

on which continent a hurricane arises. You are standing guard over the whole of our Earth.

(Yuri Artyushkin, 2016:3)

From space I saw Earth—indescribably beautiful with the scars of national boundaries gone.

(Muhammad Ahmad Faris, 2016:3)

The Earth is dramatically beautiful when you see it from orbit, more beautiful than any picture you've ever seen. It's an emotional experience because you're removed from the Earth but at the same time you feel this incredible connection to the Earth like nothing I'd ever felt before.

(Sam Durrance, 2016:3)

During a space flight, the psyche of each astronaut is re-shaped; having seen the sun, the stars and our planet, you become more full of life, softer. You begin to look at all living things with greater trepidation and you begin to be more kind and patient with the people around you.

(Boris Volynov, 2016:6)

Note that in addition to a wonderful sense of oneness with the whole earth, five astronauts report feeling that the earth is vulnerable, so it needs their protection and care. They remember perceiving the earth as "small and vulnerable" and realizing the "fragility" of the earth made it clear that "humankind's most urgent task is to cherish and preserve it for future generations"; feeling "abiding concern and passion for the well-being of Earth"; "an intense dissatisfaction with the state of the world, and a compulsion to do something about it." They could almost have been describing their feelings about seeing kittens or holding their newborn infant – their affective devotion and moral commitment to caring has about the same tenor. For more details on astronauts' kama muta moments, see Online Note 1.1.

Some of the most profound experiences of kama muta are generated by the sudden intensification of a relationship of unity in which a person feels one with all humans, with 'nature,' the earth, or the whole cosmos (Marshall 2005). Encountering wild animals, looking out over a beautiful 'natural' landscape, walking in the woods, sitting by a pond or a river, or staring up at the myriad stars on a clear night in the mountains, one may lose the sense of being a separate individual – evoking kama muta (see Laski 1961:187–190, 1980). One may feel that one belongs to a vast timeless universe in which the self is merely a transient illusion. Ultimately, one is not separate: all is one. Marshall's review of "mystical" experiences with nature reported in English-language sources summarizes 17 often-reported features, including 7 shown in Table 1.2.

In his textual expansion of the table of 17 features, Marshall makes it clear that the characteristic feelings are "positive" and "affirmative," "dominated by bliss,

TABLE 1.2 Seven of the seventeen features Marshall identified in "mystical" experiences with nature

Unity	Feeling part of the whole; the whole contained within; everything intimately connected; community	
Self	Relaxation of individual identity; identification with persons, animals, plants, objects, even the entire cosmos; discovery of deeper self	
Knowledge	Intuitive, all-encompassing knowledge ('knew everything'); insights into order, harmony, and perfection of the world; feeling that one has 'come home'	
Love	All-embracing love; sense of being deeply loved	
Beauty	Extraordinary beauty; everything equally beautiful	
Body	Sensations through the body or at places along the spine	
Miscellaneous feelings	Bliss, joy, elation, uplift, peace, relief, gratitude, wonder, power, fearlessness, humor, surprise, insignificance, humility, unworthiness, awe, terror, discomfort with sheer intensity	

Source: Marshall 2005:27; see also 48-81.

joy, reassuring insights, balancing perspectives, love" (2005:80). One of the other features Marshall lists is an altered sense of time, or timelessness. He states that mystical experiences of nature are "usually fairly brief, lasting from moments to hours, although traces may last for days, weeks, or longer. ... Experiences often start abruptly, but gradual shifts are also described" (Marshall 2005:72). The other nine of Marshall's 17 features don't seem to be essentially related to these, and don't closely correspond with other researchers' characterizations of mystical experiences. Of course, there is a dialectical relation between the features used to define the category and those that are observed to occur in instances of it. All students of mysticism agree that the sense of union is either the defining feature or one of the essential defining features. In Chapters 11 and 13 we will see that mystical experiences in the world's religions often evoke kama muta.

Hudson (1918: 209-235) describes the emergence of his consciousness of this feeling beginning at age eight; growing up on the Argentine pampas, he first felt it, apparently, in regard to a particular large black snake, and then more definitely in devotion to a particular species of rare, but not exceptionally beautiful, wildflower. By age nine, Hudson reports that he developed a very strong mystical feeling for trees, particularly locust trees in the moonlight.

Based on his journals of his first experiences in the Sierra Nevada mountains in the Yosemite region in 1869, every page of John Muir's (2004) account is filled with his joyous sense of oneness with the place. He constantly refers to the animals as "people" and to the ineffable but total connection he feels with the mountains, lakes, rivers, trees, and meadows. Muir does not describe his own physical sensations, but his exultation and devotion are transparent and explicit.

He repeatedly expresses his wish to stay forever, to experience more, to return to explore further, and his deep sense of belonging. There are indications of 'awe' at the massive Yosemite peaks, 4,000-foot cliffs, and giant trees, but the predominant theme is union with nature, experienced over and over every day. He delights in the visits of every personified insect and identifies with every flower. In one passage, looking at the red clouds around Mt Dana, Mt Gibbs, and Mammoth Mountain, he rejoices at the "infinite lavishness and fertility of Nature."

I watched the growth of these red-lands of the sky as eagerly as if new mountain ranges were being built. Soon the group of snowy peaks in whose recesses lie the highest fountains of the Tuolumne, Merced, and North Fork of the San Joaquin were decorated with majestic colored clouds like those already described, but more complicated, to correspond with the grand fountainheads of the rivers they overshadowed. The Sierra Cathedral [Cathedral Peak], to the south of camp, was overshadowed like Sinai. Never before noticed so fine a union of rock and cloud in form and color and substance, drawing earth and sky together as one; and so human it is, every feature and tint of color goes to one's heart, and we shout, exulting in wild enthusiasm as if all the divine show were our own. More and more, in a place like this, we feel ourselves part of wild Nature, kin to everything.

(Muir 2004:134)

The infinitude of stars in the night sky clearly seen far from any light, at high altitude on a clear night, may evoke this sort of feeling in some, as may a spectacular sunset. Experiencing a total eclipse of the sun, people may "feel a sense of immense connection with the Universe" (Russo 2012:56) that in some cases involves goosebumps or tears. Informants seeing a total eclipse say things such as:

The emotional rush is literally out of this world.

Love for all. ...

I feel as if I could/should run up the shadow to the Sun—as if that is where I belong; where I came from I feel I am at one with the cosmos.

Experiences of nature vary, and often involve a mix of emotions, such as kama muta combined with an awed feeling of being tiny, trivial, and impermanent in an immense cosmos – the experience of a sudden intensification of an authority ranking relationship with the universe. That is, just like the sudden intensification of connection that is felt as kama muta, something approximately named by the English vernacular *awe* occurs when people suddenly feel deference and respect before a tremendous eminence that is vastly superior to them. (On *awe*, see Chapter 19).

The person encountering and feeling one with some greater trans-human whole apperceives this whole as something profoundly there, given, ineluctable, perhaps unknowable or eternal. That is what evokes kama muta. But every such experience is afforded or impeded, shaped, and interpreted through the person's cultural framework. While the human disposition to feel kama muta is an evolved adaptation universal to the species, culture informs the specific features of the relationships that underlie it, the beings or entities who relate in those relationships, the opportunities for intensification of the relationships, the significance of the intensification, and the manner of performing it. (I address these cultural aspects in Chapters 4, 10, and 17). 'Nature,' 'planet earth,' 'the universe,' and such are not simply immanent entities; they are the cultural constructions of particular historical processes, political forces, and economic configurations. So, likewise, is the separation from 'nature' that contemporary Westerners of some social classes often feel – a separation that affords sudden 'reconnection' in kama muta. In contemporary environmentalism, 'earth' is now our common heritage to sustain, but less than a century ago for many in the West, it was something savage that civilized, scientific people were responsible for conquering, controlling, and taming. Technologically sophisticated nineteenth century Western men felt certain they were destined to exploit the earth's resources. In the Christian tradition before that, everything existed to serve man. Yet the experience of late nineteenth century transcendentalists and contemporary environmentalists like ourselves is that we humans are members of an interdependent community – and in moments of our lives when we 'realize' this, we may feel kama muta.

Intriguingly, kama muta can also occur when abstract, even mathematical thinking evokes a sense of the wholeness of everything. For Arthur Koestler's sensitive report of this, see Online Note 1.2.

Peak experiences

Most Americans from time to time have 'peak experiences' in which the self merges with nature or the cosmos (Maslow 1962, 1970; Davis 1998). "It is quite characteristic in peak experiences that the whole universe is perceived as an integrated and unified whole" (Maslow 1970:59). Furthermore, "the peak-experiencer becomes more loving and more accepting" (1970:67) and people who are religious feel "gratitude or an all-embracing love for everybody and everything, leading to an impulse to do something good for the world, an eagerness to repay, even a sense of obligation and dedication" (1970:68).

In a 1970 representative sample of 1,000 residents of the San Francisco-Oakland area, respondents were asked whether or not they had "ever had the feeling that you were in close contact with something holy or sacred"; 76% said they had. When asked they had ever "experienced the beauty of nature in a deeply moving way," 82% said they had. And 38% responded affirmatively to the question asking whether they had ever had the "feeling that you were in harmony with the universe" (Wuthnow 1978:61). Eighty-eight percent reported that they had had at least one of these experiences. Many respondents had had such experiences in the past year (47%, 70%, and 76%, respectively), suggesting that they are not rare in most lives. In each case, somewhat less than half of these experiences had had a "lasting influence on my life." Apparently, these experiences have motivational effects, evoking loving-kindness: the deeper and more lasting the effect of the experience on a respondent's life, the more likely they were to report working for social change, helping to solve social problems, or helping people in need. These results may well include social desirability and demand effects, but they are consistent with other surveys (Panzarella 1980; see Chapter 11 and Online Note 1.3).

There's no way to know what proportion of these peak experiences involved kama muta, but it seems likely that a great many did, and other studies of peak experiences offer many glimpses of kama muta. Studying peak experiences, Ho et al. (2013) asked Portuguese and Chinese adults to "Think of the most wonderful or joyful experience of your life up through the age of 14." In each culture, more than half of these experiences were experiences of "interpersonal joy" consisting of "family togetherness, friendship, birth of a sibling, having a mentor, being a mentor, recovery of family member from illness, peer camaraderie." Norwegians most frequently report the peak experiences of their lives to be "family togetherness, the birth of a baby sibling or cousin, and romantic bliss," report Hoffman, Iversen, & Ortiz 2010). People often shed "tears of joy" on such occasions. Hoffman, Garg, and González-Mujica (2013) asked a sample of 131 mostly urban and educated Indian informants to report an occasion when they had felt "tears of joy." Among the reports, 20% were occasions of non-romantic affection, 12% the birth of a child, 12% a reunion (typically with kin at a holiday or celebration), 8% romantic affection, and 8% identification with a movie or other media narrative. In addition, 16% reported a moment of personal achievement, often in the company of good friends or family (see Chapter 5 for a discussion of the solidarity that achievements often generate). A mostly Australian nationality sample of 298 responded to the question, "Have you ever had a peak experience in a love relationship, for example: an experience of profound oneness, incredibly intense joy during sexual contact or arising from loving your partner?" (Woodward, Findlay, & Moore 2009:436). Two-thirds of respondents reported "peak experiences ... which involved mystical sexual or loving experiences, feelings of sexual 'oneness' with a partner, intense passion or intense feelings of closeness and belonging, and out of the ordinary positive feelings such as overwhelming joy or happiness" (2009:436). Some of these involved tears of joy, and many may have been kama muta. For example, one informant reported,

Several times since October last year our love-making has moved me to tears of great happiness. The experience is overwhelming. I am totally focused on my husband and there is a sense of 'time has stopped.' There is a blending of the physical, mental and spiritual in a very special way. I feel as I move 'out there' that there is someone or something very beautiful 'out

there.' Afterwards I feel very loving and close to my husband and part of something very special in the universe.

(Woodward, Findlay, & Moore 2009:437)

When kama muta is strong, it is memorable. When kama muta is extremely strong, it may be a highpoint of human life, making life both joyful and richly meaningful; for Marghanita Laski's accounts of what she calls "transcendental ecstasy," see Online Note 1.3. In Chapter 9, I describe the peak experiences of communal sharing that unexpectedly arise in disaster.

One aspect of mystical union with nature that I have to leave for future research is the role of art in preparing people to feel this, and in evoking it directly. Many landscape and nature paintings have the potential to evoke kama muta in sensitive viewers open to feeling it, especially classical Japanese painting and woodcuts. Some cultural traditions cultivate and value a kama muta sensibility. Portrayals of domestic and pastoral scenes may also evoke kama muta. How often do kama muta experiences motivate artists to paint, make woodcuts or lithographs, or sculpt? How many artists are motivated to create art in order to share their kama muta experiences with viewers, intending to give viewers the same joyous feeling of connection with nature that they have felt? In Chapter 8, I will return to art; we will see that even non-representational art can evoke strong kama muta in some viewers. In Chapter 11, we will explore transcendent mystical experiences of ecstasy, which correspond in most respects to peak experiences, except that the experiencer understands them as 'religious' and often as feelings of union with divinity. But there are no essential differences in the emotion itself.

Many people – adults as well as children – have a teddy bear or doll they snuggle up to at night. When she heard about the concept of kama muta, one colleague told us about cuddling with hers:

Whether I have experienced *kama muta* before? I believe I experience it every single night when I go to bed and find my Wuschel waiting there for me. Yes, even as an adult, I derive a deep sense of pleasure when I touch this very special cuddly toy that takes me back into my childhood. There is nothing quite like putting it on my neck and having its cold surface (due to its lacking fur) touch my skin. It has a soothing influence and can even give me goosebumps or cause me to chuckle for luck.

(A professor)

Every experience is culturally situated and culturally informed. Birth is culturally organized. Even random encounters with cute animals occur because humans domesticated, bred, and keep animals for their cuteness. Likewise, the identification with animals in nature is fostered by cultural representations and sensibilities about certain wild animals. The feeling of belonging and being part of nature or the earth or the cosmos is fostered by cultural models of those entities. However, the sorts of kama muta experiences presented in this chapter mostly are evoked by encounters in situations that were not primarily 'designed' or 'tailored' to evoke kama muta, and that people may not engage in with the principal intent to feel kama muta. Ordinarily one does not get pregnant and deliver a baby or become an astronaut chiefly in order to feel kama muta. And, of course, the primary function of space programs is not to give astronauts kama muta experiences. Conversely, at least until recently, 'modern' delivery practices and maternity ward architecture were not primarily designed to afford kama muta. Nurses briefly showed the newborn to the mother, then took it away to be weighed and measured, and brought it to a nursery, where the father could view it through a window, and from which the infant was intermittently brought to the mother to nurse. In contrast, the rest of this book describes practices, institutions, roles, arts, and artifacts whose primary function is precisely to evoke and orient kama muta. We shall see that cultures have evolved many systems to evoke kama muta, and much of the kama muta people experience is due to engagement in these practices that are culturally reproduced precisely because they reliably and strongly evoke kama muta. Moreover, we shall see that the devotion and commitment generated by kama muta is a principal source of social solidarity – it is an essential glue that bonds human dyads and groups.

Although this emotion is not widely recognized or distinguished by contemporary emotion theorists, there are some prescient early accounts. The Scottish philosopher–psychologist Alexander Bain's (1859) detailed characterization of "the tender emotions" corresponds rather well with kama muta (see Online Note 1.4). Later, without giving it a name, William James (1902) characterized a kama muta-like emotion that occurs in the core experience of religion when a person is in union or communion with a deity or some more encompassing wholeness (see Chapters 2 and 11). As I noted above, William McDougall (1919) again identified "the tender emotion" as one of the seven primary emotions; everything he wrote about the tender emotion corresponds to kama muta.

Among early accounts, the depiction of the emotion by the Swiss psychologist Édouard Claparède (1930) stands out for its sensitivity. While fully appreciating that there is no one-to-one correspondence between lexemes and emotions, Claparède indicated that the emotion he aimed to describe is the one most commonly denoted by the French être ému, être remué, and German berührt sein (whose literal physical meanings are, respectively, 'be moved, be stirred,' and 'be touched'). However, he immediately notes that the expression être ému is also used for social fear, as when one is about to speak in public or knocks on the door of a hierarchical superior, and for the sadness one feels when paying a condolence visit or reading about the death of a worker who supported many children. He observes that these meanings of the lexeme are entirely distinct from the emotion he is concerned with.

As a prototypical example of the emotion, he gives the audience response to a solemn patriotic ceremony when the flag is displayed, or the feeling of people in the crowd listening to the traditional reading of the names of the heroes who died for their country. Claparède observes that he has felt this emotion attending a similar ceremony abroad, though he felt no true patriotic sentiment. He mentions the impact of a preacher on his listeners. In the theater, one often feels this emotion at a reconciliation scene, when, for example, a wife finds and takes back the husband who left her, or in a scene where two friends, after a murderous quarrel, make up, one extending his hand to the other and asking for forgiveness. Claparède cites a scene in a play when a son tells his father that, when he was about to commit suicide, hearing his father's voice stopped him. And one feels this when reading newspaper accounts of human brotherhood or generosity which touch (touchent) us, such as during the World War when a Catholic chaplain risks his life to save a Protestant chaplain, or vice versa. Claparède felt this emotion lightly but distinctly when he read that a woman in a nearby village was celebrating her hundredth birthday, surrounded by her children and grandchildren. He also felt it one sweet spring morning upon seeing a beautiful two-yearold sleeping in the open air, caressed by the wind. The emotion can accompany action, as when one extends one's hand to a person one has injured, and might have hugged him, if custom allowed. Children don't feel this emotion, perhaps because they lack a special social sensibility. When he was about ten, Claparède reports, he was astonished to see his father crying at a patriotic ceremony.

The sensations of this emotion, Claparède notes, are sudden tears, a slight trembling of the lips, a softening or relaxation of the body, "with a light constriction of the thorax, as if one were holding back a sob" (1930:334; my translation); this half-sob interferes with speech (1930:338). Feeling this emotion, one is happy. In a subsequent footnote to his discussion of the James-Lange theory of emotion (1930:343), Claparède raises the question of whether shivers on one's back listening to moments of beautiful poetry, music, or oratory should count as instances of the emotion of beauty or solemnity, or mere bodily sensation. But he does not appear to regard this frisson as a sensation of the "pure emotion" that is his specific focus.

The emotion can be as brief as one or two seconds, typically four or five seconds, but, Claparède supposes, never more than 15 or 20 seconds. Nevertheless, it can recur several times in succession.

He notes that there is often surprise or relief in the situations that evoke the pure emotion he's describing, but neither is essential to the emotion. Claparède (1930) posits that the emotion in question is "pure," without any of the qualities of fear, anger, astonishment, anxiety, shame, pity, compassion, or even joy. It has sensations that overlap with sadness and grief (1930:344), but its intimate significance makes it distinct. What makes it distinct from all other emotions and affective states is that it is neutral, without any direction or biological function. It is the emotion of the pure shock, simple disorder, disruption, turmoil, confusion (trouble) that characterizes all emotion, but unlike all other emotions, without any value or meaning for the person. Claparède asserts that this emotion has no adaptive function in adjusting the actions of the person to the circumstances that evoke it.

Though he describes a fairly wide range of elicitors, Claparède's account ignores all religious experiences and is limited to the manifestations of the emotion in the culture of upper-middle-class men in Switzerland and Germany of his day. From my perspective, I judge that he was mistaken to claim that the emotion does not have any intrinsic meaning, that it is not adaptive, and does not even motivate any behavioral response. Yet he presciently recognized what causes this emotion, precisely specifying that it is evoked by scenes that highlight "human solidarity, a communion of souls, a generous action, or people becoming closer (rapprochement)" (1930:336). Young children probably do feel it, though we do not yet have good evidence about this.

* * * * *

Participants feel this emotion at weddings in many cultures, and so do those who later see photos or videos of the wedding. Memories of transitions and other special moments of family life often evoke nostalgic feelings of this kind, and there appear to be similar emotional moments of imagining the future bliss of marriage and parenthood. In many respects, weddings and other lifecycle rites of passage feel 'designed' to evoke this particular emotion. Furthermore, there is a definite sense that key participants, especially women, *should* feel this emotion, and that the wedding is better, more successful, the more they do. This is clear from personal experience, journalists' reports, and popular blogs at sites such as "Pass the Tissues": Brides on What Made Them Cry at Their Weddings; Will You Cry at Your Wedding? (Did You?); Surprising Moments That Make One Cry on Their Wedding Day; Nostalgic Moments That Make a Bride Cry on the Happiest Day of Her Life.

People often feel this emotion when seeing the first ultrasound images of their baby, giving birth, others' infants, kittens, encounters with wild animals, mountain landscapes, celestial events and night skies, the view of the earth from space, cuddling with their teddy bear – people can suddenly connect to all of them, feeling care, compassion, closeness, and connection. This evokes a distinct emotion. What are the sensations of this emotion? What are the signs of kama muta – what does it look and feel like?

Let's see - and feel.

Online notes

- 1.1 Kama muta evoked by connecting to humanity.
- 1.2 Koestler's kama muta upon reconstructing Euclid's proof.
- 1.3 Laski's description of moments of "transcendental ecstasy."
- 1.4 Bain's 1859 description of "the tender emotion."