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February 10, 2014

Rounded Lips: What Timing and Time Has to Do with “Surprise.”

Raised eye brows, eyes widely open, and mouth open are usually listed as the most basic and critical facial gestures in describing the semantics of a surprised human face.¹ Figure 1 from Google Images illustrates that basic understanding of the expression. If we focus on the mouth specifically, Anna Weirzbicka recognizes “mouth open (while not speaking)” as one of the eight basic units of facial behavior with a universally recognized meaning “I cannot say anything now.”² The English phrase about one’s “jaw dropping” indeed describes a person’s surprise. In reviewing human faces purportedly expressing surprise on Google Images, however, I consistently see an alternative version of the mouth configuration—rounded protruding lips as if the person is making a sound of an open [u]. Figure 2 illustrates that version of surprise.

Long before Google, Charles Darwin noted this feature of some surprise expressions. He also pointed out that this feature of surprise semantics was documented not only in the Western world, but on Tahiti, in Africa and in India. Not unexpectedly, Darwin connected this feature with even much more pronounced protrusion of lips in chimpanzees and orangutans, when these non-human primates were surprised. Darwin suggested that the initial deep inhalation that accompanied surprise was followed either by the surprised person not breathing for a beat or breathing extremely shallowly so as not to miss any sound that occurred—all therefore, with the jaw slacked. The optional protrusion of the lips, according to Darwin, was a result of pronounced exhalation that followed that initial deep intake of breath. Darwin also made a connection between a surprised whistle and the protruded lips. Again, he brought examples of the whistle from all over the world, attaching a universal human sign to the whistle.³

If the connection among the different human and non-human primates first noted by Darwin for the protruded lips is indeed true, then the feature is more likely to be universal, preserved through the evolution, and the study of surprise expressions is particularly relevant in sorting universals from specifics in facial expressions, in emotions themselves, and in their descriptions in different languages. The surprise is also a temporally complex emotion, even, if generally speaking, it is of short duration. In suggesting an exhalation explanation for the protruded lips, Darwin has introduced an idea of sequential facial expressions and temporal aspects of what we perceive as a single emotion of surprise.

¹ Wikipedia, “Surprise (emotion),” http://en.wikipedia.org/wiki/Surprise_%28emotion%29 Accessed 2/7/14.

² Anna Wierzbicka, *Emotions Across Languages and Cultures: Diversity and Universals* [1999] (Paris: Cambridge University Press, 2005), 183.

³ Charles Darwin, *The Expression of the Emotions in Man and Animal* (London: John Murray, 1872) in Google eBooks, 2009.

http://books.google.com/books?id=s0K_dop7zi4C&dq=whistled+in+surprise&source=gbs_navlinks_s
Accessed 2/8/14.

Paul Ekman, the man responsible for the contemporary idea of six basic emotions, (happiness, sadness, fear, anger, surprise, and disgust) seems to have a different position concerning temporality of emotions. According to him, all basic emotions are of very short duration, seconds or minutes at best.⁴ While one can see how surprise would be considered a short emotion, our experience speaks otherwise about other emotions in spite of Ekman's blanket assertions. Even if we operate with Ekman's own six basic universal emotions, it is clear that, for example, certain types of sadness and the accompanying facial expressions can certainly last for hours, at least. It appears, however, that Ekman has underestimated even the duration of surprise and how physical manifestations of the same emotion supplant each other in response to a stimulus causing surprise.

Recent investigations by a team of scientist from the University of Glasgow, studying temporal aspects of facial expressions, challenge Ekman. The scientists interpret their data as supporting the idea that there are four basic responses, rather than six, that is four basic emotional states that cannot be broken down any further. They do not seem to be challenging Ekman's claim about universality of his categories, only about their elemental qualities. Based on recognition of facial movements by their experimental subjects, they identify the states as follows: 1) happiness, 2) sadness, 3) pre-state leading to disgust or anger, and 4) pre-state leading to fear or surprise.⁵

This four-partite scheme offers a possible explanation for the two faces of surprise discussed in this paper if we tie it with evaluative aspects of emotional states and expressions. Weirzbicka describes a school of research that categorizes all emotions as bipolar, either good or bad, but points out that linguistic evidence does not support that feelings are always interpreted one way or the other, offering "surprise" as an example of such unrated emotion.⁶ Indeed, universally all people have a concept of feeling good and have a corresponding set of facial semes, such as corners of the mouth up, and universally all people have a concept of feeling bad with a corresponding set of facial semes, such as corners of the mouth down. And indeed there seems to be a universal tendency to dichotomize one's emotions and classify them quickly.

I suggest that the emotional pre-state described by the researchers from the University of Glasgow as later resolving either in fear or surprise initially must be the state of alert, which calls for evaluation of a situation. Figure 1 probably corresponds to the tail end of this state. If the situation is found to be dangerous, the emotion will proceed to fear, if the situation is determined not to be dangerous, it may resolve in pleasure or at least in relief. Such relief may be expressed in protruded lips with a forceful exhale, as described by Darwin, and be still categorized as "surprise." Indeed the raised eyebrows and widely open eyes may continue to signal the status as continued evaluation of the situation—or be more as a descriptor of the situation, with the person maintaining the surprised look, but at the same time signaling to all the other members of the tribe or society around that the situation is considered to be not dangerous.

⁴ Paul Ekman, "An Argument for Basic Emotions." *Cognition and Emotion*, 6(3/4), 1992, 186 as quoted in Anna Wierzbicka, *Emotions Across Languages and Cultures: Diversity and Universals* [1999] (Paris: Cambridge University Press, 2005), 20.

⁵ Rachael E. Jack, Oliver G.B. Garrod, Philippe G. Schyns. "Dynamic Facial Expressions of Emotion Transmit an Evolving Hierarchy of Signals over Time." *Current Biology*, 2014; 24 (2): 187 DOI: [10.1016/j.cub.2013.11.064](https://doi.org/10.1016/j.cub.2013.11.064)

⁶ Weirzbicka, 281.

The social communicative function of the protruded lips signaling lack of danger combined with the look of surprise in the eyes and eyebrows is evident in last spring's photographs of Russian President Vladimir Putin. In April 2013 while on a state visit to Germany, Putin was surprised by bare-breasted women protesters, most likely belonging to the Ukrainian group Femen.⁷ Figure 3 presents the moment as found on Google Images. Putin's eyebrows are raised high with horizontal lines forming on his forehead as a result, and his eyes are wide open. The initial recoil of the body is still evident in his head position with his chin buried in his neck, but his lips are not only protruding but already sliding into a smile, the corners of the mouth are up. This slide into his rather nasty derisive expression also illustrates my point about temporal dynamism of surprise as a facial expression.

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Figure 1. Initial surprise



⁷ *Der Spiegel* Online, April 8, 2013 <http://www.spiegel.de/international/europe/putin-visibly-amused-by-topless-femen-protest-in-germany-a-893128.html> Accessed 2/8/14.

Figure 2. Lips rounded in surprise



Figure 3. A bare-breasted protester, covered in obscene curses against him, surprises Russian President Vladimir Putin at a meeting in Germany with that country's head of state Angela Merkel.

