Why do people need emotions?

Should you be emotional to become an actor?

Do you need to understand other people emotions to be an actor, or you can imagine and present them as you like?

Is it easy for you to show emotions?

Do other people guess quickly what emotions you show?

How many emotions are there?

Emotions rule so much of our lives. Writers and poets seem capable of **coming up** multitude ways to describe the experience and varieties of human emotion. On an everyday basis, we often resort to using metaphors to describe what we are experiencing inside. How often do you find yourself describing what you are feeling as being much like "butterflies in your stomach" or a "lump in your throat" or some other similar depiction?

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Psychologist Robert Plutchick suggested that more than 90 different definitions of the term "emotion" have been **put forth** by psychologists. Compounding this difficulty is the fact that emotions are often so complex, varied, and internal. They tend to be deeply personal and even confusing at times. The fact that emotions are frequently mixed or that we are capable of experiencing more than one emotion at a time makes **pinning down** the exact nature and number of emotions that much more challenging.

If someone asked you to identify how many emotions there actually are, what would you guess? Tens? Hundreds? Thousands? This question is hardly new. As early as the 4th century B.C., the philosopher Aristotle attempted to identify the exact number of core emotions. These were referred to as the 14 irreducible emotions, which he described as Fear, Confidence, Anger, Friendship, Calm, Enmity, Shame, Shamelessness, Pity, Kindness, Envy, Indignation (негодование), Emulation (подражание), and Contempt (презрение).

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In his book The Expression of the Emotions in Man and Animals, Charles Darwin suggested that the ability to express emotion through the face had evolutionary advantages. He also suggested that many of these emotional expressions were universal.

More recently, psychologists have made a number of attempts to categorize and identify the exact number of emotions. Surprisingly, when it comes to basic, universal emotions, there are actually far fewer than you may think. According to the best-known theories that classify the human emotional experience, there are **anywhere from** four **to** eight basic emotions.

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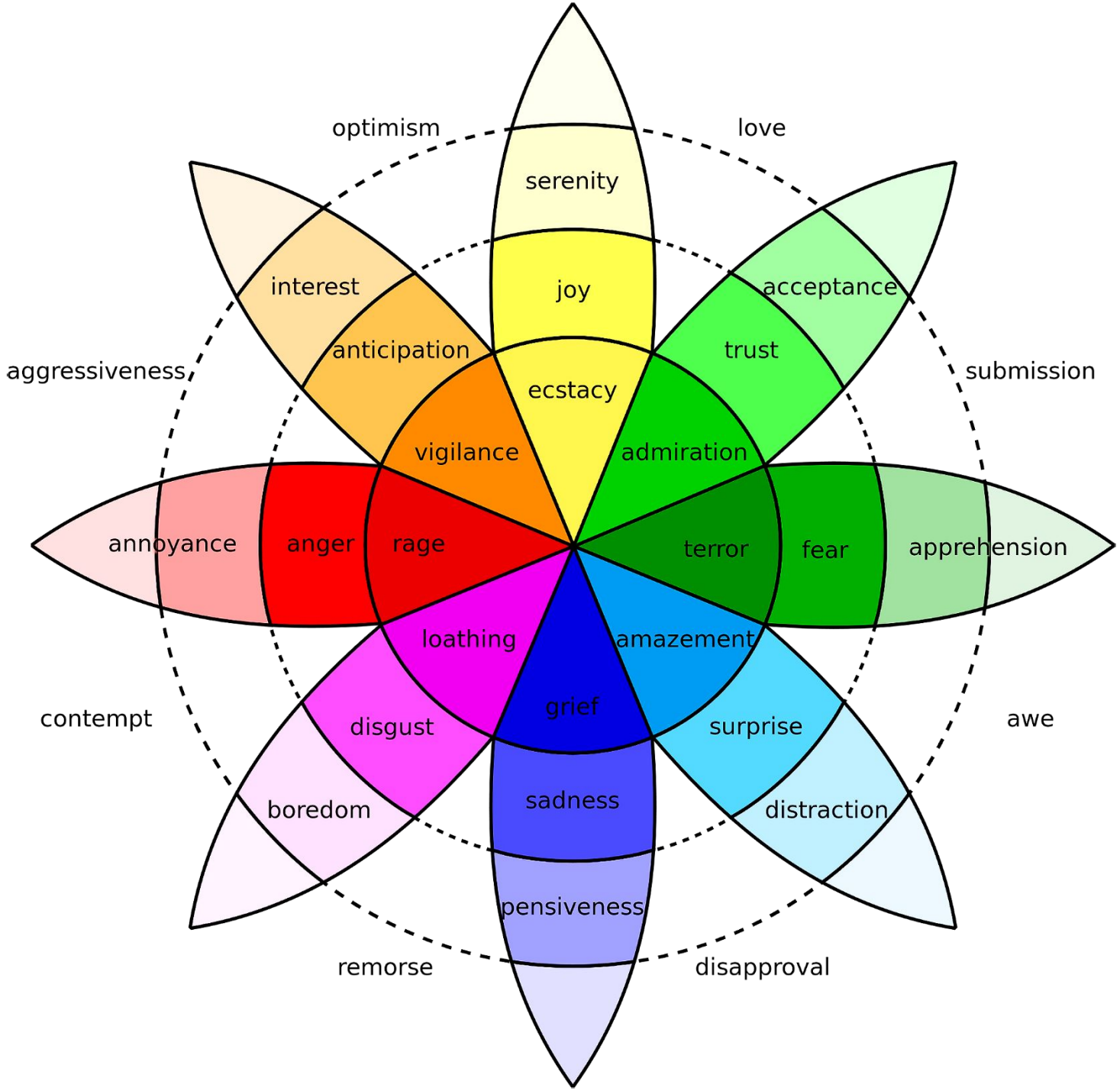
One of the most prominent of these theories is Robert Plutchik's wheel of emotions which identifies eight basic emotions - Joy, Sadness, Trust, Disgust, Fear, Anger, Surprise, and Anticipation. The wheel of emotion **is likened to** the color wheel in which the primary colors combine to form the secondary and complementary colors. These basic emotions then mix and combine to form a variety of feelings. For example, anticipation plus joy might combine to form optimism.


optimism
love
serenity
interest
joy
acceptance
aggressiveness
anticipation
ecstacy
trust
submission
vigilance
admiration
annoyance
anger
rage
terror
fear
apprehension
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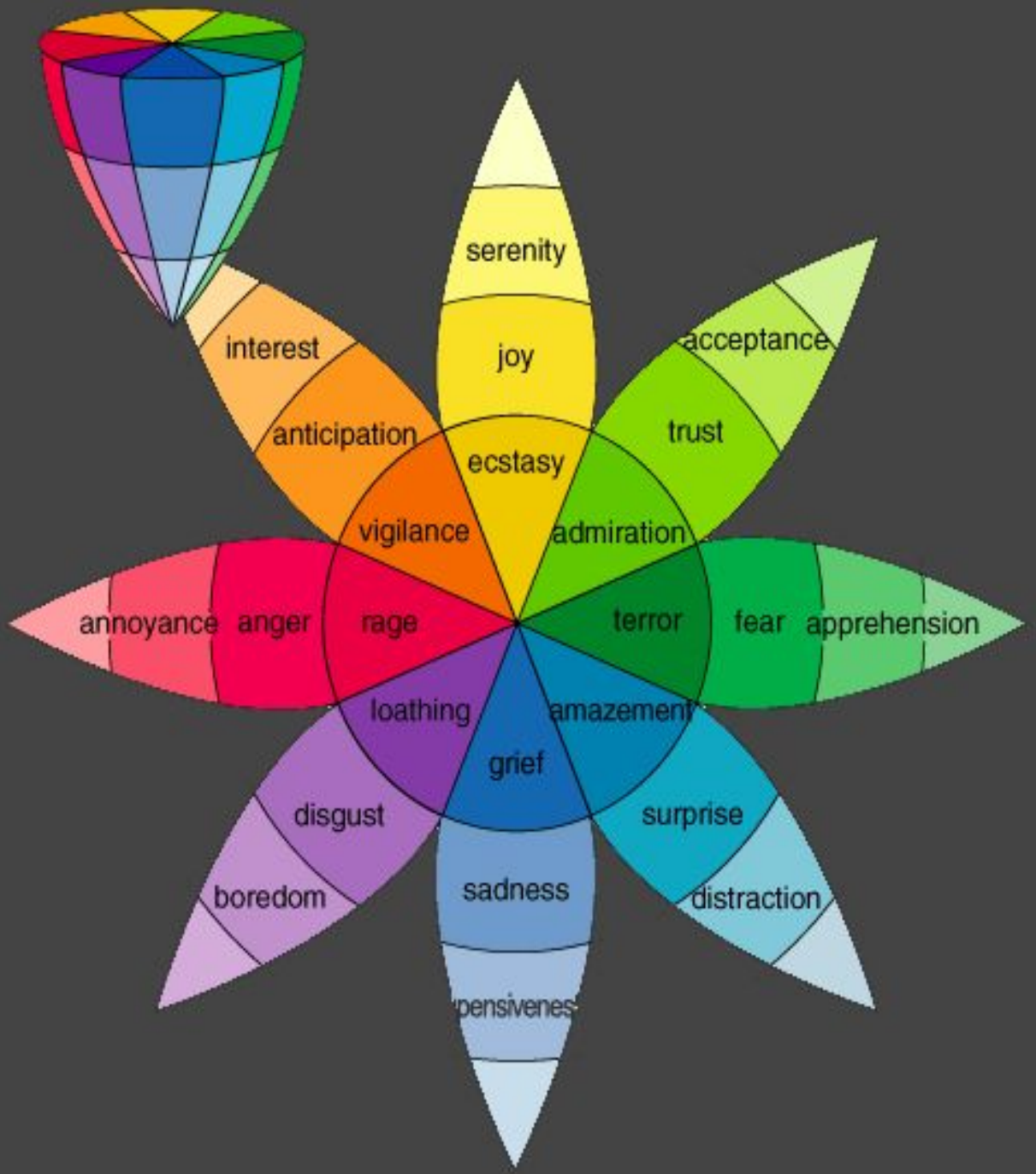
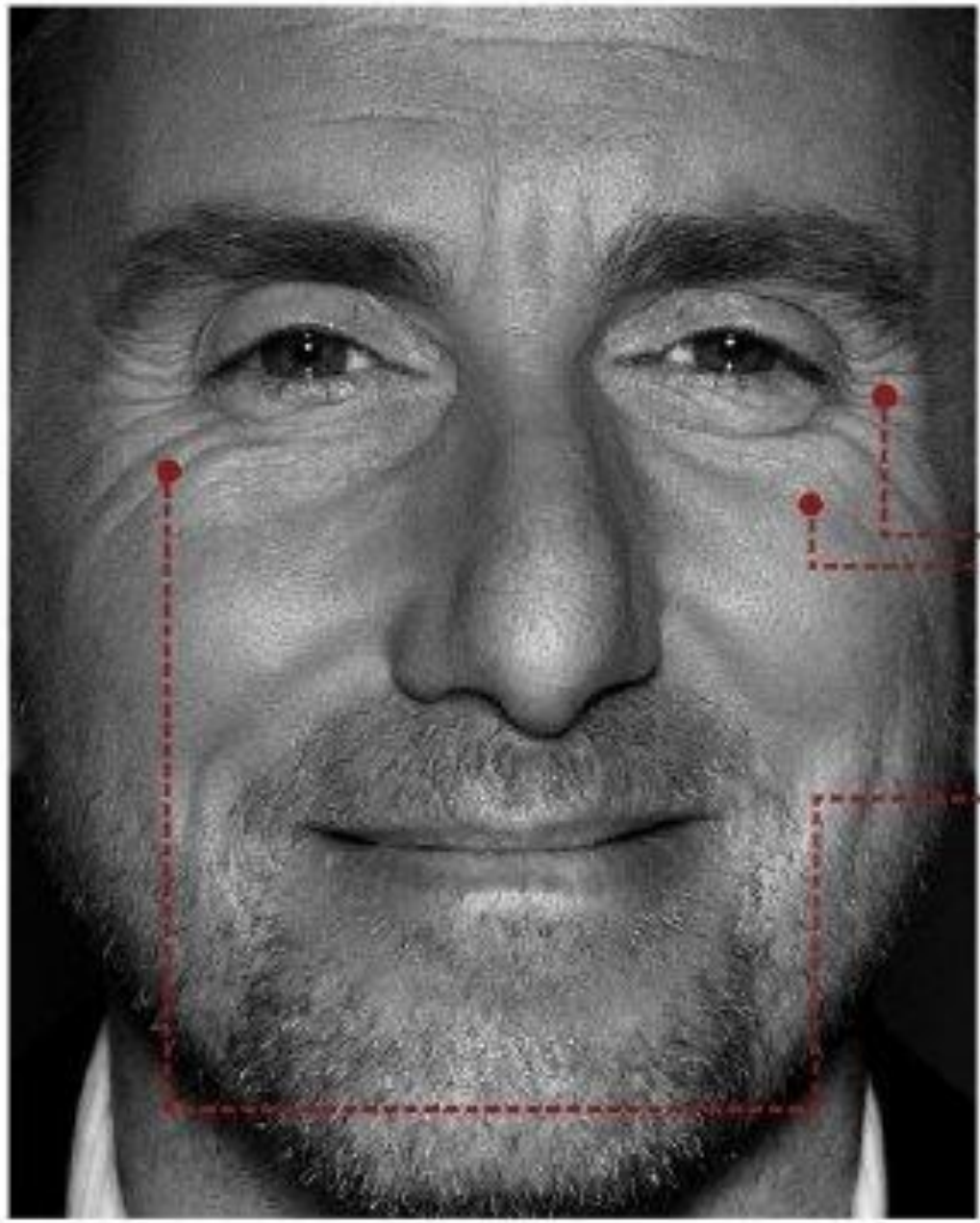


Selected Emotion: joy [592]

	Top ANPs	sentiment	emotion
1.	happy smile	1.92	0.388
2.	innocent smile	1.92	0.376
3.	happy christmas	2.0	0.373
4.	happy father	2.0	0.358
5.	happy wedding	1.72	0.348
6.	friendly smile	1.92	0.346
7.	delicious cupcake	1.71	0.341
8.	shy smile	0.62	0.340
9.	charming smile	1.92	0.339
10.	happy birthday	1.79	0.337
11.	warm smile	1.92	0.336
12.	happy mother	2.0	0.333
13.	happy halloween	1.81	0.331
14.	delicious drink	1.59	0.330
15.	happy heart	2.0	0.329
16.	happy kids	2.0	0.323
17.	healthy food	1.69	0.312
18.	happy guy	1.61	0.312
19.	fresh food	1.59	0.307
20.	delicious pie	1.76	0.296

Other researchers suggest that there are around six or seven basic emotions that are experienced in cultures throughout the world. Psychologist Paul Eckman created what is known as the **Facial Action Coding System (FACS)**, a **taxonomy** (систематика) that measures the movements of all the face's 42 muscles as well as the movements of the head and eyes.

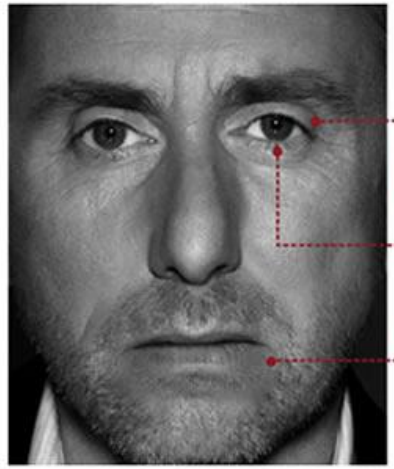
Eckman discovered that there were six facial expressions universal to people all over the world. These original six emotions he identified were Happiness, Sadness, Surprise, Fear, Anger, and Disgust. He later went on to add a seventh emotion - Contempt.



happiness

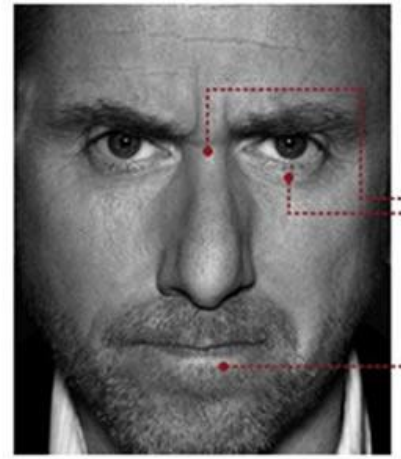
A real smile always includes:

1. crow's feet wrinkles
2. pushed up cheeks
3. movement from muscle that orbits the eye



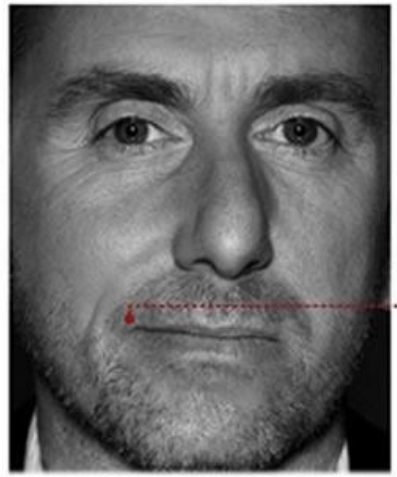
sadness

1. drooping upper eyelids
2. losing focus in eyes
3. slight pulling down of lip corners



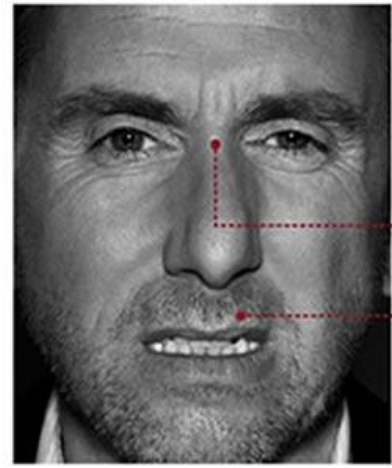
anger

1. eyebrows down and together
2. eyes glare
3. narrowing of the lips



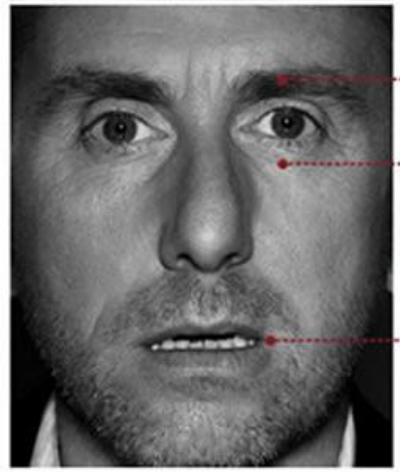
contempt

1. lip corner tightened and raised on only one side of face



disgust

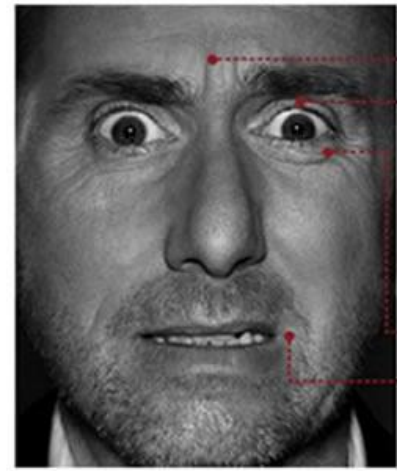
1. nose wrinkling
2. upper lip raised



surprise

Lasts for only one second:

1. eyebrows raised
2. eyes widened
3. mouth open



fear

1. eyebrows raised and pulled together
2. raised upper eyelids
3. tensed lower eyelids
4. lips slightly stretched horizontally back to ears

More recently, researchers asked participants to identify emotions based on the expressions of a realistic model. What they found was that fear and surprise engage the same muscles. Rather than representing two distinct emotions, they instead suggest that fear and surprise are simply variations of one basic emotion.

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Similarly, disgust and anger involve the exact same muscles, so they suggest that they represent variations of just one emotion. The researchers suggest that instead of six basic emotions, there are just four: happiness, sadness, anger, and fear. The more complex variations of emotions, they argue, have evolved from these foundational building blocks over the millennia.

"What our research shows is that not all facial muscles appear simultaneously during facial expressions, but rather develop over time supporting a hierarchical biologically-basic to socially-specific information over time," explained lead author Dr. Rachael Jack of the University of Glasglow.

***

Yet most of us would immediately argue that fear and surprise are distinct and separate emotions, as are anger and disgust. However, the researchers note that when the expression is first displayed, the muscles same muscles are engaged for fear and surprise. This distinction between fear/surprise and anger/disgust, they believe, is socially based.

It is only later as the emotion is more fully expressed that the differences between the two emerges. The researchers believe that the expression of the basic emotions has a biological, survival basis, while the differences that exist between fear/surprise and between disgust/anger evolved later on and for more social reasons.

***

So does this really mean that there are just four emotions? Certainly not. The research conducted by Dr. Rachael Jack and her colleague's suggests that there are four *irreducible* emotions, but this certainly does not mean that people are only capable of experiencing four emotional states. "Nobody in their right mind would say there are only four emotions," Jack clarified in an interview with *Science Monitor*. "That simply isn't true. Human beings have incredibly complex emotions."

While we might be able to identify such broad emotions, Eckman's research has revealed that the human face is capable of creating more than 7,000 different facial expressions. Emotions, and how we experience and express them, can be both abundantly apparent and remarkably subtle. The basic emotions, however many there really are, serve as the foundation for all the more complex and subtle emotions that make up the human experience.

About four thousand years ago, somewhere in the Middle East — we don't know where or when, exactly — a scribe drew a picture of an ox head. The picture was rather simple: just a face with two horns on top. It was used as part of an *abjad*, a set of characters that represent the consonants in a language.

***

Over thousands of years, that ox-head icon gradually changed as it found its way into many different abjads and alphabets. It became more angular, then rotated to its side. Finally it turned upside down entirely, so that it was resting on its horns. Today it no longer represents an ox head or even a consonant. We know it as the capital letter A. The moral of this story is that symbols evolve.

Long before written symbols, even before spoken language, our ancestors communicated by gesture. Even now, a lot of what we communicate to each other is non-verbal, partly hidden beneath the surface of awareness. We smile, laugh, cry, cringe, stand tall, shrug. These behaviours are natural, but they are also symbolic. Some of them, indeed, are pretty bizarre when you think about them. Why do we expose our teeth to express friendliness? Why do we leak lubricant from our eyes to communicate a need for help? Why do we laugh?

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One of the first scientists to think about these questions was Charles Darwin. In his 1872 book, *The Expression of the Emotions in Man and Animals*, Darwin observed that all people express their feelings in more or less the same ways. He argued that we probably evolved these gestures from precursor actions in ancestral animals.

A modern champion of the same idea is Paul Ekman, the American psychologist. Ekman categorised a basic set of human facial expressions — happy, frightened, disgusted, and so on — and found that they were the same across widely different cultures. People from tribal Papua New Guinea make the same smiles and frowns as people from the industrialised USA.

Our emotional expressions seem to be inborn, in other words: they are part of our evolutionary heritage. And yet their etymology, if I can put it that way, remains a mystery. Can we trace these social signals back to their evolutionary root, to some original behaviour of our ancestors? To explain them fully, we would have to follow the trail back until we left the symbolic realm altogether, until we came face to face with something that had nothing to do with communication. We would have to find the ox head in the letter A. I think we can do that.

About 10 years ago I was walking down the central corridor in my lab at Princeton University when something wet smacked me from behind. I gave a most undignified squawk and ducked with my hands thrown up around my head. Turning around, I saw not one but two of my students — one with a squirt gun, the other with a video camera.

The lab was a hazardous place in those days. We were studying how the brain monitors a safety zone around the body and controls the ducking, cringing, squinting actions that protect us from impact. Whacking people from behind was not part of a formal experiment, but it was endlessly entertaining and, in its own way, revealing.

Our experiments focused on a specific set of areas in the brains of humans and monkeys. These parts of the brain seemed to process the space immediately around the body, taking in sensory information and transforming it into movement. We tracked the activity of individual neurons in those areas, trying to understand their function.

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A typical neuron might become active, clicking like a Geiger counter when an object loomed towards the left cheek. The same neuron would respond to a touch on the left cheek, or to a sound made near it. When we ran tests in the dark, the neuron would become furiously active if the head moved in a way to take the left cheek towards the remembered location of an object: the neuron was ‘warning’ the rest of the brain that a collision was about to occur at a particular spot on the body.

Other neurons scoped out the space near other parts of the body. It was as though the entire skin was covered with invisible bubbles, each one monitored by a neuron. Some of the bubbles were small, reaching only a few centimetres from the surface. Others were large, extending metres. Collectively, they created a virtual safety zone, like a massive layer of bubble-wrap around the body.

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Without that mechanism, you couldn't brush an insect off your skin, duck from an impending impact nor fend off an attack. You couldn't even walk through a doorway without bashing your shoulder. The bubble-wrap neurons did more than monitor. They also fed directly into a set of reflexes. When they were subtly active they biased movement away from nearby objects. When they were highly active, such as when we gave them some vigorous electrical stimulation, the result was a rapid and complete defensive movement.

When we zapped a cluster of neurons that protected the left cheek, for example, a lot of things happened very quickly. The eyes closed. The skin around the left eye pursed. The upper lip pulled up hard, causing wrinkles of skin to protect the eyes from below. The head ducked and turned towards the right. The left shoulder rose. The torso hunched, and the left hand lifted and flapped to the side as if to block a threat to the cheek. This whole sequence of movements was fast, automatic, reflexive.

***

It was clear that we had tapped into a system that controls one of the oldest and most important behavioural repertoires. Objects loom towards, or brush against, the skin, and a coordinated reaction protects the threatened part of the body. A gentle stimulus will evoke a subtle avoidance. Strong stimuli trigger a full-blown defensive flinch. Without that mechanism, you couldn't brush an insect off your skin, duck from an impending impact nor fend off an attack. You couldn't even walk through a doorway without bashing your shoulder

After many scientific papers, we thought we had wrapped up an important project on sensory-guided movement. But something about those defensive actions kept bothering us. As we stepped frame by frame through our videos, I couldn't help but notice a spooky similarity: defensive movements looked an awful lot like the standard set of human social signals.

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When you puff air on a monkey's face, why is its expression so uncannily like a human smile? Why does laughter involve the same components as a defensive stance? For a while this lurking similarity nagged at us. A deeper relationship must be hiding in the data.

A smile is a curve
that sets
everything straight.

Phyllis Diller

- Why is a smile so nice?
- Who do you know who has the nicest smile? What's so nice about it?
- What things always make you smile?
- What difference does it make when sales staff smile at you in stores, train stations, etc?
- What memories from your past always put a smile on your face?
- What made you smile today?

As it turned out, we were not the first to seek connections between defensive movements and social behaviour. One early insight came from a zoo curator, Heini Hediger, who managed the Zurich zoo in the 1950s. Because he tried to envision zoo enclosures from the point of view of the animals, taking their natural habitats and behaviour into account, he is sometimes called the father of zoo biology. He was fascinated by the ways in which animals process the spaces around them.

***

On his expeditions to Africa to capture specimens, Hediger noticed a consistent pattern among the **prey** animals on the **veld**. A zebra, for example, does not simply run at the sight of a lion. Instead, it seems to project an invisible perimeter about itself. As long as the lion is outside the perimeter, the zebra is **nonchalant**.

As soon as the lion crosses that border, the zebra casually moves away and reinstates the safety zone. If the lion enters a smaller perimeter, a more heavily defended zone, then the zebra runs. Zebras have a similar protected zone with respect to one another, though of course it is much smaller. In a crowd, they usually don't go skin to skin. They step and shift to maintain an orderly minimum spacing.

***

In the 1960s, the American psychologist Edward Hall adapted the same idea to human behaviour. Hall pointed out that each person has a protected zone two or three feet wide, swelling around the head and narrowing towards the feet. This zone is not fixed in size: if you're nervous, it grows; if you're relaxed, it shrinks. It also depends on your cultural upbringing.

Personal space is small in Japan and large in Australia. Put a Japanese man and an Australian man together and a strange little dance **ensues**. The Japanese man steps forward, the Australian man steps back, and thus they chase one another around the room. They might not even notice what they are doing. In this way, the safety zone provides an invisible spatial **scaffold** that frames our social interactions.

***

Personal space and flight zone almost certainly depend on the bubble-wrap neurons my colleagues and I studied in the lab. The brain is a geometrician: it computes spatial bubbles, zones and perimeters, and it deploys defensive manoeuvres to protect those spaces. This mechanism is necessary for survival.

Yet Hediger and Hall had arrived at a profound insight. The same mechanism that we use for defence also forms the backbone of our social engagements. At the very least, it organises our **grid** of social spacing. But what about the specific gestures we use to communicate? Does a smile, for example, owe anything to our defensive perimeters?

***

A smile is a peculiar thing. The upper lip lifts to expose the teeth. The cheeks bunch upward. The skin around the eyes crinkles. The 19th-century neurologist Guillaume-Benjamin-Amand Duchenne noticed that a cold, faked smile was often limited to the mouth, whereas a genuine, friendly one involved the eyes. That genuine smile is now called a Duchenne smile in his honour.

Yet smiles can also be about submission. People in subservient positions smile an awful lot around more powerful people. This only adds to the mystery. Why expose your teeth as a sign of friendliness? Why do it as a sign of submission? Shouldn't teeth communicate aggression?

***

Most ethologists agree that smiling is evolutionarily old, and that variants of it can be seen across many kinds of primates. If you watch monkeys in a group you might see them flash each other what looks like a grimace. They are communicating non-aggression; ethologists call it a 'silent bared teeth display'. Some theorists argue that it evolved from more or less the opposite gesture, a preparation for attack.

But by focusing on the teeth, I think they miss a great deal. The display really involves the whole body. If it's flashed subtly, it might be mostly limited to the face. An extreme version, however, looks an awful lot like a whole-body protective stance. So, here is my account of how the smile came about, informed by my lab's work on defensive reflexes.

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Imagine two monkeys, A and B. Monkey B steps into the personal space of Monkey A. The result? Those bubble-wrap neurons begin to crackle, triggering a classic defensive reaction. Monkey A squints, protecting his eyes. His upper lip pulls up. This *does* expose the teeth, but only as a side-effect: in a defensive reaction, the point of the curled lip is not to prepare for a biting attack so much as it is to bunch the facial skin upward, further padding the eyes in folds of skin.

The ears flap back against the skull, protecting them from injury. The head pulls down and the shoulders pull up to protect the vulnerable throat and **jugular**. The head turns away from the impending object. The torso curves forward to protect the **abdomen**. Depending on the direction of the threat, the arms may pull across the torso to protect it, or may fly up to protect the face. The monkey snaps into a general defensive stance that shields the most vulnerable parts of his body.

***

Monkey B can learn a lot by watching the reaction of Monkey A. If Monkey A makes a full-blown protective response, cringe and all, it's a pretty good sign that Monkey A is frightened. He's uneasy. His personal space is **revved** up and expanded. He must view Monkey B as a threat, a social superior. On the other hand, if Monkey A reveals only a subtle response, perhaps squinting and slightly pulling back his head, it's a good sign that Monkey A is not so frightened. He does not consider Monkey B to be a social superior or a threat.

That kind of information is very useful to members of a social group. Monkey B can learn just where he stands with respect to Monkey A. And so the stage is set for a social signal to evolve: natural selection will favour monkeys that can read the cringe reactions of their peers and adjust their behaviour accordingly. This, by the way, is perhaps the most important point of the story: the primary evolutionary pressure is on the receiver of the signal, not the sender. The story is about how we came to *react* to smiles.

Then again, nature is often an arms race. If Monkey B can glean useful information by watching Monkey A, then it's useful for Monkey A to manipulate that information and influence Monkey B. Evolution therefore favours monkeys that can, in the right circumstances, pantomime a defensive reaction. It helps to convince others that you're non-threatening. Finally we see the origin of the smile: a briefly flashed imitation of a defensive stance.

***

In people, the smile has been pared down to little more than its facial components — the lifting of the upper lip, the upward bunching of the cheeks, the squint. These days we use it mainly to communicate a friendly lack of aggression rather than outright subservience.

Veld – степь

nonchalant - беспечный

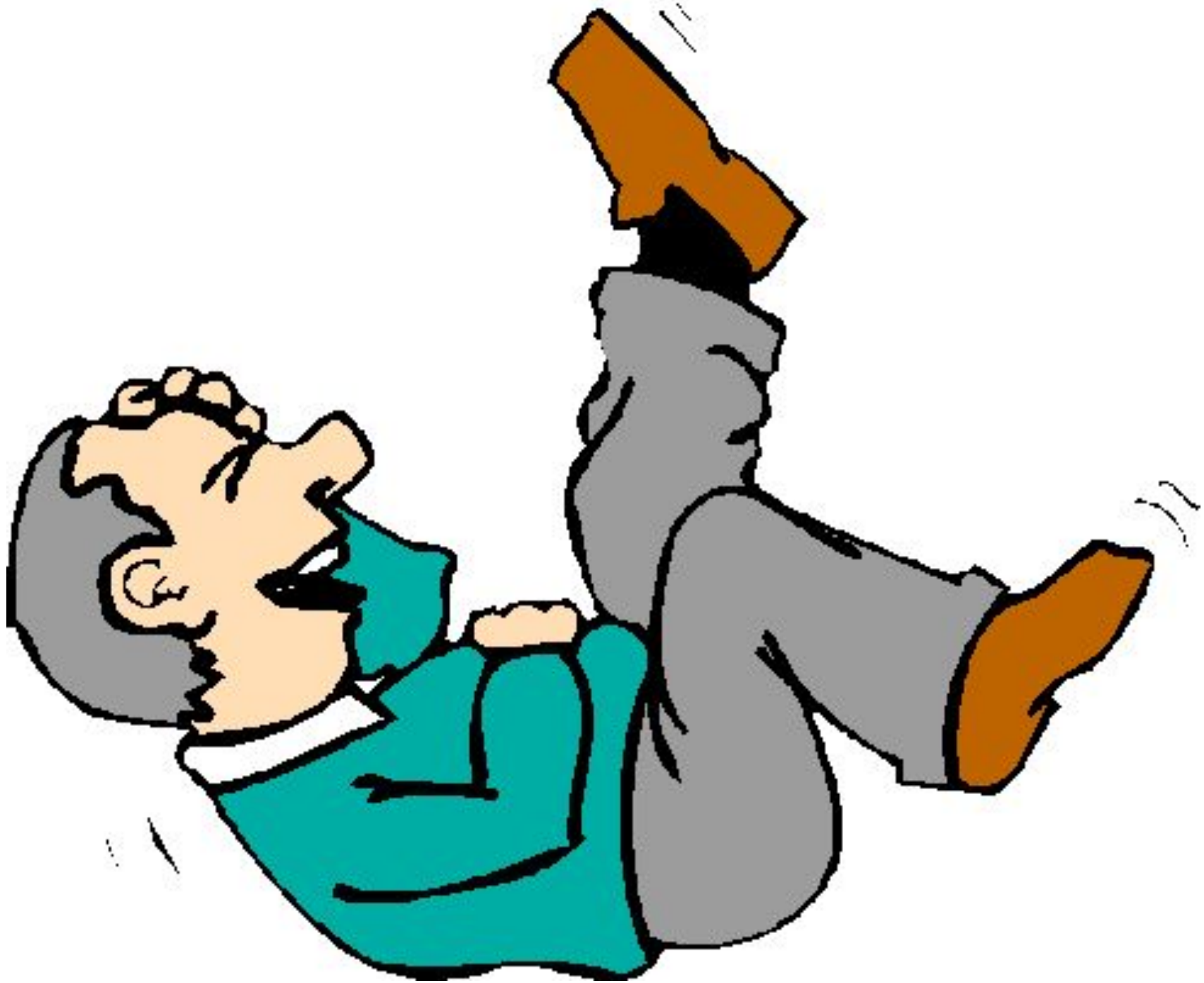
Ensue – следовать

Scaffold – строительные леса

Grid – сетка

Jugular – яремный

Rev up – ускорять (вращение)



People have been remarking on the spooky similarity between smiles, laughter, and crying for a long time. In the *Odyssey*, Homer compares the helpless laughter of a bunch of men at a banquet, tears streaming down their faces, to the crying they will do when Odysseus walks in and stabs them all to death. Why do such different emotional states look so physically similar?

Laughter is supremely irrational and crazily diverse. We laugh at clever jokes, surprising stories, the **slapstick** of people tripping and falling in the mud. We even laugh when we're tickled on the ribs. According to the ethologist Jan van Hooff, chimps have something like laughter: they open their mouths and make short exhalations during play fights, or if someone tickles them. Gorillas and orangutans do the same.

The psychologist Marina Ross compared the noises made by different species of ape and found that it was the sound of bonobos at play that comes closest to human laughter, again, when play-fighting or tickling. All of which makes it seem quite likely that the original type of human laughter also emerged from, yes, play-fighting and tickling.

In the past, people who study laughter have focused mainly on the sound. And yet, even more obviously than with smiles, the human laugh involves the whole body. Once again, I believe you can't understand its origins without considering the entire package. How did the huffing sound of apes during play-fighting evolve into human laughter, with its elaborate facial expression and whole-body movements?

Let’s try another just-so story and see how far it gets us. Imagine two young apes in a play fight. Play-fighting is an important part of development in many mammalian species: it hones basic skills. At the same time it carries a high risk of injury, which means that it needs to be carefully regulated.

Suppose Ape B succeeds for a moment against Ape A. Success in a play fight means penetrating the defences of your opponent and making direct contact with a vulnerable body part. Maybe Ape B gets his fingers or biting jaws on to the stomach of Ape A

What is the effect? Once again, those bubble-wrap neurons that protect the body crackle into high activity, triggering a defensive reaction. Ape A does everything that we know so well from the lab: he squints as a classical defensive reaction. His grunts begin to be **tinged** with distress calls. The strength of his reaction depends on how far into the bubble-wrap zone Ape B has come. Just a little way and we'll see a small response. Touch the most vulnerable, heavily defended surfaces of the body and you can count on something more spectacular.

It is advantageous for Ape B to read the signs correctly, so that he knows he won the point. How else would he learn good moves from the play fight? And how else would he know to pull back before hurting his opponent? Ape B has an informative signal to go on: the peculiar mixture of actions coming from Ape A, the vocalisation combined with a classical defensive posture. You could think of it as a touché signal.

Evolution should favour apes that feel rewarded when they manage to get a touché signal out of an opponent. And evolution should also favour apes that can produce the touché signal when they need to regulate the play fight.

In this account, a complex dynamic between sender and receiver gradually evolves into a stylised human signal. The signal means, ‘You’re getting through my defences.’ A very ticklish child starts to laugh when your fingers approach her defended zones, even before you touch the skin. The laughter **ramps up** as you get farther into the bubble-wrap zone and reaches a maximum when you actually make contact.

This all sounds quite sweet, but I should note that there's a dark implication to this theory. The kind of laughter that humans produce when tickled is remarkably intense – it incorporates many more elements from the defensive set than chimp laughter does. This suggests that our ancestors' **tussles** were a good deal more vicious than anything our ape cousins generally get up to.

What must they have been doing to each other for such frenzied protective reactions to find their way into the social signals that regulate play fights? In laughter, we find a clue to the sheer *violence* of our ancestors' social world. We'll see another, when we look at tears.

For now, though, tickling is only the beginning of the story of laughter. If the ‘touché’ theory is correct, then laughter can function as a kind of social reward. Each of us has control over that reward, a kind of ‘good on you’ that we can dispense to others, thereby shaping their behaviour.

And we do use laughter in that way. We laugh at people’s jokes and cleverness as an expression of support and admiration. When we laugh at a joke, isn’t that in essence a touché signal? ‘You got me,’ it says. ‘You won a point for cleverness in a mental play fight. You faked me out and then delivered a punch line from an unexpected direction.’

Shaming or mocking laughter could have emerged in a similar way. Imagine a small group of people, maybe a hunter-gatherer family. They mostly get along, but conflicts do arise. Two of them are fighting and one wins in a neat and decisive way. The entire group rewards the win by dispensing the touché signal, a laugh. In that context, laughter is both rewarding to the winner and shaming to the loser.

In these ever-diversifying forms we can still see the original defensive movements, just as you can still see the horns of a bull in the letter A. Polite laughter might involve little more than the voice, perhaps with some tension around the eyes and in the cheeks. But think of those times when you and a friend can’t keep it together and tears are streaming out of your eyes. It’s sometimes called Duchenne laughter. The cheeks bunch up, the eyes squint until they almost disappear, the torso hunches, the arms pull across the torso or face. It’s an echo of the classic defensive stance.

Last but not least

1. Why do people cry?
2. What makes you cry?
3. Do you think it is silly when people give out to emotions and burst into tears?
4. When was the last time you cried and why?
5. Do you like making other people cry (and how)?

conundrum – головоломка

Solicit – умолять

copious – обильный

Buttress – опора

Enticing – заманчивый

Flaunt – выставлять напоказ

ambiguity – двусмысленность

expedient - целесообразный

The **conundrum** of crying is that it looks a lot like laughing and smiling, yet it means pretty much the opposite. Evolutionary theories have tended to downplay that similarity because it's hard to explain. Just as earlier theories of smiles considered little more than the teeth and theories of laughter **homed in** on the sound, previous attempts to understand crying from an evolutionary perspective have focused on the most obvious aspect of it: the tears.

***

And so we find the zoologist R J Andrew arguing, in the 1960s, that crying mimics a case of contaminants in the eyes. What else could have caused tears to flow, back in the mists of prehistory? The contaminants theory might have something to it if tears were *all* that we had to explain. But for the third time, I think we are dealing with a form of behaviour that may be better understood in the context of the whole body.

After all, classic signs of crying might also include squinting, lifting the upper lip, bunching the cheeks upward, ducking the head, shrugging the shoulders, curving the torso forward, pulling the arms across the torso or upward over the face, and vocalising. A typical defensive set, in other words.

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Now, as a social signal, crying has a specific use: it **solicits** comfort. Cry, and your friend will try to make you feel better. Yet the evolution of any social signal is presumably driven by its receiver, so it is worth our time to look at how and why primates comfort each other.

As Jane Goodall discovered in the 1960s, and many others have observed since then, chimps also comfort each other, and the circumstances in which they do it are quite revealing. One chimp might beat another one up, even injure it badly, and then comfort it with soothing body contact. The adaptive advantage of such reparations is that they help to maintain good social relationships. If you live in a social group, fights are inevitable. It is useful to have a mechanism for making up afterward, so that you can keep reaping the benefits of social living.

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Picture a hominid ancestor beating up one of his juniors. What useful signifier would he have looked for to know that he had gone too far and that it was time to start dispensing comfort? The answer should be obvious by now: an extreme protective stance along with alarm cries. Yet crying adds something new to the familiar defensive mix. Where *did* the tears come from?

My best guess, strange as it might sound, is that our ancestors were in the habit of punching each other on the nose. Such injuries would have resulted in **copious** tear production. And there is an independent line of evidence to suggest that they were common. According to recent analysis by David Carrier and Michael Morgan from Utah University, the shape of human facial bones might well have evolved to withstand the physical trauma of frequent punching.

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Thickly **buttressed** facial bones are first seen in fossils of Australopithecus, which appeared following our split with chimpanzees. Carrier and Morgan further argue that Australopithecus was our first ancestor whose hand was capable of making a tight fist. So, the reason we weep now may well be that our ancestors discussed their differences by hitting each other in the face. Some of us still do, I suppose.

In any event, the entire behavioural display that we call crying – the tear production, the squinting, the raised upper lip, the repeated alarm calls – makes for a useful signifier. Evolution would have favoured animals that reacted to it with an emotional desire to dispense comfort. And once the defensive set had taken on this signalling role, a second evolutionary pressure would kick in.

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It would now be in the animal's interests to manipulate the situation and mimic an injury – exaggerating it, even – whenever it needed comfort. Thus the signal (crying) and the response (an emotional urge to offer comfort in reaction to crying) evolve in tandem. So long as both sides of the exchange keep deriving benefits, the behaviour floats free of its violent origins.

Over time, perhaps, it becomes a little more stylised. But it still seems quite recognisable. Other animals give distress cries. Kittens cry for their mothers and dogs yowl when hurt. As far as I know, only humans **solicit** help from each other by enacting the physical symptoms of a punched nose.

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By now you might be growing a little doubtful. Sure, crying, laughing and smiling all appear similar if you look at them from a sufficiently detached point of view, but they also have important differences. It doesn't matter that a space alien might have trouble figuring out what humans mean by all these crazy look-alike signals; we, at least, are experts at distinguishing them. And if they all came out of one behavioural set, how could they possibly have separated out enough to communicate different emotions?

One answer is that those defensive reactions are not monolithic. They represent a large and complicated set of reflexes. Subtly different defensive actions are triggered in different circumstances. If you're punched in the face, the defensive set is heavy on tear production to protect the eye surface. If you're being grabbed or bitten in a fight, the response might include more alarm calls and blocking limb action.

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If you're shying away from another individual who is standing nearby but not within touching distance, the defensive set is more of a general protective stance, including the ducking head and facial contractions that prepare for possible impact. Subtly different reactions could have morphed into our different emotional signals, explaining both their disturbing similarities and their quirky differences.

Still, to get a real sense of this idea's explanatory power, we need to look at what you might call its inverse image. Defensive movements have such a sway over our emotional gestures that even their absence speaks volumes.

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Think of a model in a fashion magazine. She tilts her head to look **enticing**. Why? Well, the neck, with its thick layer of virtual bubble-wrap, is one of the most heavily defended parts of the body. We cringe and shrug if someone tries to touch us there, and with good reason: predators go for the jugular and the windpipe.

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That's why a gesture like a tilt of your head, **flaunting** the side of your throat where the jugular runs, sends an unconscious signal of invitation. It says: I'm letting my guard down so you can get close. In this light, the strange mixture of eroticism and fear that we find in stories of neck-biting vampires starts to make a lot more sense.

And why should so many of our social signals have emerged from something as seemingly unpromising as defensive movements? This is an easy one. Those movements leak information about your inner state. They are highly visible to others and you can rarely suppress them safely. In short, they tattletale about you.

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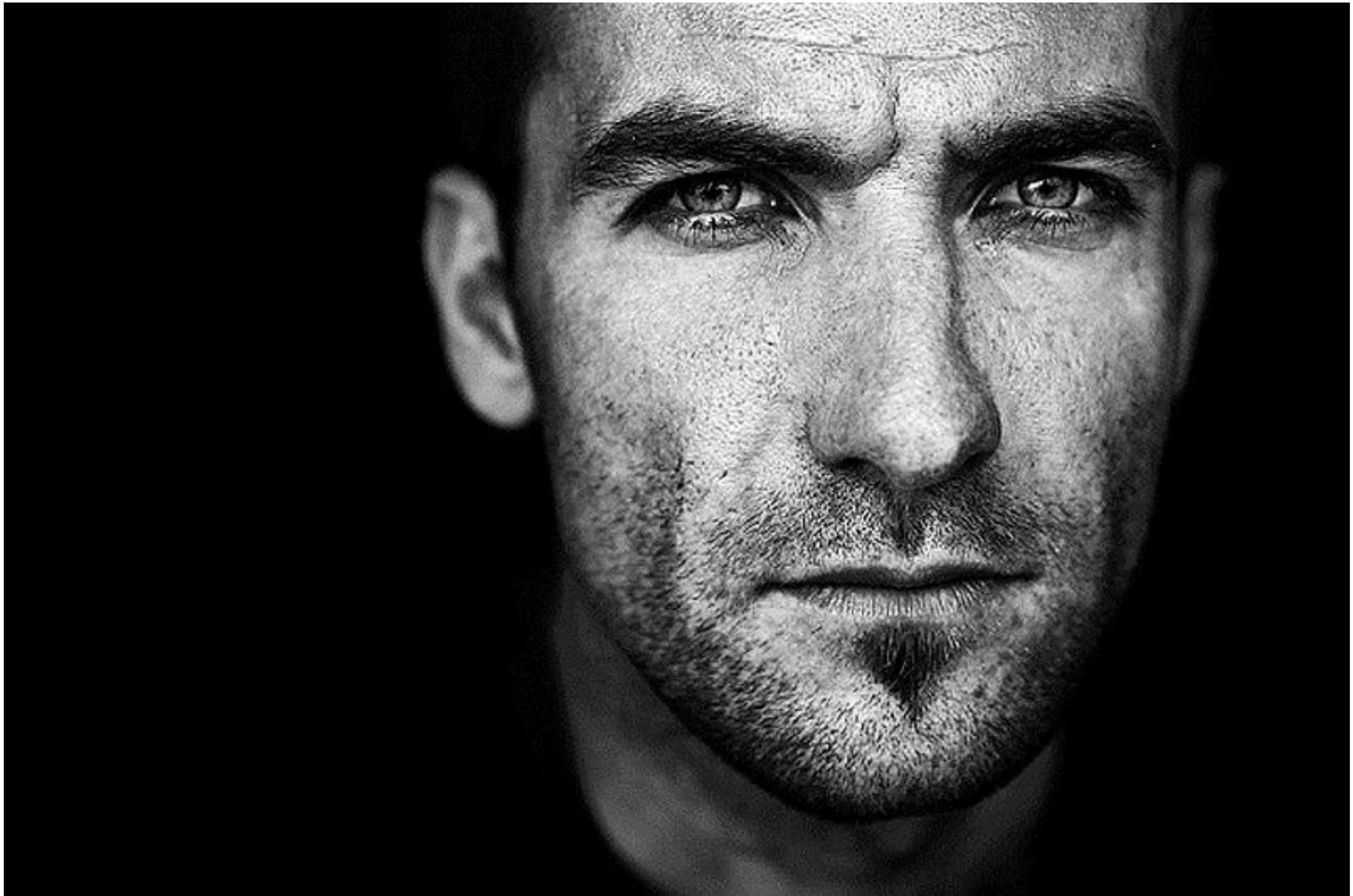
Evolution favours animals that can read and react to those signs, and it favours animals that can manipulate those signs to influence whoever is watching. We have stumbled on the defining **ambiguity** of human emotional life: we are always caught between authenticity and fakery, always floating in the grey area between involuntary outburst and **expedient** pretence.

Emotional intelligence (**EI**) or **emotional quotient** (**EQ**)

is the ability of individuals to recognize their own and other people's emotions, to discriminate between different feelings and label them appropriately, and to use emotional information to guide thinking and behavior.

How emotionally intelligent are you? Is it easy for you to see what emotions other people show?

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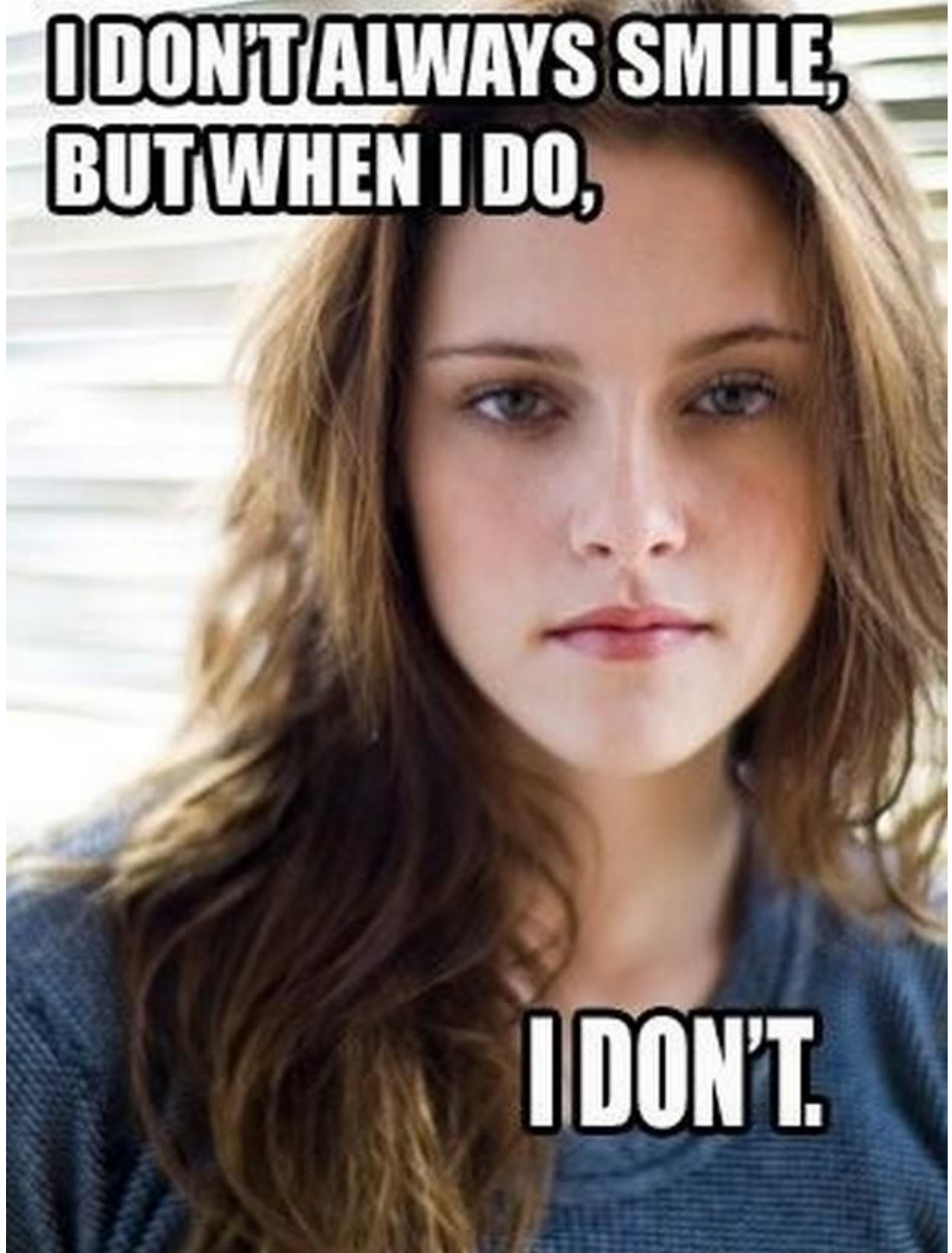
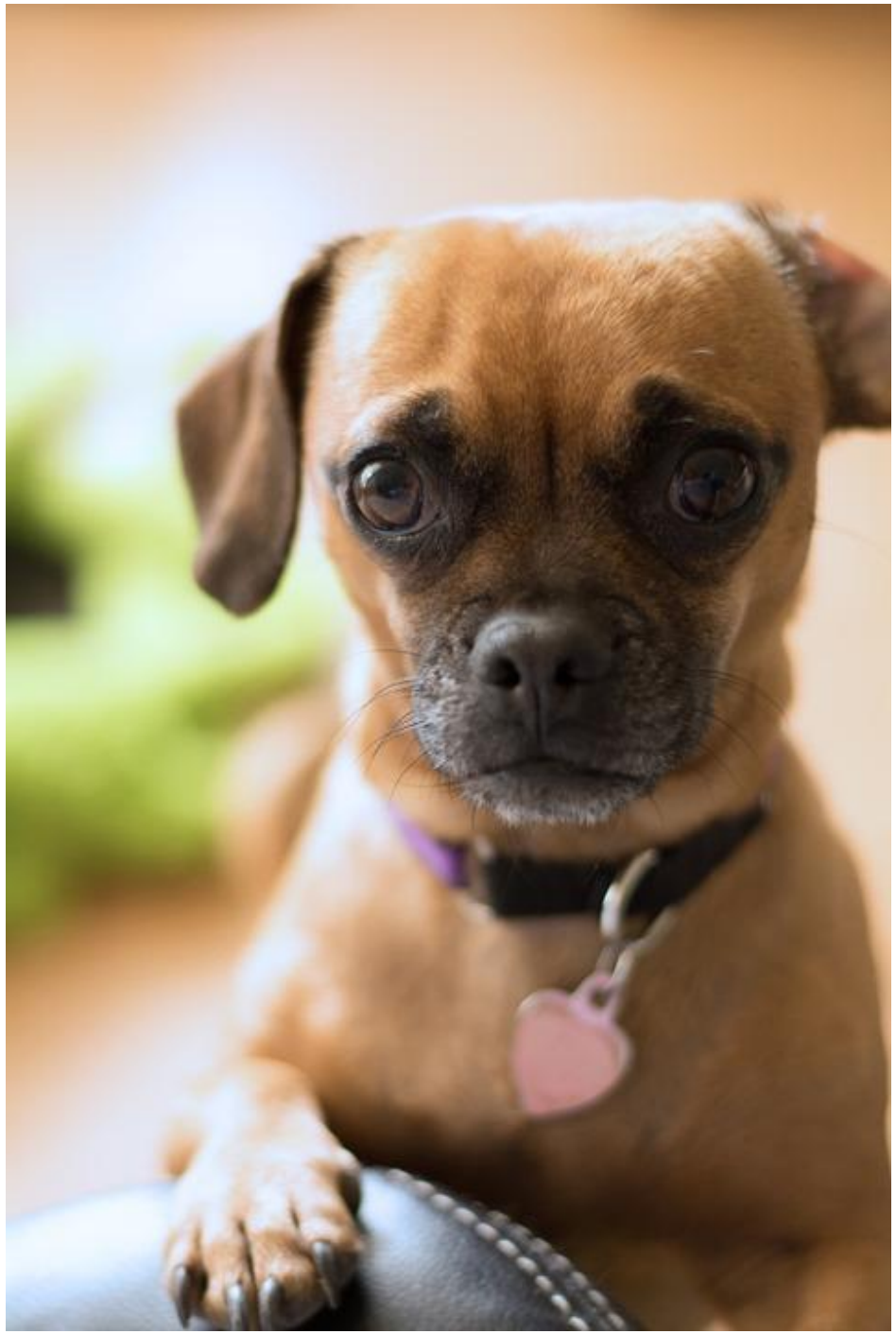

I DON'T ALWAYS SMILE,
BUT WHEN I DO,
I DON'T.



Where can being emotional help you?

What are the most emotional jobs that you know?

Would you be able to handle an emotional job, or do you prefer the calmer one?