上智大　2013年

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次の英文を読み，(21)～(30)の問いの答としてもっとも適切なものをそれぞれ(a)～(d)から1つ選びなさい。

A smile and a frown mean the same thing everywhere ―― or so say many anthropologists and psychologists, who for more than a century have argued that all humans express basic emotions the same way. But a new study of people’s perceptions of computer-generated faces suggests that facial expressions may not be universal and that our culture strongly shapes the way we read and express emotions.

The hypothesis that facial expressions convey the same meaning goes all the way back to Charles Darwin. In his 1872 book *The Expression of the Emotions in Man and Animals*, the famed naturalist identified six basic emotions: happiness, surprise, fear, disgust, anger, and sadness. If facial expressions are just cultural traits, passed down through the generations by imitation, their meanings would have diverged by now, he argued. A smile would signal happiness for ( 21 ) and disgust for others. But based on his correspondence with researchers around the world using photos of various facial expressions, Darwin concluded that the common ancestors of all living humans had the same set of basic emotions, with corresponding facial expressions as part of our genetic inheritance. Smiles and frowns are biological, not cultural.

Or are they? Rachael Jack, a psychologist at the University of Glasgow, says that there is a (23)fundamental flaw in the facial expression studies carried out since Darwin’s time: researchers have been using Darwin’s six basic expressions as their starting point, and yet they were first identified by Western European scientists studying Western European subjects. The fact that non-Western subjects can recognize the emotions from photographs of those facial expressions has been taken as support for the (24)universality hypothesis. But what if non-Western cultures have different basic emotions that underlie their expressions? Those expressions may be similar to those of Westerners, but with subtle differences that have gone undetected because no one has looked.

To test the true universality of Darwin’s six emotional categories, Jack and colleagues used a computer program to create virtual faces with 4,800 expressions. The program generated the faces by (25)contracting virtual facial muscles, pulling the corners of the mouth up or down, widening or narrowing the eyes, and so forth. Half of the expressions were shown on a Western Caucasian face and half on an East Asian face.

Then Jack’s team asked volunteers to decide which emotions the faces were expressing, if any. The researchers tested two groups: recently arrived immigrants from East Asia who had spent minimal time around Westerners, and Western Caucasians. For each of the 4,800 faces, the subjects could choose one of Darwin’s six basic emotional categories and rate the intensity of the expression on a five-point scale. If they did not perceive a clear expression on a face, the subjects reported, “Don’t know.” ( 26 ) Darwin’s basic emotions are universal, all the subjects should match the same faces with the same emotions.

That’s not what Jack’s team found. For Western Caucasians, Darwin’s six basic emotional expressions (27)popped right out of the data, in type and intensity. But the East Asian subjects didn’t see the faces the same way, the team reported. Smiles meant the same thing to everyone, but the responses from the East Asian subjects did not form clear categories, especially for faces expressing surprise, fear, disgust, and anger.

The researchers concluded that each culture may have fundamental expressions, but they are not necessarily shared by other cultures. For East Asians, Jack (28)speculates that facial expressions are built from other fundamental emotions, such as “shame, pride, or guilt.” The study thus challenges the widely held belief that certain emotional expressions are biologically basic.

(Adapted from Bohanon, J., “Unhappiness is in the eye of the beholder,” *Science Now*, April 16, 2012 <http://news.sciencemag.org/sciencenow/2012/04/unhappiness-is-in-the-eye-of-the.html?ref=hp>)

(21) What word best fits in ( 21 )?

(a) some (b) them (c) once (d) time

(22) According to the passage, which of the following best describes Darwin’s hypothesis?

(a) Humans differ from animals in that humans express emotions, but animals don’t.

(b) Facial expressions have been passed down through generations of cultural imitation.

(c) Humans have genetically inherited a set of basic emotions.

(d) Emotions and facial expressions are not biologically linked.

(23) What was the fundamental flaw in past research according to psychologist Rachel Jack?

(a) Past studies were conducted on research subjects who were not of Western European origin.

(b) Past studies have been based on emotions first identified by Western European scientists studying Western European subjects.

(c) Past studies only used photographs to assess recognition of emotion as opposed to video footage of facial expressions.

(d) Past studies only looked at emotion recognition but failed to include the measurement of emotional intensity.

(24) According to the passage, which of the following person(s) support the universality hypothesis?

(a) Darwin (b) Rachel Jack (c) East Asian immigrants

(d) Western Caucasians

(25) According to the passage, which of the following is closest in meaning to contracting?

(a) entering a legal agreement (b) catching something

(c) squeezing or tightening (d) combining

(26) What word best fits in ( 26 )?

(a) Whether (b) So (c) Upon (d) If

(27) What does the phrase popped right out mean?

(a) stood out (b) disappeared (c) exploded (d) increased

(28) According to the passage, which of the following is closest in meaning to speculates?

(a) advocates (b) concludes (c) concedes (d) guesses

(29) According to Jack’s research team, which “basic” emotion appeared to have the fewest differences between East Asians and Western Caucasians?

(a) surprise (b) fear (c) happiness (d) disgust

(30) Which of the following best describes the main point of the passage?

(a) Darwin’s hypothesis withstood the test of time.

(b) Immigrants are ideal subjects for cross-cultural research.

(c) Emotional expression may be cultural, not biological.

(d) Fundamental expression of emotions is universal.