



Newmarket's stable lads are the bottom of the racing food chain. They work brutal hours and earn less than shelf stackers – and this year alone, three have killed themselves. Is there something rotten in the sport of kings?

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The Queen's smile Paternity leave Sat-nav Xmas Angela Carter onstage

Last week, a Dutch scientist said the Mona Lisa's smile was 83% happy. What would he make of some other famous portraits?



Nicu Sebe insists that he and his colleagues in the computer science department at the University of Amsterdam didn't expect the reaction they got last week when it

was revealed that they had measured the precise significations of Mona Lisa's smile: 83% happy, 9% disgusted, 6% fearful and 2% angry. "I just did it for fun, but someone from the New Scientist happened to be around" – and suddenly they found themselves fielding phone calls from all over the world.

One senses that he'd rather it didn't take a stunt to get people interested in the emotional-recognition research he has been working on for years, along with scientists from the Beckman Institute at the University of Illinois. Their main goal, says Sebe, is to enable "natural human-computer interaction", meaning that "the computer should be aware of the emotional state of the person sitting in front of it and should react accordingly". The applications could include lie-detection tests and driver safety (cameras in cars that can discern when you are nodding off).

The theory is straightforward: green lines on the paintings follow the contours of the face under observation. The computer then measures the degree of displacement of 12 key facial features – two eyebrows, two eyelids, two cheeks, two lips, four points at the corners of the mouth – from a neutral position. The most accurate method of establishing this is a study of the variations in one person's face. As paintings do not change, the neutral position is an average taken from many faces.

The method could also apply to real-life faces not seen before, in which case Sebe admits the software would be more foolable, not necessarily being able to distinguish between real and fake smiles, for example. Or between a 98.34% happiness rating, which the Queen registers, or what seems to me to be a toothy grimace. But then who am I to argue with science?

Aida Edemariam



▲ **Queen Elizabeth II**
by Rolf Harris

Neutral:	0%
Happy:	98.34%
Surprise:	0%
Angry:	0.14%
Disgust:	0%
Fear:	15%
Sad:	0%



▲ **Portrait of Francis Bacon** by Lucian Freud

Neutral:	0.01%
Happy:	0.06%
Surprise:	0.18%
Angry:	33.51%
Disgust:	3.31%
Fear:	0.48%
Sad:	62.43%



▲ **Christ as the man of sorrows** by Albrecht Dürer

Neutral:	18.93%
Happy:	0%
Surprise:	11.23%
Angry:	5.28%
Disgust:	0%
Fear:	8.77%
Sad:	55.75%



◀ **Self portrait** by Vincent van Gogh

Neutral:	48.52%
Happy:	0%
Surprise:	0.05%
Angry:	0.07%
Disgust:	0.1%
Fear:	0%
Sad:	51.24%



▶ **Helen of Troy** by Dante CG Rossetti

Neutral:	91.59%
Happy:	0.01%
Surprise:	0.07%
Angry:	3%
Disgust:	0.1%
Fear:	0.97%
Sad:	4.22%

