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Health Editor

PICTURES of a foetus appearing to give a "sunny" smile at just 17 weeks have been captured by a doctor.

The images, taken using revolutionary 3-D and 4-D scanning equipment, reveal the foetus smiling at least five weeks earlier than previously observed.

Professor Stuart Campbell, who took the pictures, said: "This is a joyful expression of the humanity of the foetus. I have seen a foetus making a crying face at around 18 or 19 weeks, but not a nice smile. This is the earliest on record. It is just a delight."

The pictures are likely to provoke debate about whether the pictures show a real smile and, if so, what that reveals about the developing foetus.

Campbell, the former head of the departments of obstetrics and gynaecology at King's College and St George's hospitals in London, says the smile is at least a sign that foetuses can show "human characteristics" as early as 17 weeks.

"We cannot say that this is a foetus expressing emotion, but if you disturb a foetus at around 20 weeks, you can see it cry," he said. "You can actually engender a cry in the foetus if you push it a little bit. Therefore, some of these facial expressions do reflect a response to their condition at the present time."

What caused expressions such as a smile was unknown, he added, but it was evidence of developing human behaviour. "It is part of a sequence that



# This foetus is just 17 weeks old – so why the big smile?

involves yawning and making breathing movements and opening its eyelids and, of course, it makes a crying face."

The parents of the foetus, Louise and Sam Henry from Swallowfield, Berkshire, were "stunned" to find out at their scanning appointment that their healthy baby appeared to be grinning.

Sam Henry, 40, who runs a financial advice business, said: "Your primary concern at that stage is that you have a healthy baby but to see the foetus smiling was absolutely fantastic."

Henry, whose 41-year-old wife is due to give birth in January, said that, contrary to scientific opinion, the image

led them to believe the foetus was displaying some emotion. "To see that, not only was there something living, but something very human and something that clearly was able to smile and express some emotions was amazing."

Campbell, a pioneer of ultrasound diagnosis, has previously shown images of

foetuses making step-like motions at 12 weeks, as well as opening their eyelids and crying later in the pregnancy.

The pictures were all taken at his Create Health Clinics in London and have added to fierce debate about foetal development. Abortion of healthy foetuses is legal in Britain up to 24 weeks.

Eric Jauniaux, professor of obstetrics and foetal medicine at University College London, said the smile showed the development of the muscles but was no reflection of emotion.

"There is no emotion or feeling at this stage. The evidence of pain and feeling is from 24 or 28 weeks. At 17 weeks the connection between the



Louise and Sam Henry were stunned when a scan appeared to show their baby smiling in the womb

brain and the rest of the body is very limited."

Dr Yehudi Gordon, who runs the private Viveka clinic in London and founded the birth unit at the private Hospital of St John and St Elizabeth, also in London, was not so sure.

He said: "All the emotional centres that we will ever have during our lives are fully

formed by the time we are born. The question is: 'When does this happen?'. By 28 weeks, emotional centres have already formed.

"At 17 weeks the baby could be smiling or it could be the facial muscles getting together in preparation for sucking and feeding. This could be a smile, but it is not definite."