



From Dr A Majid Katme

## How the human face is formed: Video shows how a baby's unique features develop in the womb

It's what every expectant parent wants to know - who their baby will look like.

And this fascinating video goes some way to showing how.

Produced for the BBC series Inside the Human Body that was aired last year, the animation is based on scans of a developing embryo and captures the formation of the face in the womb.



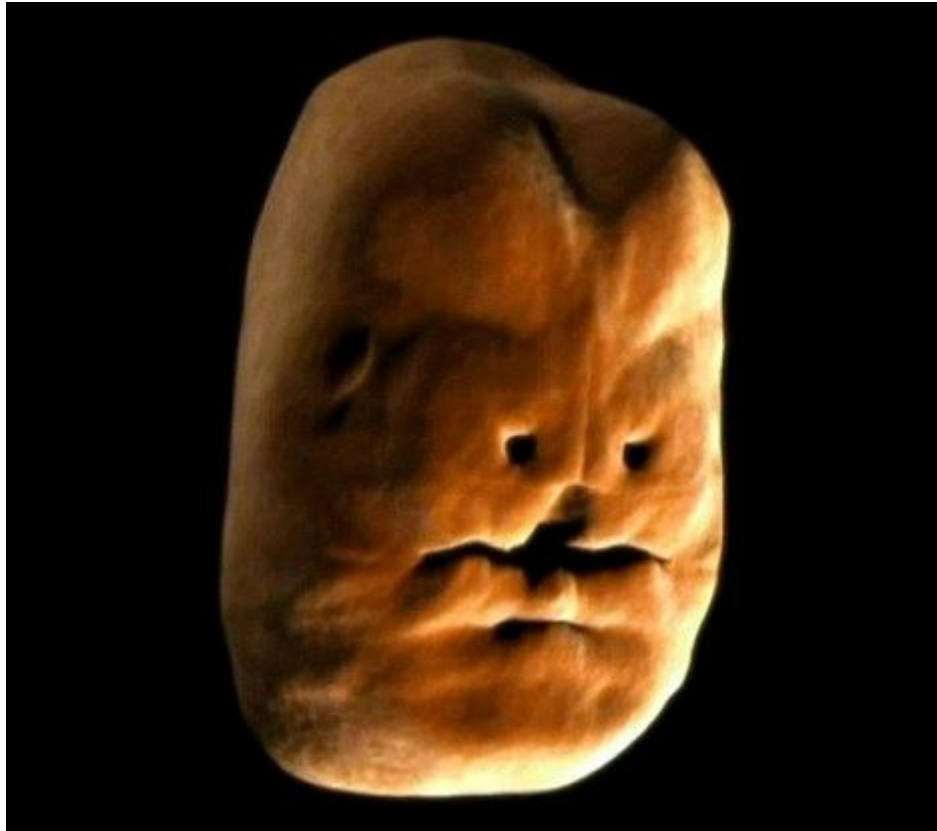
The amazing BBC video shows the development of the human face whilst in the womb

The video reveals how sections of the face grow and fit together like a puzzle just three months after conception.

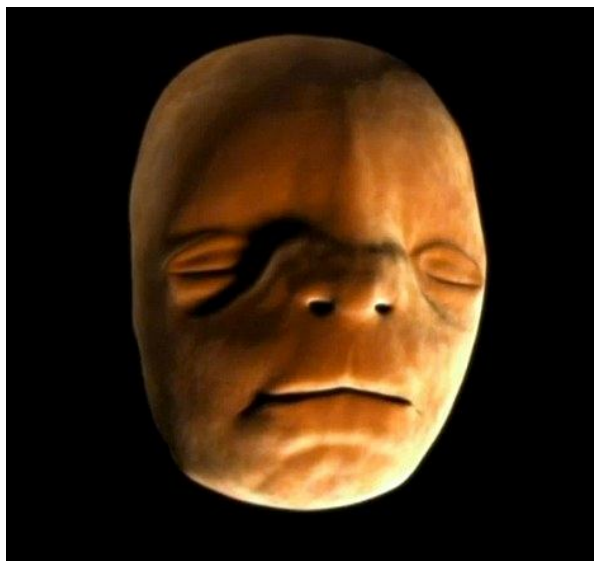
BBC's Michael Mosley said: 'The three main sections of the puzzle meet in the middle of your top lip, creating the groove that is your philtrum.'

The 30-second clip strings together 3-D models of the developing face based on scans taken in the first trimester.

'It was a nightmare for structures like the nose and palate, which didn't exist for most of the animation,' graphics researcher David Barker told New Scientist.



Taking shape: The face develops eyes and a mouth and the beginnings of a nose



Nearly there: The face is now beginning to be recognisable



The BBC's Michael Mosley explains how the 30-second clip strings together 3-D models of the developing face

'Their formation is a complicated ballet of growth and fusion of moving plates of tissue.'

Plates of tissue that fuse at the philtrum, which can be long or short and deep or shallow, depending on a person's genetic makeup.

The failure of those plates to fuse can cause a cleft lip or palate. And a smooth philtrum can signal disorders like fetal alcohol syndrome.

'This whole amazing process – the bits coming together to produce a recognisable human face – happens in the womb between two and three months,' said Mr Mosley. 'If it doesn't happen then, it never will.'