

# nature **scienceupdate**

## Deception fuels domestic bliss

Evolution may make men ignorant and gullible.

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**JOHN WHITFIELD**



Gentlemen: ignorance is bliss and gullibility is the best policy. A new mathematical analysis suggests that evolution favours babies who don't much resemble their fathers, and males who believe their partner when she says a child looks just like him.

Anonymous-looking newborns make for uncertain fathers. But they also allow men to father children through undetected adultery,

Paola Bressan of the University of Padova calculates<sup>1</sup>. The assertion - common across many cultures - that babies are the spit of their dad, is a way to get men to care for their offspring despite their uncertainty, she adds.

Mummy, daddy and baby might look like a heartwarming scene of family togetherness. But evolutionary biologists have no truck with such sentimental nonsense: to them, each of the trio is pursuing its own, often competing, interests.

The wild card is adultery. A baby comes into the world unsure of whether the male providing for it is its biological father. Being rumbled could mean neglect, or worse - infanticide. It's easy to see how, in an evolutionary sense, babies might not want to resemble

anyone in particular.

Whether fathers benefit from having recognizable babies is trickier. If dads pass on some genetic badge that allows them to identify their children, they could avoid raising another man's child. But they will not be able to sneak any offspring into other families.

Bressan proposes that these two forces cancel each other out. Having anonymous babies stops fathers mistakenly rejecting their own children, which, in a slowly reproducing species such as humans, is probably a cost greater than that of raising someone else's child. When the interests of babies and mothers are also taken into account, genes for anonymous babies should spread.

Human babies certainly seem to be masters of disguise. Neutral observers asked to match infants to their fathers do only slightly better than chance.

In fact, some of newborns' features seem designed to enhance anonymity, says evolutionary biologist Mark Pagel, of the University of Reading. He points to the blue eyes and blond hair of many newborn Europeans, which result from genes being switched off at birth.

Could evolution mark babies with their father's identity? Pagel thinks so: "There's a lot of genetic variation to play with, and all sorts of things that are very easy to produce developmentally," he says.

### Mother's instinct

So everybody's happy? Not quite: if all babies are anonymous and fathers are uncertain, males would invest less in kids whether they sired them or not.

A mother's strategy to counteract this, says Bressan, could be to remark on the baby's likeness to his father. Her mathematical model shows it can benefit a father to believe these assertions and increase his care for the child, as long as the chance that he is being deceived is slim enough.

### Good old fashioned vanity may give dads a warm glow

**Mark Pagel University of Reading**

Denson McLain, a behavioural ecologist at Georgia Southern University likes this idea. "The harm to a father of being sceptical towards his own children is greater than the cost of rearing someone else's child," he says.

McLain has found that mothers remark more on their baby's resemblance to their partner if he or his relatives are there to hear her than if he is absent.

Pagel, however, doubts that evolution would favour trusting males. The warm glow that dads get from hearing that junior has their nose might simply be "good old-fashioned vanity", he suggests.

### References

1. Bressan, P. Why babies look like their daddies: paternity uncertainty and the evolution of self-deception in evaluating family resemblance. *Acta Ethologica*, in the press (2001).

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