

For years, the menopause mystery has been the missing piece in the puzzle of human evolution. Now, apparently, we have somewhere to direct the blame: men. More specifically, early homo erectus, and where he directed his, erm, erectus made women infertile decades before death. In a study called 'Mate Choice and the Origin of Menopause,' published in *PLOS Computational Biology*, evolutionary geneticists from Canada's McMaster University say when men began ditching their partners for younger, more attractive mates, older women became infertile. Their bodies were no longer needed for reproduction, so they stopped being reproductive. What's more, this shift caused genetic mutations that were passed on – and so we have menopause. '[If] there were no preference against older women, women would be reproducing like men are for their whole lives,' says study leader Professor Rama Singh.

BACK IN TIME

This isn't the first theory about why human females are the only mammals (apart from pilot and killer whales) who spend a large part of their lives infertile. Ever since the term menopause was coined in the mid-19th century – when Darwinism began – researchers have searched for the punchline to nature's cruellest joke. Some say Mother Nature can't be blamed. It's modernity. Way back, women didn't live much beyond 40, so they'd produce offspring for most of their lives, like primates. It's only thanks to advances in sanitation and medicine that we go on ticking beyond our biological clocks. Others refute this, pointing to the Bible as but one source suggesting women *did* survive past 40. The theory also doesn't explain the symptoms, like hot flushes, memory lapses, fatigue and mood swings. One answer – brace yourselves – is that these came about to cull society of its non-reproductive (read: no longer needed) members: older women. The distempered and disoriented were more vulnerable to predators, treacherous landscapes and unforgiving climates, so the thinking goes. Thankfully, the most popular theory is more positive.

Out with the old: Bruce Willis, 58, with second wife Emma Heming, 35 (left), and ex-wife Demi Moore, 50.



Menopause:

HOT FLASHES, ANXIETY, WEIGHT GAIN... THE MEN'S PREFERENCE FOR YOUNGER PARTNERS

(GRAND)MOTHER EARTH

In 1967, genetic biologist Dr George Williams first suggested that menopause was an advantageous evolutionary adaptation. When our forebears began living in groups, he said, older women faced a choice: Bear children – and risk dying in childbirth or before their youngest had grown. Or stop reproducing, and find a new way to aid kin survival. It's called 'the grandmother hypothesis': menopause blocked fertility so senior women were free to help look after children and breast-feeding mothers. So, while Tarzan was out hunting and Jane was nursing Jane Jnr, Jane Snr was foraging and

sharing her plant wisdom with the family's toddlers. (Tarzan's Ma, meanwhile, was egging her boy on to drag other nubile into his cave.) The theory applies to all senior women. Those without daughters would assist other female relatives. So post-menopausal women were vital for 'group fitness' and played a lead role in the human story. Professor Kristen Hawkes, from the University of Utah, says this was a watershed in our prehistory, as it allowed for mobility. Granny's support freed our forebears to cruise and conquer greener pastures. 'The [grandmother hypothesis] may explain why we took over the planet,' she says.

POWERFUL STUFF. BUT IS THERE PROOF?

The closest researchers can get to our past is to look to present-day hunter-gatherers, like the Hadza of northern Tanzania. Sure enough, where there's a nursing Hadza, there's a helping elder. In one study of muscle strength, women in their sixties were found to be as strong as those 40 years younger. Why? They were carrying the heaviest loads.

But the granny-does-good story has its gaps. The Hadza aren't necessarily a true reflection of early homo erectus. Singh's biggest bugbear – the reason for his counter-study – was this: if the main aim of survival is to keep the gene pool going, how does sterility help? 'Natural selection selects for fertility, for reproduction – not for stopping it,' he said.

So, based on the belief that men have always lusted after fresh beauty ('preferential mating'), Singh and his colleagues used computer modelling to simulate the scenario. Their findings backed up their hunch: men's philandering set off gene mutations, causing menopause and its synchronous symptoms. Unfortunately, these stuck.

as we grow, the age of menopause could eventually be delayed. Imagine.

WHAT DO WOMEN SAY?

Blaming menopause on Those Who Leave The Toilet Seat Up, not Mother Nature, is tempting. (Especially the part about procreating with toy boys en masse for r/evolution.) But in negating the grandmother hypothesis, aren't we crediting the entire rise of the human race to the loins of men, and denying the role of non-reproducing women?

The theory has met with criticism. Some people have pointed the finger in the other direction – men chose younger women because their partners became infertile – adding fresh armour to the ongoing gender wars. 'Scientists proposing either theory are clearly ready to be evolved out of reality,' says Knysna gynaecologist Alice Shaw, from the South African Menopause Society. 'Frankly, I find it distasteful. The days of considering women as only fit for reproduction have long passed. We are more than vessels, and menopause frees us to make valid contributions to society. Look at Hillary Clinton.'

menstruation and ageing, these naturally diminish,' explains Jaff. So, anywhere between 42 to 58, but typically at 51.5*, every woman will reach menopause. (Some women go through premature menopause in their thirties.)

This is something menopausal women know too well. Darryn Smith, 52, a single mother from Pretoria, says she's not about to blame men for the change. 'It's hormonal factors. And once I turned 40, the last thing I'd have wanted was to fall pregnant,' she says. 'I was just starting to enjoy my freedom!' She also thinks the theory perpetuates negative stereotypes about men her age, which she hasn't found to be true.

Lynne Giles, 48, from Cape Town, agrees: 'I've been dating for a while, and many men my age don't want more kids. They've gone through the snot and nappies; they want a mature, independent woman.' While she says the emotional bumps (anger, a sense of loss) are rough, she's embracing this phase of life.

THE AGE OF WISDOM

While the controversial theory is compelling, it's near impossible to prove. Perhaps instead

ALL MEN'S FAULT?

SYMPTOMS ARE WELL-DOCUMENTED. NOW A STUDY SUGGESTS STOPPED OUR FERTILITY. IS IT FOR REAL? **WORDS** DEIDRE DONNELLY

WHO CARES?

Given evolution's dirty history (like how it was twisted to support apartheid racism), and its backward-looking focus, is it relevant? More recently, it's shown that mankind shares a past – right here in Africa's 'cradle'. And what's most interesting about this study is what it implies for the future. Singh's research feeds into the global drive to extend fertility, now that we're choosing motherhood later in life. Turn it around: if our forebears had played the Cougar card, choosing toy boys rather than waiting to be rejected, men could've faced infertility. And, theoretically, since DNA mutations happen

Others question Singh's motivation. Sterile worker bees show that infertility does have a place in nature. Nicole Jaff, author of *Menopause: Everything You Need to Know* and a PhD research fellow at Wits University, says of the study: 'The problem with putting information into a computer model is that you have to make an assumption first, and what if it's wrong? You need to know all the factors at play.' Indeed. With history going that far back, how can we?

Above all, the theory moves us – as a society that struggles with ageing – away from facing the inevitable. 'When a girl is born, she has around 500 000 oocytes [eggs]. With

of looking at why menopause exists, we should accept it as a natural rite of passage; the third part in the journey from daughter-maiden to mother-matron to wise woman-crone. Part of the maddening, marvellous mystery of the female body.

Pulitzer Prize-winner Natalie Angier, 54, says it best: 'Many of the current stories of the innate feminine are so impoverished... so remarkably free of real proof, that they simply do not ring true – not for me and not, I suspect, for many other women, who mostly ignore what science has to say to them and about them anyway.' **mc**