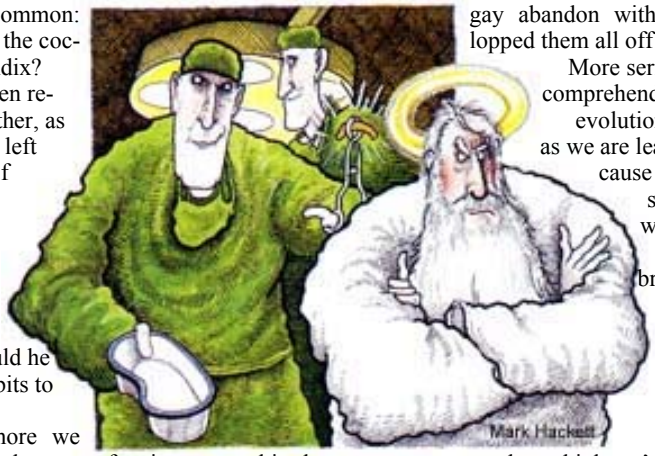
Atavism outmoded

More time spent worrying about why our bodies go wrong rather than our poor design might result in fewer therapeutic disasters, writes Jon Garvey.

What have the following in common: eyebrows, the thymus gland, the coccyx, the pineal and the appendix?

Answer—they have all been regarded, at some time or ano-ther, as functionless atavistic organs, left over from some lower stageof evolution.

When I was at school, such examples were trotted out as evidence for evolution. If each species was created individually by God, it was argued, why would he have left in all these useless bits to go wrong?



The truth is that the more we know about any apparently redundant piece of anatomy, the less redundant it appears to be. In the examples I cited above, time and observation have shown that eyebrows are not simply bits of fur which got left behind, but important social signals. The thymus gland had to wait for immunology to catch up with it before it was realised that its disappearance after childhood was not simply embryological recapitulation. The coccyx may be pretty useless for wrapping round trees, but those muscles which attach to it have a literally fundamental importance. And so it goes on.

Natural scientists long ago realised the nonsense of the concept of atavism—as if evolution were a cranky inventor continually remodifying his old Model T, and leaving behind all the debris of previous design changes. If one *has* to use a parallel, one would have to compare natural selection with a Formula 1 motor-racing team, for which survival depends on discarding each extra gram of weight, each unnecessary moving part. If you see something in a living organism, as in a racing car, you can be damned sure it's supposed to be there. As I have said, natural scientists realised this obvious fact long ago. Unfortunately, doctors, still tend to cling to the belief that nature, a lot of the time, got it wrong.

There is, indeed, an element of truth in this, since our business depends on the fact that in many individual instances nature does get it wrong. Evolution, after all, is concerned with the survival of species, and wide individual variation is necessary to this, though as often as not this is detrimental to the individual. Nevertheless, one does not criticise the design because of a cigarette-end in the water-pump, in the arrogant way that we tend to wag our fingers at nature for a botched job.

All the way through my training, for example, I was taught that our spine is prone to so many aches and pains because it never really took to being used in an upright posture. It has only recently been pointed out to me by someone more enlightened that since erect hominoids have been around for a million years or two, nature has had plenty of time to iron out the bugs. Cows, he said, seldom if ever walk upright, and yet have more problems from intervertebral discs than we ever do. But few doctors keep cows, so the same old dogma is taught. Thus we are never taught the fact that the *real* reasons for so many back problems are spending all day crouched over desks, driving cars or doing repetitive, unphysiological movements under the guise of productive labour.

Still considering the spine, we are told that the tortuosity of our vertebral arteries as they enter the skull is a design bloomer which leads to elderly people dropping down and breaking their hips. We are not told that this tortuosity is, in fact, a neat answer to a tricky engineering problem, and would not result in anybody keeling over were the arteries not clogged with the sludge of a lifetime of eating fat with everything.

We blame nature for appendicitis when our ersatz food is really to blame, for heavy periods and dysmenorrhoea when overnutrition is the cause—one SHO I knew even swore (in earnest, I believe) that the foreskin was an oversight of nature—somehow five and a half thousand species of mammal got it wrong (well you'd think so, from the gay abandon with which surgeons lopped them all off until recently).

More seriously, a failure to comprehend that the forces of evolution are not as stupid as we are leads us too often to cause harm by unnecessary intervention. I was taught at medical school that breast milk is deficient in iron, and that breast-fed babies should, therefore, have iron supplements. What did these teachers think we've been managing on for the last 100,000 years? Palaeolithic vitamin drops? Did it not occur to them that they might have missed something, and had better leave well alone until they discovered what? I have had a running feud with my local obstetric unit for the last two years. I check my patients' haemoglobin at an early stage, and if it is satisfactory and the diet adequate (as it usually is in non-inner-city, non-cosmopolitan Chelmsford), I leave them to it. At 16 weeks they go to the hospital and are cajoled into taking iron tablets which make them constipated, or sick, or at least suggest they are ill. They are even told not to inform me they are taking them, as if *I* were the authoritarian. I have received some small pleasure recently from reading a report suggesting that iron supplements given to correct the physiological fall in haemogiobin levels may interfere with absorption of trace elements such as zinc. Zinc, of course, is important in the chemistry of the immune system. Who knows what harm may be done to the baby's defences especially if he's loaded up with iron drops after birth as well?

In conclusion, then, we ought to remind ourselves a little more often that we are fearfully and wonderfully made—a little more time spent wondering why our bodies go wrong, rather than superior remarks about our poor design, might result in fewer therapeutic disasters.

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