**Why being left-handed can be murder**

**Sally Reynolds**

Scientists discover the sinister side of being left-handed. Sally C. Reynolds finds out why.

Behavioural scientists claim that there is a strong positive correlation between the number of left-handed people and violent crimes, specifically murder. The recent report suggests that left-handers have the advantage in hand-to-hand confrontations. This competitive advantage may explain why levels of homicide and left-handers in society show such a strong link.

The link between left-handers and levels of violence, published in the British scientific journal *Proceedings of the Royal Society*, may also solve the mystery of why left-handers are always rare in human societies but have never disappeared altogether.

Our preferences for a particular hand in tasks such as writing is determined by our genes and is known as 'handedness'. An overwhelming proportion of humans are right-handed while only ten percent are left-handed. Only a very small percentage of people show no particular hand preference.

The deadliness of left-handers in violent confrontations seems to lie in the fact that they are unfamiliar and unpredictable to their right-handed opponents. This theory is known as the 'fight hypothesis'.

Charlotte Faurie and Michel Raymond from the Paris Institute of Evolutionary Sciences investigated why the genetic trait of left-handedness still exists. Ninety percent of people are right-handed and so being left-handed should be a distinct disadvantage in a right-handed world. The scientists reasoned that left-handers must have an upper hand in certain situations for this genetic trait to continue being passed on.

A glance over a list of famous left-handers, known as 'southpaws', leaves no doubt that they excel in politics, art, music and sport. People such as Napoleon Bonaparte, Bill Clinton, Alexander the Great, Prince Charles and Prince William don't appear to be disadvantaged because of their left-handedness.

To examine what advantages left-handers might possess, scientists Faurie and Raymond examined literature on violence and murder in traditional societies. Murder and aggression in Westernised society usually involves long-range weapons, such as

guns, which are not affected by handedness. So they focused their study on societies with manual weapons such as knives and bows.

The same striking pattern was found across cultures. From the Inuit peoples in Greenland and Alaska to the Jimi valley people of Papua New Guinea, there is remarkable correlation between the number of left-handers and the annual rate of murders in these societies. Although the data are for traditional societies, the scientists maintain this pattern would be relevant to our society too.

Instead of fatal hand-to-hand combat observed in traditional societies, behavioural scientists claim that in our society, sport is substituted as a kind of 'ritualised fighting' and that the fight hypothesis should still apply.

Left-handed sportsmen do have a competitive advantage in Western sports precisely because they are so rare. Fans of cricket, baseball and tennis will not be surprised, since lefties have long been feared on the sports field.

On the tennis court, the left-handed skills of Greg Rusedski, Monica Seles and Goran Ivanisevic have proved devastating to their right-handed opponents. In cricket, too Brain Lara and Graham Pollock are just two of an impressive list of left-handed batsmen.

Behavioural scientists consider sport to be more than just fun. The success of left-handers in Western sport supports the fight hypothesis in more serious and violent situations.

Patterns of handedness have existed since the beginnings of humanity. For our ancestors, the unpredictability of being left-handed may have given them an advantage in fights with rivals in the past. This is why this trait has continued to be passed on.

A similar advantage may apply to other animals, since humans are not the only species to exhibit hand dominance. Our nearest living relatives, chimpanzees and gorillas, show the same frequency of left-handedness as we do, roughly ten percent. Other animal species show the reverse pattern. Polar bears and certain parrot species, for instance, are predominantly left-handed.

For our species at least, the French scientists seemed to have solved the riddle of why one in ten humans are southpaws. The answer, is quite simply, murder.

Reference: Faurie, C. and Raymond, M. (2005). Handedness, homicide and negative frequency-dependent selection. *Proceedings of the Royal Society of London B* 272:25-28.