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Aug 23rd 2007

From The Economist print edition

**The brains of men and women are, indeed, different**

WOMEN really are better than men at shopping. And they really do prefer pink. And, surprisingly, it is possible that these facts are connected. The first conclusion was drawn by Joshua New of Yale University and his colleagues. The second was drawn by Anya Hurlbert and Yazhu Ling of Newcastle University in England. The connecting theme is that in the division of labour that forms the primordial bargain of human hunter-gatherer societies, it is the men who do the hunting and the women who do the gathering.

Blackberry-picking aside, urban humanity does little gathering from the wild these days, so Dr New decided to look at what seemed to him to be the nearest equivalent—shopping at a farmers' market. There is a fair amount of evidence that men are better than women at solving certain sorts of spatial problems, such as remembering the locations of topographical landmarks. Many researchers suggest such skills may have been important in the past for man-the-hunter, who needed to be able to find his way round the landscape. If that is the case, then woman-the-gatherer might have been expected to develop complementary skills not shown by males. And that, as he writes in this week's *Proceedings of the Royal Society*, is what Dr New found.

Dr New used the market to test two hypotheses. The first was that women remember the locations of food resources more accurately than men do. The second was that the more nutritionally valuable a resource is, the more accurately its location will be remembered.

To prove these conjectures he recruited 41 women and 45 men and led each of them individually on a merry dance around the chosen market. In the course of this peregrination, each participant visited six of the 90 food stalls in the market. At each of those stalls, participants were given a piece of food to eat. They were asked their preference for the taste of the food, how often they ate that food in normal life, how attractive they found the stall and how often they had made purchases from that stall in the past. After visiting all six stalls, they were taken to the centre of the market and asked to point toward those stalls, one at a time, using an arrow on a dial. In addition, they were asked to rate their own sense of direction.

**In the pink**

On average, women were 9° more accurate than men at pointing to each stall—a significant deviation if you have to walk some distance to get to a place. This was not because those women had more experience of visiting the market than the men had. Nor did the women rate themselves as having a better sense of direction—indeed the men rated their own navigating skills more highly.

Dr New suggests that these results show women are better than men at the particular task of relocating

sources of food. That contrasts with the idea that men are better at navigation in general. In other words, women's minds are specialised for their ancestral task of gathering the sort of food that cannot run away.

That such food is in a different mental category from the one occupied by general landmarks was suggested by the answer to the second hypothesis. The higher the calorific value of the food sold by a stall, the more accurately Dr New's volunteers were able to point towards it. And that result applied to both sexes, though women still did better than men.

How much the participants liked the food did not have an effect on this accuracy. Indeed none of the secondary attributes of the food or stall in question (taste preference, the frequency of an item in a volunteer's normal diet, the appearance of the stall and how often a volunteer used that stall in daily life) were found to affect pointing accuracy. Only the calorific value of the item in question was relevant.

For their part Dr Hurlbert and Dr Ling, who report their study in *Current Biology*, used coloured patches flashing on a computer screen to find the preferences of their set of volunteers. These volunteers were men and women of British and Chinese origin who were in their early 20s.

Mostly, the two researchers found that people of different sexes and from different continents did not differ in their colour preferences. But there was one exception. Among both the British and the Chinese, women preferred reddish hues such as pink to greenish-blue ones. Among men it was the other way round.

Moreover, though anatomical sex is binary, mental "gender" is more pliable. To see how masculine or feminine the brains of their participants were, Dr Hurlbert and Dr Ling used what is known as the Bem Sex Role Inventory, which asks about personality traits more often associated with one sex than the other. This showed that the more feminine a brain was, regardless of the body it inhabited, the more it liked red and pink.

All this suggests a biological, rather than a cultural, explanation for colour preference. And Dr Hurlbert and Dr Ling have produced one. They suggest that their result may be connected with the fact that the colour of many fruits is at the red end of the spectrum. An evolved preference for red, pink and allied shades—particularly in contrast with green—could thus bring advantage to those who gather such things. And if they can also remember which tree (or stall) to go and visit next time, then so much the better.