

FANCY MEETING YOU HERE!

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Geoff Kirby estimates the probability of meeting someone you know in an unexpected venue and shows that these amazing encounters are really not so amazing after all.

On May Bank Holiday 1988 I travelled with my family by car to visit a friend in Cornwall. Whilst stopped at the Exeter M5 Service Area I met an ex-neighbour who had moved to Devon on retirement some five years previously and was on his way to the Midlands to visit his son. An hour later I met a current near-neighbour travelling to Devon. The following day, in the car-park of a remote tin mine museum in Cornwall, I met a work colleague.

On another occasion I was overtaken in Hertfordshire by a car I had sold in Dorset a year previously.



In 1989, having parked my hire car outside the Griffiths Observatory in Pasadena, I returned to retrieve my coat when I spotted the car parked in the next bay and took the picture above. So, what's the chance of parking next to a car with the consecutive number on its licence plate?

Such coincidences are amazing and worth a pint in a pub for the telling. Most people have similar stories. In Koestler's book *"The Case of the Midwife Toad"* (Koestler, 1971) the experiences of a certain M Deschamps are related. As a child, his first

taste of plum pudding was offered by a M de Fontgibu. Two decades later, Deschamps ordered plum pudding at a Paris restaurant - the first time since his childhood experience that he had tried to sample it again. Alas, the last piece of pudding had just been eaten - by M de Fontgibu at a nearby table. Many more years later he was offered plum pudding at a party - only the third time in his life that he had the opportunity to taste it. As the pudding was served, M de Fontgibu stumbled into the room - he had been invited to a party but had come to the wrong house!

The three isolated appearances of the M de Fontgibu at the only times when plum pudding was wanted by Deschamps rates as most worthy coincidental meetings! Indeed, Koestler and others such as Paul Kammerer (Kammerer, 1919) and Carl Jung believed that a mysterious physical process actually encouraged and organised such coincidences. They kept notebooks filled with examples and the "*Law of Seriality*" was invented.

Here I consider only coincidental encounters, of the type that give rise to the exclamation in the title, and not to other types of numerical or other coincidences. To determine the probability of an amazing encounter we need several pieces of numerical data.

The first is the size of a person's social network. This is the group of people who are known to the person. The definition of 'known' must be defined. Thus, I know Cliff Richard but he does not know me - I assume. If I met Cliff Richard strolling past my house it certainly would be an amazing encounter but I limit myself here to those people in my social network I would go up to and shake hands with - or kiss - and be recognized in return.

The first step in my analysis was to list all the people that I knew by sight and name and who knew me similarly. There are 212 people in the world with whom I have this relationship. About fifteen years ago I did the same exercise and came up with a figure of 202. Thus, my growing forgetfulness and ability to outlive my friends and colleagues seems to be almost balancing my gains.

The next thing we need to establish is the number of people we see in a year. Seeing a local friend or colleague locally is not of interest and we only consider here seeing anyone in the social network non-locally. Accordingly, the writer has counted the number of people seen on journeys around the United Kingdom and abroad. For example, on a trip from a London hotel to Heathrow Airport, waiting there for two hours, flying to Nice and travelling by train to Toulon brought me into visual contact with about 460 people. This was a surprisingly low figure. I had expected a

value measured in thousands.

The criterion was that a person would have been recognized and one does not normally go around looking at every person's face. If one does look too closely at passing faces, one is likely to have one's data gathering limited to the inside of a police station. As it was, the writer feared unfavourable reaction to him counting under his breath in an airport departure lounge!

The number of trips I make away from the home locality in the UK averages about thirty each year. I take the population of the United Kingdom - excluding children - as 40 million. From these figures it is easy to show that the meeting in an unexpected place of someone on my list will occur about once every fourteen years on average. This seems intuitively to be about the right order of magnitude.

Thus, we should not be surprised to experience such events several times in a lifetime - and who hasn't?

This may all seem like a whimsical piece of research but it can have important applications. One is to determine the incidence of rape or sexual abuse in society. Many victims do not report the incident officially. This can be for a variety of reasons - fear of retribution, fear of revealing that the abuser was a relative, etc. However, we can be sure that some victims that do not appear in official statistics will have told close friends or relatives of their experiences.

Thus, if a random sample of people are asked if they know of anyone who has been raped or sexually abused and the size of the informant's social network is known then an improved estimate of the number of victims can be obtained.

Similar methods can be applied to determining the number of workers moonlighting, thieving from the workplace or being sexually harassed.

So, if you unexpectedly meet Aunty Hilda whilst visiting some remote extremity of the United Kingdom, it's all perfectly in accord with the laws of probability - unless of course she has been dead for years!

Reference

Arthur Koestler, *The Case of the Midwife Toad*, London: Hutchinson, 1971

Kammerer *Das Gesetz der Serie*, 1919