The Theorem of Friends and Strangers

Let me tell you something that is true, but you will not believe it. Take any group of six people, say, at a party. If you pick three within that group, they will turn out to be either mutual friends or mutual strangers. Another: In any big city, New Delhi let me say, or no, let me say Toronto, there must be at least two people with the same number of hairs on their heads.

Another: Mark five dots randomly on a piece of paper, and it will result in at least four of them being able to trace a four-sided figure.

Ramsey's Theory, the larger theory to which the Theorem of Friends and Strangers belongs, allows us to find structure in apparently random sets. Partition Regularity, more specifically, allows us to take a set, partition it into some finite number of pieces, and then try to say as much as possible about those pieces. I have hundreds of pieces, fragments of thoughts. I want to say as much as possible with them. I want to find some application of Ramsey's Theory for that. So that everyone in the subset is either a friend or a stranger. I want to find that person in New Delhi or Toronto who has the same number of hairs on their head as me. I want to match every feeling in one partition with its mirror image in the second. I want to trace that four-sided figure: a country's border drawn by connecting a number of arbitrary dots, the past meeting the future.