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DON'T HAVE FRIENDS . .

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Maybe your brain is too small

LEIF LARSEN | FEB 11

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According to primate research, the number of meaningful social relationships you can maintain at any one time is directly linked to the volume of your neocortex. This correlation has been observed in lower primates, such as monkeys and chimps, and indeed in us humans. But social

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networking sites such as Facebook.com and Twitter.com, which allow an individual to contact a potentially limitless number of people, could challenge this conclusion.

What is the Monkeysphere?

Referred to as “the monkeysphere” by David Wong in his Cracked.com article, “What is the monkeysphere?” it can be defined as the maximum number of social relationships an individual can maintain at any one time.

A more concise and accepted name for this number is “Dunbar’s number,” named after Robin Dunbar, the Liverpoolian evolutionary psychologist who discovered the relationship. To find the relationship that now bears his name, Dunbar compiled diverse research about primate behaviour from several sources. He created models for individual species, which allowed him to define behavioral characteristics. Once he had his behavioral models, Dunbar started to compare behaviour and neocortex volume.

Dunbar chose to measure the volume of the neocortex for his study, since it is one of the more recent parts of the brain to evolve in primates and the part of the brain responsible for decision making, planning and complex thought. He found that there was a direct relationship between the size of the neocortex — relative to the size of the animal — and the size of their monkeysphere. Dunbar also found that the size of the neocortex defined two kinds of relationships. Social relationships were described as “roughly the number of people you could ask a favour and expect to have it granted.” In humans, based on the volume of our neocortex, this number is about 150, and between 50 and 100 in lower primates. The other group described was what you could call “the inner circle,” or people with whom you have an intimate relationship, which Dunbar predicted, for humans, would be about 12.

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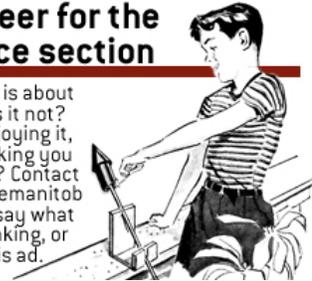
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Dunbar's number in action

For humans, an individual's Dunbar number might not have earth-shattering implications on one's daily life. But Carol Berman, from the anthropology department at State University of New York, Buffalo, found that Dunbar's number had a profound affect on the lives of large rhesus monkeys.

Berman observed that when the number of rhesus monkeys in a family group was small, say around 40 individuals, adult females in the group were calm, and encounters with "strangers" or other rhesus monkeys who were not familiar to the females, were infrequent. The adult females in this environment raised their young in a very free and easygoing manner.

As the number in the family group rose, the number of encounters with strange monkeys inevitably increased, and the adult females became more vigilant, defensive and aggressive. Naturally, this change in behaviour also had an impact on the young, whose upbringing became much more guarded, and on the adult males, who also became more aggressive and defensive. Eventually, tensions in the family group would rise, and violence would become more common. Finally, relations within the family group would degrade to such a point that the group would split, returning the numbers in each individual family group to a more comfortable level. From an evolutionary point of view, this might be a very advantageous behavioral adaptation, since keeping family group sizes small means that resources in a particular area are not depleted too quickly.

The monkeysphere and social media

While Dunbar made predictions about the size of the human monkeysphere, testing his hypothesis against humans was made difficult by the fact that human social interaction is rather difficult to document.

After several lackluster attempts to interview people on the size of their social network via questionnaires, Dunbar hit upon the idea of analyzing people's Christmas card mailing habits. Through this survey Dunbar was able to conclude that the average size of a human social network, at least for the individuals responding to his survey, was 124.9 people per network. "But," you may be thinking right now, "I have twice that many friends on Facebook!" According to an interview done with Cameron Marlow, Facebook's in-house sociologist — yes, Facebook employs a sociologist — by *The Economist* in February 2009, Facebook allows you to reach more people, but the average number of Facebook friends is still about 120. Furthermore, the number of people you interact with on a regular basis, regardless of how many "friends" you have is probably about seven to 17 if you're a man and 10-26 if you're a woman, according to Marlow. Interestingly, these numbers are very close to Dunbar's original predictions and to the results of his "Christmas card survey."

So, does this mean that you are a slave to the size of your neocortex? According to Dunbar and Berman's research, in terms of the number of meaningful connections you can maintain with people, probably, yes. However it's not all bad; at least you don't start picking fights and getting all moody when more than 120 or so people are crowding around you.

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