The Economist

Animal behaviour

The police are a bunch of monkeys

Simian society, too, needs the forces of law and order

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MOST people, even the law-abiding, have ambiguous feelings towards the police. They are a salvation when it comes to protecting life, limb and property, but their efforts are, perhaps, slightly less welcome if your foot happens to slip momentarily on the accelerator. Few, however, would argue that human societies could dispense with their activities altogether. Even in villages, where everybody knows everybody else and social disapproval and the near-certainty of exposure are enough to discourage most criminal acts, the local bobby is a reassuring presence.

Most people, too, would assume such policing is uniquely human. But they would be wrong—at least if Jessica Flack, of the Santa Fe Institute in New Mexico, and her colleagues are correct. For Dr Flack thinks that monkey societies also have police. Moreover, removing those police makes such societies less happy places.

Keystone cops

The police in Dr Flack's monkey societies are not specially assigned task forces, but small coteries of high-ranking individuals. The point about these individuals' behaviour is that, unlike most so-called alpha animals, they do not just defend their own interests. They do that, too, of course. But they also intervene to break up conflicts between lower-ranking individuals in an apparently disinterested way.

Dr Flack had discovered this behaviour in earlier research. Her latest work, just published in *Nature*, looked at how important policing is in maintaining harmony in the monkeys she studies, an Asian species called the pigtailed macaque. To do so, she went to the opposite end of the biological scale from that occupied by ethology (the science of animal behaviour) and borrowed a technique from genetics, called knockout analysis. In genetics, this involves "knocking out" a particular gene and seeing what effect its absence has on a cell's biochemical network. In ethology, it involves removing particular animals from a group and seeing what effect that has on the group's social network.

Dr Flack's troop was comprised of 84 animals (of whom 45 were adults). She knew that three males in the group and one female were on the receiving end of a disproportionate number of acts of submissive behaviour. She also observed that these individuals acted as a police force by breaking up fights. Crucially, they did this by interposing themselves between the opponents, or threatening them both simultaneously and, as far as it was possible to see, impartially.

To look at the effect of such policing, the team first recorded details of the social network between members of the group. They looked at such things as grooming, sitting in contact with or close to others, and play. Then they rounded up and removed the male police for ten hours on a randomly chosen day once a fortnight (they left the female because they thought that removing her would be socially disruptive for other reasons). Ten hours was reckoned long enough for the effects of the police's absence to be noticed, but not so long that the remaining males would start manoeuvring to occupy the vacant alpha positions.

It turned out that policing is the keystone of macaque society. Removing the police resulted in the remaining monkeys grooming fewer others, playing with fewer others and dividing up into cliques as the social network that held the troop together broke down. The number of aggressive incidents also increased.

Dr Flack thinks that the role of policing in these monkeys is to allow individuals to socialise widely at little risk and thus hold a large troop together, since the police will intervene if things get out of hand. The benefit to the police themselves, presumably, is the size of the troop, with the attendant virtues of defensive strength and (for the males) more available females. In simian as in human society, rank hath its privilege—and its obligations, too.

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