An eye for an eye, a tooth for a tooth—the majority of vendettas originate within a group, study finds

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It all began with a harmless game of soccer among young men in northwestern Albania. After one of the players had been injured in a subsequent dispute, his team members shot a relative of the suspected attacker. Now the male members of the families involved in the blood feud do not dare leave their homes.

Such vendettas and blood feuds occur in many societies, sometimes lasting for decades. The harm for the participants is enormous and lacks apparent benefit, as the participants often no longer remember what actually triggered the quarrel. Theoretical calculations also demonstrate that vendettas are costly for the participants from an evolutionary point of view and should therefore not develop. Manfred Milinski and his colleagues from the Max Planck Institute for Evolutionary Biology in Plön and the University of Göttingen have now, for the first time, investigated the genesis of vendettas. Their findings suggest that vendettas among members of one group can remain viable over the long term.

From the evolutionary perspective, punishment for misconduct is costly: not only for the person punished, but also for those carrying out the punishment, as they must utilise resources for this purpose. Nevertheless, punishment is widespread in the animal kingdom and among humans, for it encourages cooperative behaviour among members of a society. But forcing cooperation in this way carries a danger – the punished

individual may strike back if he or she does not accept the punishment. In this manner, a series of vengeful acts can arise from a single act of revenge, which damages stakeholders and, ultimately, society on the whole. As a result, conflict resolution and cooperative behaviour become impossible.

Theoretical studies have concluded that dyadic vendettas do not endure. They do not occur in the case of conflicts between two persons, because the most reasonable response to uncooperative behaviour is for people themselves to behave uncooperatively, rather than punishing the other person. According to theory, the best reaction to punishment is to behave in the same uncooperative manner.

Consequently, vendettas should arise – if at all – only in conflicts within a group of three or more individuals. Manfred Milinski and his colleagues therefore tested the behaviour of subject groups in public good games. During the experiment, each of four players had to decide what share of their initial playing capital they wanted to pay into a common pool for the benefit of all. During successive rounds, they were able to punish their fellow players who refused to cooperate and be punished themselves. Under these conditions, players punish one another if they pay too little money or none at all into the common pool. "As a result of punishment for misconduct, vendettas regularly arose, especially when the original punishment was unjust or excessive. Despite this, the players succeeded in enhancing the level of cooperation through the mechanism of punishment. Several of the participants appeared to anticipate the risk of potential vendettas and delayed their punishments as long as possible," explained Manfred Milinski from the Max Planck Institute in Plön.

By contrast, the researchers observed almost no punishment and even fewer vendettas in what is known as the "Prisoner's Dilemma". In this classic game used in behavioural biology, two players can decide

whether to pay part of their playing capital into the common pool. Both benefit from this pool as a result, but not as much when they do not pay in and only profit from the share of the other player. "It depends on the social environment whether punishment has a utility and vendettas can develop", says Katrin Fehl of the University of Göttingen. "In conflicts between two individuals, the costs are too high. While vendettas are accompanied by considerable disadvantages, they can produce justice between parties in larger groups. In this case, severe punishment usually produces severe revenge," adds Manfred Milinski, Director at the Max Planck Institute for Evolutionary Biology. It thus seems that vendettas may have a social function. They regulate how conflict is coped with, and can prevent unjust or excessive punishment.

Vendettas can occur in the animal kingdom as well. Japanese macaques do not take revenge directly against an individual who has punished them, but instead against its relatives. They thereby diminish the danger of fresh revenge.

Vendettas emerge primarily in areas where higher authorities are unable to provide sufficient protection, for example in regions where there is no functional policing or justice authority. Thus, vendettas and blood feuds had nearly disappeared in communist Albania after World War II. Only after the collapse of the communist dictatorship in 1990 were people increasingly enmeshed again in such disputes, as the state institutions were too weak to resolve conflicts.

Accordingly, a functioning institutional penal system could reduce the risk of vendettas. Moreover, police and the justice system encourage cooperative behaviour in a society. Furthermore, vendettas may be prevented if social partners regularly change. The individuals then tend to punish the partner who had previously behaved unjustly by seeking out a new partner. Urban societies or those with greater mobility are therefore presumably less prone to vendettas. This is also demonstrated

by the example of Albania, where the principle of blood feud is practiced primarily in the poor rural north of the country.

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