Grey wolves are carnivores that often occur close to man. Sometimes living in impressive packs, with their imposing stature and howls that can dominate an entire landscape, they would have a frightening reputation even without their criminal record.

Early records from North America gave rather damning evidence against wolves, and great pioneers such as Lewis and Clark had some hairy tales to tell (Lewis 1997). But later, scientists denied it all. David Mech from Minnesota is undoubtedly the world's wolf expert. He did his PhD on predation by wolves on Isle Royal, Michigan, and he has made a long, very productive career out of studying the animals in America, writing several books in the process. Mech states categorically that there is no evidence of any wild wolf in North America ever having attacked people 'deliberately', except when rabid. He mentions several newspaper reports, but, in all cases when these were followed up, such reports appeared to be false (Mech 1970).

Mech concludes that one cannot say that wolves are totally harmless to man, and perhaps an odd case has occurred of an attack on people. But if so, it would be a great rarity. In fact, just such a rarity occurred in 2001, when a wolf carrying a radio-collar attacked a child in Alaska. Fortunately, there were no lethal consequences, but it showed that one can never say never.

The almost complete absence of wolf attacks on people in North America is confirmed by several other authorities, and it must be genuine, not just resting on a lack of information. It is in striking contrast to recent history in Europe, where stood the cradle of Little Red Riding Hood. That fairy tale is based on actual horrendous incidents, which were not that rare either. Why wolves in Europe (and Asia as well) should behave so differently from those in North America is still quite unknown – but the data show indisputably that wolves were (and still are) regular predators on humans, often on children.

In early 1996 I was working in Belarus, participating in a radiotracking study of European mink. We lived in Zadrach, a small village close to the border with Russia, near Gorodok. It is very remote, with about a dozen families of peasant farmers; there were no cars (just a couple of tractors), no telephone and no shops. People walked or went on skis to go anywhere, and in winter, with over half a metre of snow, life was very difficult. Wolves were and are common, and they often raided the village in search of domestic dogs or livestock. On 21 February in the late afternoon, just 3 days before I arrived, 60-year-old Michael Amosov returned from Zadrach to his house in the hamlet of Bolonitza. He was a man known to my colleague there, Dr Vadim Sidorovich.

Amosov had to walk for about 3 km through the forest, along a clear cart road. At least, he set off from Zadrach, but he did not arrive at his house. The next day, many wolf tracks were found at a site about halfway to Bolonitza, the snow was churned up and there was blood. However, the weather was very bad, and when I left 2 weeks later, Amosov's remains had not yet been found. There was no doubt in anyone's mind about what had occurred, because wolf predation just happens there; it is a fact of life.

Sidorovich told me that 2 months earlier, in December 1995, a previous wolf victim in the area had been taken in Hvoschno, about 15 km from Zadrach. A woodcutter of some 55 years old was out in the forest on his own, and when he did not return parties went out to search for him. Two days later the few bits that remained of the man were found, surrounded by wolf tracks – another victim. But perhaps the most harrowing incident took place only two weeks before that, when a 9-year-old schoolgirl was taken by wolves in nearby Usviatyda. In that case a teacher had kept her late at school, and she walked back home in the dark along a lonely track. Her father was worried about her being late, and went out to investigate in the dark. He found her head, the snow spattered with blood and covered with wolf tracks. Later, in

These events happened recently near a village and in an area that I happened to visit. No one there collects the statistics, and the authorities have other things to do. But I could not help wondering how much more of this would be going on there in the endless wilds of Belarus and Russia, never reported except in the odd newspaper article. Sidorovich, a scientist with vast experience in the area, informed me that wolf attacks are not at all uncommon. There are many wolves, and people are surprised that anyone in the west should doubt that wolves kill people.

Such horrific events must have taken place in Europe for as long as man and wolves have lived there. Almost unbelievable to me now, they happened and were well documented in my own country, Holland (Geraerdts 1981; Poortvliet 1994). The date was 13 August 1810, near the village of Helden, only a few miles from where I grew up over a century later. Bartholomé Dahmen, 9 years old, was helping his elder brother and sister with herding a cow and a goat, about 100 yards from

their home. It was eleven in the morning, close to the woods – and the three children had little warning when a large wolf ran at them from the trees. Bartholomé was attacked and he was dragged off into the wood. When his father was alerted he ran, desperately following the tracks across a brook. There he found the remains of his son, still warm. Immediately the mayor rang the church bells, and people gathered and followed the wolf into the wilderness, armed with pitchforks. Their effort did not bear fruit.

That same month (on Monday 27 August) also in Helden, two young sisters Maria and Judith Geraerdts, 10 and 4 years old, were helping on their parents' farm, pushing a wheelbarrow of turnips along the Land Straat at about eight in the evening. A wolf ran out at Judith, and dragged her off while the eldest child, Maria, could only run and save herself. Villagers spent the night searching with lanterns, but to no avail. Next morning someone found parts of little Judith's body. People were still talking about the incident when, on 9 September and in the same village, 17-year-old Jan Joosten just managed to escape a wolf by running inside his parents' house.

These incidents occurred in what is now Western Europe's suburbia, where there are no wild wolves within hundreds of miles. But such cases do not stand alone: they are part of a long litany of sorrow for those years in the south-east of Holland. The events are documented in the local archives and departmental dossiers, and in extensive notes by several mayors, researched in detail by the historian Gerrit Geraerdts. A total of 12 children were killed there just in 1810–11, and several more were injured but managed to escape. The age of the dead Dutch children ranged from 3 to 10 years old, and of five people who were attacked but escaped, two were children of eight, the others were teenagers (aged 15 and 17) and one was an adult male. Quite likely several more people suffered, but their fate did not make it into the annals of history. The cases in Holland had in common that the fatalities were all children, whilst older and stronger people were attacked but escaped. All incidents happened in daylight, and mostly in summer.

During a recent stay in Estonia, I was fortunate to make contact with Ilmar Rootsi, an amateur historian with a keen interest in wolves. He had studied the archives of the rural Lutheran parishes of Estonia for the records of deaths that occurred there, also covering the nineteenth century. The causes of death are carefully registered when known, and Rootsi wrote down the frequencies with which wolves were mentioned. Despite the fact that this was some thousand miles

away from the Dutch events, there are some remarkable similarities. His accounts (Rootsi 1995) provided cold data on predation in an almost randomly chosen country in Eastern Europe, and they give the scale of suffering, documenting the deaths of many children and even adults.

Only a few hundred thousand people then lived in the small northern country of Estonia, most of them in towns and far fewer in the countryside. But in the records of the nineteenth century Lutherans, Rootsi found that between 1804 and 1853 as many as 111 people had been killed by wolves, all away from the towns and villages. Almost all (108) of them were children below the age of 17. The average age of the wolf victims was just over seven years, with slightly more boys than girls killed (59 versus 47). About three-quarters of the incidents took place in the district of Tartuma, in north-east Estonia, near Lake Peipsi. The total number of registered wolf deaths in eighteenth and nineteenth century Estonia was 136. Casualties occurred very patchily, and there were clear outbreaks of wolf attacks. For instance, there were major waves of wolf predation in 1809–1810, and in 1846. In one parish alone, 48 children were killed between 1808 and 1853, with 36 killed in 1809.

Rootsi showed a clear seasonality in wolf predation on people, and the following chart gives the casualties by month:

J	F	M	Α	M	1	1	Α	S	О	N	D
5	14	6	10	15	14	28	23	9	2	3	7

These figures indicate a striking peak in late summer, just as for the wolf predation in Holland. Rootsi gives two reasons for this peak. Firstly, children are outside in summer, playing or helping their parents on the land, and secondly and most importantly, it is the time of year when the she-wolf has to provide for cubs, the time of highest energy requirements. This seasonality in predation contrasts sharply with that of attacks on people by rabid wolves: in nineteenth century Estonia there were 82 of those, with 37% in spring, 24% in summer, 4% in autumn and 35% in winter.

The data also showed that at least some of the wolves definitely selected children as prey, at the same time ignoring the cattle that the children were herding. Importantly, the attacks were usually carried out by solitary wolves, not packs, with clear evidence of idiosyncratic traits (just one individual specialist marauder concentrating on one kind of prey). For instance, there were two cases where three and

In general, maneating is only an infinitesimally small factor of mortality amongst people. Other causes of death are incomparably more important, and deaths caused by carnivores are totally insignificant compared with those caused by diseases, slaughter on the roads or domestic accidents. The rarity of maneating is related to the rarity of the perpetrators. Yet individual large carnivores are a substantial risk, and it is that risk that is relevant to our behavioural response to the animals.

Maneating is not restricted to only the most carnivorous of carnivores. True, several members of the most carnivorous family, the felids, are known maneaters (tiger, leopard, lion, cougar, jaguar), but then most of the more omnivorous bears are also culprits. So the natural diet of a species is not a very relevant indicator of its danger to people. But one obvious characteristic stands out: size is probably the most important distinguishing character of maneating species, and the fact that four carnivore families are in no way involved (martens, raccoons, genets, mongooses) is probably a reflection of a lack of large species amongst them.

Size may be critical for maneaters, but rabies can render even the small carnivores dangerous. Maneaters as well as rabid carnivores occur on all continents except Australia (which is perhaps one factor that contributes to the more relaxed way of life down under).

Social organization also does not give much of a clue as to the danger that a species poses to us: some of the most murderous species are highly social (lion, wolf, spotted hyaena), whereas others are totally solitary (bears, tiger, leopard, cougar). But interestingly, in most cases involving the social species, they attack as solitary hunters, so maneating can be said to be a largely solitary crime.

There are some general, cross-species characteristics of predation on people. Most of the attacks are in daylight and outside (probably because of the activity patterns of people), although some predators (especially leopard, lion and spotted hyaena) may attack at night and inside houses. Children are much more vulnerable than adults, which may well have special relevance for our anti-predator behaviour, as I will discuss in later chapters. Most of the attacks on people outside are from behind – although this is not true for attacks by bears, which may often start as a defence of cubs.

There is a curious detail in the distribution of maneating behaviour: in many of the carnivore species concerned there appears to be a clear regionality of the habit. Wolves do not kill people in North America but there are many cases of attacks in Eurasia, and bears in Europe appear to be quite harmless, while they are definitely not so in Canada and the USA. Cougars harass people especially on Vancouver Island, and tigers slaughter humans in the Sundarbans more than elsewhere.

This regionality of maneating suggests that either there are 'cultural effects' amongst the predators, with animals learning from each other, from parent to offspring as well as across lineages, or there may be a genetic element involved. There also appear to be definite outbreaks of maneating, with periods of many victims, which suggests that a 'cultural effect' is perhaps a more likely explanation than a genetic effect. The pattern of occurrence of such outbreaks makes it unlikely that the regional differences in maneating are caused by variations in the behaviour of people, nor do they appear to be caused by deficiencies in the usual prey base of these predators.

It is often assumed that maneaters start the habit when they are somehow disadvantaged, injured, or old and decrepit, then continue once they have discovered how easy and valuable a person is as prey. This may be the case at times, but it cannot explain every case: many of the predators concerned in recorded attacks were prime specimens when shot. It is likely that some carnivores chance upon people as prey, just because humans and their usual prey category have much in common, and they happen to find a person in a vulnerable situation; perhaps also, they were less afraid of people to start with. Once carnivores have experienced a person as prey they will learn fast, and other conspecifics will learn from them. Only a fast and radical management response will halt the process.

Despite all these gory details, and despite all the alarming publicity, we are only talking about a relatively very small number of incidents and people. In population terms, maneating is totally insignificant both to people and to the predator. Moreover, for several species of maneating carnivores the number of incidents is on the wane, probably because of better protection and prompt action by sharp-shooting hunters. Extrapolating this trend back into history, it seems likely that in the dawn of our evolution, when we were far less protected than now, predation must have been a much more important factor than it is now. This in turn means that predation is likely to have had a significant influence on the evolution of our behaviour and on our reactions to predators, including the disproportionate amount of publicity that we give them.

In future, though, we do not have as much reason for concern about the safety of our children as people had a few generations ago. Much of the element of danger from predation is being removed from our wilderness areas. Some of us may regret that, but there is no doubt that for the average villager in India or Africa it is a change for the better.