

impossible to prove that a threatening animal is not hungry when it performs so-called displacement feeding actions, or that it is not itching when it scratches. But this is armchair criticism, and to anyone who has actually observed and studied aggressive encounters in a wide variety of species, it is patently absurd. The tension and drama of these moments is such that it is ridiculous to suggest that the contestants would break off, even momentarily, to feed for the sake of feeding, or scratch for the sake of scratching, or sleep for the sake of sleeping.

Despite the academic arguments about the causal mechanisms involved in the production of displacement activities, one thing is clear, namely that in functional terms they provide yet one more source for the evolution of valuable threat signals. Many animals have exaggerated these actions in such a way that they have become increasingly conspicuous and showy.

All these activities, then, the autonomic signals, the intention movements, the ambivalent postures and the displacement activities, become ritualised and together provide the animals with a comprehensive repertoire of threat signals. In most encounters they will be sufficient to resolve the dispute without the contestants coming to blows. But if this system fails, as it often does under conditions of extreme crowding, for example, then real fighting follows and the signals give way to the brutal mechanics of physical attack. Then, the teeth are used to bite, slash and stab, the head and horns to butt and spear, the body to ram, bump and push, the legs to claw, kick and swipe, the hands to grasp and squeeze, and sometimes the tail to thrash and whip. Even so, it is extremely rare for one contestant to kill the other. Species that have evolved special killing techniques for dealing with their prey seldom employ these when fighting their own kind. (Serious errors have sometimes been made in this connection, with false assumptions about the presumed relationship between prey-attacking behaviour and rival-attacking activities. The two are quite distinct in both motivation and performance.) As soon as the enemy has been sufficiently subdued, it ceases to be a threat and is ignored. There is no point in wasting 136