

formalised into rhythmic twistings and shakings. A whole new repertoire of aggressive signals has been developed and perfected.

As a result of this we can witness, in many animal species, elaborate threat rituals and combat 'dances'. The contestants circle one another in a characteristically stilted fashion, their bodies tense and stiff. They may bow, nod, shake, shiver, swing rhythmically from side to side, or make repeated short, stylised runs. They paw the ground, arch their backs, or lower their heads. All these intention movements act as vital communication signals and combine effectively with the autonomic signals to provide a precise picture of the intensity of the aggression that has been aroused, and an exact indication of the balance between the urge to attack and the urge to flee.

But there is yet more to come. There is another important source of special signals, arising from a category of behaviour that has been named displacement activity. One of the side-effects of an intense inner conflict is that an animal sometimes exhibits strange and seemingly irrelevant pieces of behaviour. It is as if the tensed-up creature, unable to perform either of the things it is desperate to do, finds an outlet for its pent-up energy in some other, totally unrelated activity. Its urge to flee blocks its urge to attack and vice-versa, so it vents its feelings in some other way. Threatening rivals can be seen suddenly to perform curiously stilted and incomplete feeding movements, and then return instantly to their full threat postures. Or they may scratch or clean themselves in some way, interspersing these movements with the typical threat manoeuvring. Some species perform displacement nestbuilding actions, picking up pieces of nest material that happen to lie near by and dropping them on to imaginary nests. Others indulge in 'instant sleep', momentarily tucking their heads into a snoozing position, yawning or stretching.

There has been a great deal of controversy about these displacement activities. It has been argued that there is no objective justification for referring to them as irrelevancies. If an animal feeds, it is hungry, and if it scratches it must itch. It is stressed that it is