under the extreme conditions of aggressive threat, everything gets momentarily out of phase. (This explains why, in extreme cases of shock, fainting or swooning can be observed. In such instances the blood that has been rushed to the brain is withdrawn again so violently that it leads to sudden unconsciousness.)

As far as the threat signalling-system is concerned, this physiological turbulence is a gift. It provides an even richer source of signals. During the course of evolution these mood-signs have been built on and elaborated in a number of ways. Defecation and urination have become important territorial scent-marking devices for many species of mammals. The most commonly seen example of this is the way domestic dogs cock their legs against marker-posts in their territories, and the way this activity is increased during threatening encounters between rival dogs. (The streets of our cities are excessively stimulating for this activity because they constitute overlapping territories for so many rivals, and each dog is forced to super-scent these areas in an attempt to compete.) Some species have evolved superdunging techniques. The hippopotamus has acquired a specially flattened tail that is waggled rapidly back and forth during the act of defecating. The effect is that of shooting dung through a fan, with the result that the faeces are spread out over a wide area. Many species have developed special anal glands that add strong personal scents to the dung.

The circulatory disturbances producing extreme pallor or intense red flushes have become improved as signals by the development of bare patches of skin on the faces of many species and the rumps of others. The gaping and hissing of the respiratory disturbances have been elaborated into grunts and roars and the many other aggressive vocalisations. It has been suggested that this accounts for the origin of the whole communication system of vocal signals. Another basic trend developing out of respiratory turbulence is the evolution of inflation displays. Many species puff themselves up in threat and may inflate specialised airsacs and pouches. (This is particularly common amongst birds, which already possess a number of airsacs as a basic part of their respiratory systems.)