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so many seaweeds, sponges, and corals will move in response to water movement cause significant changes in morphology. A good example of this plasticity is the Indo-Pacific stony coral *Acropora digitifera* (Korbari and Jackson 1979) shown in Fig. 1.1. In low shear stress environments, the colonies have a thin, branching growth form. The growth form changes dramatically to a more compact shape when the colonies are exposed to high shear stress. Without knowledge of this relationship between growth form, shear stress, and the growth process, the enormous variety in growth forms of different species does not make any sense. Early taxonomists were often confused by this diversity; very often different growth forms of the same species were classified as different species. Olfersius (1888) wrote about this quite well: "Daher wir hier ein Clytus von Normann"<sup>21</sup>

since he was not able to decide to which of the described species his specimens could be attributed.

People have been studying the growth and form of marine sessile organisms for many decades. For example, the classic work by D'Arcy Thompson (1917) describes the packing of the cups containing the polyps, the capillites on the surface of a coral colony. In the work of Jackson (1979) six basic shapes

<sup>21</sup> We have taken it from here.