Snake Skin

BECAUSE they move without limbs, snakes need robust skin that can withstand constant friction. Some species climb up rough tree trunks, while others burrow into abrasive sand. What makes the skin of a snake so durable?

Consider: The skin of snakes can differ in thickness and structure from one species to another. However, the skin of all snakes has one thing in common: It is firm on the outside and becomes progressively softer toward the inside. Why is this advantageous? “Material that has a transition from a stiff outside to a flexible inside can distribute an impacting force over a larger area,” says researcher Marie-Christin Klein. The unique structure of snake skin allows sufficient traction between body and ground for the snake to be able to move, and at the same time, it evenly distributes pressure from sharp-edged stones so that there is less damage to the skin. Durability is vital, since snakes usually shed their skin only every two to three months.

Materials with the properties of snake skin may be useful in the field of medicine—for example, in manufacturing slip-resistant and extra-durable artificial implants. Also, drive and conveyor machinery that mimics the construction of snake skin may require fewer pollutive lubricants.

What do you think? Did snake skin come about by evolution? Or was it designed? ■