**The Shape of Seashells**

**SEASHELLS enable mollusks to live in harsh conditions, resisting tremendous pressures on the seabed. This ability to provide optimum protection inspired engineers to study the shape and structure of seashells with a view to designing vehicles and buildings that will protect their occupants.**

**Consider: Engineers analyzed two seashell forms -- bivalve (clamshell-style) and spiral (screw-shaped).**

**In the case of the bivalve, it was found that the ribbing on the exterior of a shell directed stresses toward its hinge and outer edges. In contrast, the curving exterior of a spiral shell directed pressure toward its core and wide top. In both cases, the seashells' shapes channeled pressure to their strongest areas, meaning that in the event of damage, harm to the mollusk would be less likely.**

**Researchers also ran comparative stress tests on real shells and on simple hemispheres and cones (produced on a 3-D printer) that mimicked shells' shapes and composition. The results showed that natural seashells' complex surfaces nearly doubled their ability to withstand pressure when compared to the simple shapes.**

**Commenting on the applications of this research, Scientific American says: "If you wind up driving a shell-shaped car someday, it'll be both stylish and designed to protect the soft bodies inside."**

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