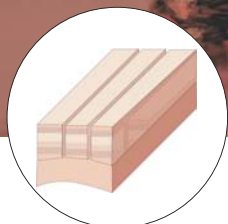
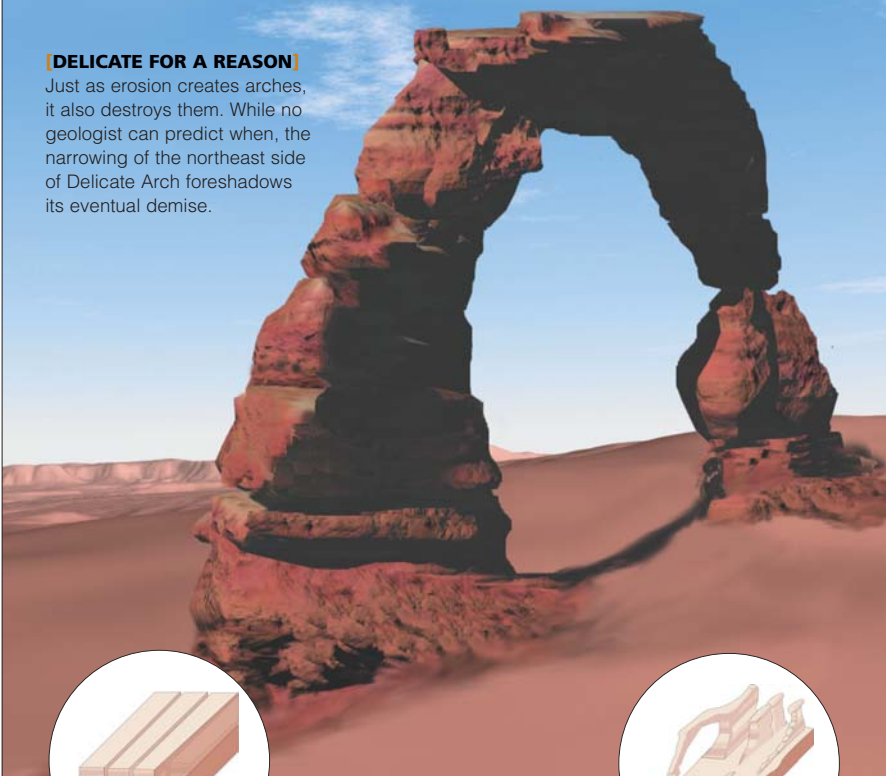


PHENOMENON [Delicate Arch]

You might think only an artist could turn stone into sculpture, but Utah's Arches National Park is elegant proof of erosion's creative powers. Case in point: Delicate Arch, the signature span among the 2,000-plus arches that give this park the greatest density of these sandstone formations anywhere on the planet. Geologists say it took 70,000 years for this icon to form.

[DELICATE FOR A REASON]

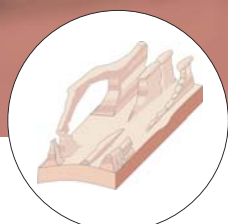
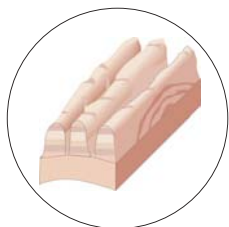
Just as erosion creates arches, it also destroys them. While no geologist can predict when, the narrowing of the northeast side of Delicate Arch foreshadows its eventual demise.

**[FLOWING SALT]**

More than 300 million years ago, the area encompassing Arches National Park was a sea. When it evaporated, it left behind salt beds up to 5,000 feet thick. Floods and storms buried the salt under layers of sediment that solidified into rock. The weight of the rock squeezed the salt up through crevices like toothpaste, creating bulges in the sandstone. When the bulges burst, they shattered the rock into parallel vertical cracks, called joints.

[MOVING WATER]

Rainwater seeped into the joints, dissolving the calcium carbonate (the active ingredient in Tums) that cements sandstone grains together. This process enlarged the joints into narrow canyons and created thin ridges of rock between them, called fins.

**[FLUCTUATING TEMPERATURES]**

The fins expanded and contracted with seasonal and daily temperature changes. This caused small pieces of rock to weather slowly, further widening the joints. It also led to exfoliation, or the peeling of concentric slabs of rock, much like an onion's skin. Exfoliation on both sides of a fin can cause it to collapse—or it can create a hole, the arch's window.

[SUPPORTING ELEMENT]

Wind plays only a minor role in the formation of arches. Though gusts clear away sand grains and rock fragments loosened by water, most arches are too high to have been sculpted by windblown sand.

[BY THE NUMBERS]

To be considered an arch, the window must be 3 feet wide at its base regardless of its height. The largest span in the park, Landscape Arch, is 306 feet wide and 105 feet high.

Anne Sasso