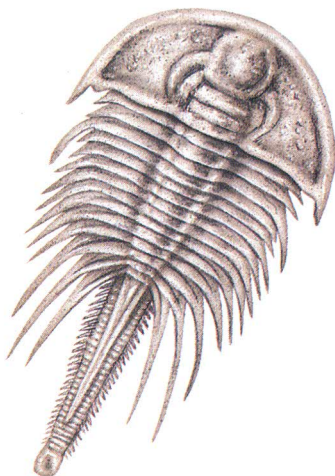


**Figure 9**

Trilobites had many different types of eyes. **A** Some had eyes that contained hundreds of small circular lenses, somewhat like an insect. **B** This blind trilobite had no eyes.

**Figure 10**

*Olenellus* is one of the most primitive trilobite species.



**Trilobite Eyes** Trilobites, shown in **Figure 9A**, might have been the first organisms that could view the world with complex eyes. Trilobite eyes show the result of natural selection. The position of the eyes on an organism gives clues about where it must have lived. Eyes that are located toward the front of the head indicate an organism that was adapted for active swimming. If the eyes are located toward the back of the head, the organism could have been a bottom dweller. In most species of trilobites, the eyes were located midway on the head—a compromise for an organism that was adapted for crawling on the seafloor and swimming in the water.

Over time, the eyes in trilobites changed. In many trilobite species, the eyes became progressively smaller until they completely disappeared. Blind trilobites, such as the one shown in **Figure 9B**, might have burrowed into sediments on the seafloor or lived deeper than light could penetrate. In other species, however, the eyes became more complex. One kind of trilobite, *Aeglina*, developed large compound eyes that had numerous individual lenses. Some trilobites developed stalks that held the eyes upward. Where would this be useful?

**Trilobite Bodies** The trilobite body and tail also underwent significant changes in form through time, as you can see in **Figure 8**. A special case is *Olenellus*, shown in **Figure 10**. This trilobite, which lived during the Early Cambrian Period, had an extremely segmented body—perhaps more so than any other known species of trilobite. It is thought that *Olenellus*, and other species that have so many body segments, are primitive trilobites.

**Fossils Show Changes** Trilobite exoskeletons changed as trilobites adapted to changing environments. Species that could not adapt became extinct. What processes on Earth caused environments to change so drastically that species adapted or became extinct?