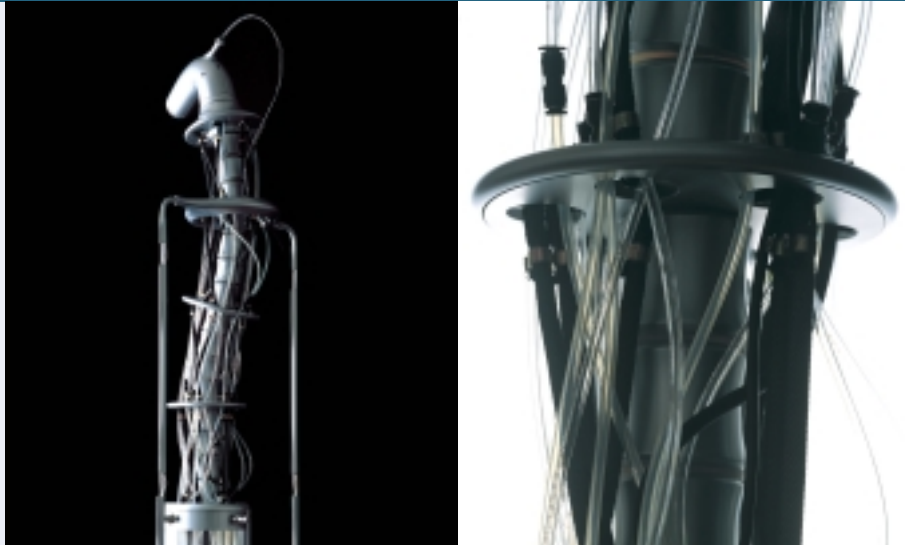


## Cyclops—An Observing Giant

for considering intelligent life-likeness

Photo by Yukio Shimizu



*Cyclops* is a human-shaped, interactive machine equipped with a flexible spine and a single eye.

The spine of *Cyclops* has a degree of flexibility similar to that of the human spine; it is made up of multiple spherical joints controlled by around 50 air muscles. These are artificial muscles that move using air pressure. *Cyclops*' single eye, a CCD camera, is connected to a computer that analyses the images that the eye "sees." The computer then distinguishes specific human-sized moving objects and, controlled by 32 electromagnetic air valves, *Cyclops*' whole body moves and changes its posture to track what it sees.

For humans, eye movements can be interpreted as an expression of emotion. The eyes help other people to understand one's thoughts and, even with limited eye movement, people can perceive complex feelings. Hence, the psychological effect of *Cyclops*' eye movements on the audience illustrates an important area of development for the design of future intelligent machines.

*Cyclops*' backbone has been constructed like that of a human being to allow it to bend and twist its body gently. *Cyclops* was conceived by focusing on the basics of the smooth motion of living beings and, therefore, has neither functional hands nor feet. *Cyclops* cannot follow quick moves. If you notice that *Cyclops* is looking at you, try to move slowly. *Cyclops* does not have the intelligent features to allow it to be called a 'robot.' However, reflect on the meaning of 'intelligent life-likeness' while experiencing the appearance and smooth movements of this human-shaped machine.