

where, for example, the four fingers forming a classic “frame” gesture make the device snap a photo, or holding up the left hand causes the projector to display a phone keypad on it, which the right hand can then dial. In a bookstore, the device could recognize a book the user selects and project information onto it, such as its Amazon.com rating or its price at competing stores in the area. A newspaper could trigger the device to search for relevant news video clips, and a person in the line of sight might prompt the display to show his contact details.²⁰

Many have likened its gestural interface to the one used by Tom Cruise’s character, John Anderton, in Steven Spielberg’s *Minority Report* (2002).²¹ The scientist who advised the *Minority Report* production, John Underkoffler of MIT’s Tangible Media Group, founded LA-based Oblong Industries to develop the G-Speak Spatial Operating Environment, which he describes as “an interface that has no interface,” adding, “You operate the world as you operate the real world, which is to say, with your hands.”²² G-Speak effectively unites the Space and No-Matter of Augmented Reality. As Keith Kelsen, founder and CEO of 5th Screen, explains, “What Oblong has been doing is essentially teaching the machine about space and its position in it, using what is essentially a new concept for an operating system. In this new world, the machine no longer thinks of the screen as a flat abstract collection of pixels but as a real object, in the real world, that exists at a particular location . . . and has a relationship to other things in the environment based on that location.”²³

The sense of smell is also a part of our environment, but olfactory augmentation may not yet make sense—DigiScents went belly up trying to develop the first Internet-enabled smell machine, the iSmell, and NTT did not make much of a (fragrant) splash when it demonstrated a similar prototype in Japan. At least Procter & Gamble made it into production for a few years before discontinuing its Febreze Scentstories machine, which “played” discs of scents that slowly changed over the course of an hour. But I (Joe) can still remember a decade later the odors of both good and bad wine emanating from their respective smell machines at Vinopolis in London—for no sense sparks memory more effectively than smell. As reality gets more and more enhanced with digital technology, olfactory augmentation will make increasing sense, although actually less so with Augmented Reality—where the real world remains right there in front of us—than with Virtuality, where over time it may become not only desirable but necessary to add aromatic elements to complete the experience (and thereby shift it over to Augmented Virtuality).