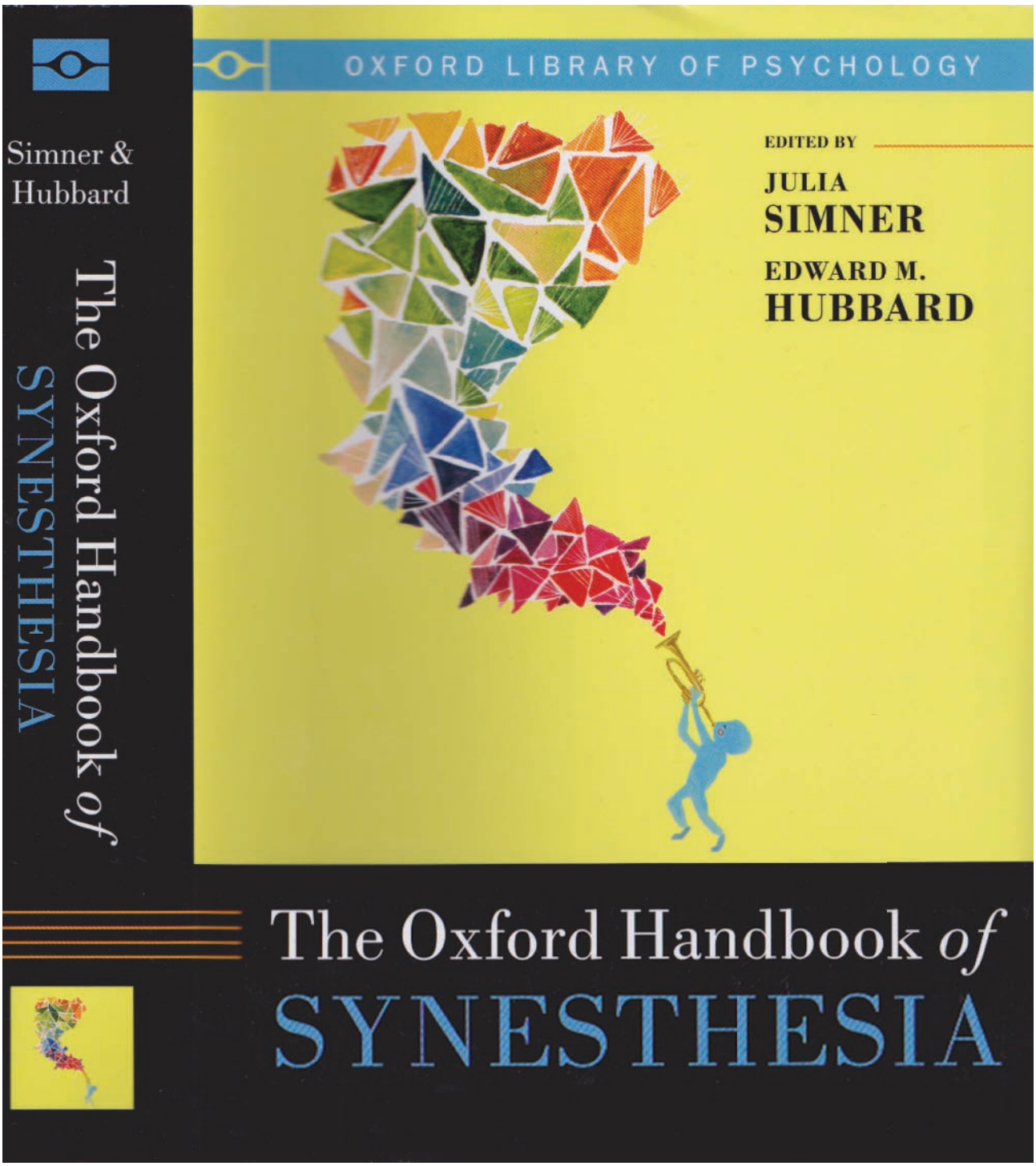

The Oxford Handbook of Synesthesia
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aimed to transmit "difficult" classical music to a large audience by combining the music with animation. Although it has non-figurative patterns within it, *Fantasia* is mostly a figurative piece, starring well-known characters like Mickey Mouse. Nowadays, music videos of popular music are still mainly figurative, starring the band members and actors. Contemporary animation films that explore synesthetic perceptions are mainly non-figurative in character.[5] The same might be argued of their sound. Classical tunes have been replaced by often gravelly and noisy sounds, leaving the beholder with something barely recognizable. The reason for this I will explain later. I point out here that the 2-yearly conferences of the Arte Citta in Spain are a showcase of synesthetic animation projects (cf. Cordoba et al. 2009).

An interesting collaboration of visual artist Samantha Moore and neuropsychologist Jamie Ward showed scientific evidence for the appreciation of synesthetic correspondences in audiovisual animations by the general public. In collaboration with synesthetes, they derived animated audiovisual clips of synesthetic experiences and added a number of control audiovisual clips in which the original synesthetic stimulus was distorted by altering the color or orientation. The synesthetic audiovisual animations were generally preferred over the control animations by the general audience (Ward et al. 2008).

Immersive Art, Interactive Art, and Installations

In addition to the perception of images and movements, the perception of space is a third essential element in establishing a meaningful correspondence between hearing and seeing. Already by the 1920s the Danish-American artist Thomas Wilfred was creating light spaces on stage in order to evoke musical experiences in the audience. No musical instruments or sounds were involved. The movement of colors projected in space by his self-constructed device, the Clavilux, were even in silence strong elicitors of musical sensations in the minds of the listeners (Brougher et al. 2005; Jewanski and Sidler 2006).

From the 1950s, new digital techniques and the introduction of computers accelerated the development of this art form. Light projectors were changed for computer generated images and sounds. The American James Whitney composed computer-generated patterns, and most known to a wider audience are his images for Stanley Kubrick's film *Space Odyssey* in 1968 (Brougher et al. 2005). Though Kubrick placed romantic music by Joseph Strauss under Whitney's abstract patterns, a more successful combination was with music by the contemporary Hungarian composer György Ligeti. The latter had a

[5] Cf. the collection of the Center for Visual Music: <http://www.centerforvisualmusic.org>.

good sense for abstract audiovisual correspondences, since he had strong synesthetic perceptions himself. In an interview he said about his perceptions of sounds:

> The involuntary translation of optical and tactical impressions in acoustical ones happens to me frequently. Colour, form, and substance almost always evoke sounds, just as in the opposite direction, every acoustic sensation evokes form, colour, and material qualities. Even abstract concepts like quantity, relationship, cohesion, and event appear to me in sensual form and have a location in an imaginary space. (Cited in Campen 2007, 22)

Nowadays, a number of artists work simultaneously in the field of electronic music and digital animation, supported by powerful computers. A contemporary device that is reminiscent of the synesthetic explorations of Wilfred's Clavilux, is the *Capsule* by the Italian artist Tez. Tez designed a capsule that surrounds the human head in 360 degrees (Figure 32.4). On the inside of the capsule, images are shown and music is heard in a surround mode. Tez explores the correspondences of sound and image and uses the essential element of space in human perception. The beholder is not just looking at images and listening to sounds, the beholder is "immersed in" audiovisual sense impressions, which makes the experience more vivid and intense.[6] Just as synesthetes report on their personal impressions of, for instance, colored hearing, experiences within the Capsule (almost) cannot be detached from the body of the beholder, and can feel like a very natural part of their daily way of perceiving and acting.

Another example of immersive art that explores synesthetic perceptions is a work by the German artist Kurt Henschläger, entitled *ZEE*. The visitor enters a large tent that is filled with mist as well as by stroboscopic colored light patterns and hard noise. The experience is so intense and disorienting that every visitor has to sign a health declaration before entering the tent. But inside the tent the visitor can almost experience how the brain makes perception from scratch. Being completely disoriented at the start, one begins to find patterns in the sea (*zee* in Dutch) of sensorial stimuli. For some people synesthetic patterns may arise, since in this state, sounds, vision, proprioception, movement, smells, and other sense impressions are difficult to distinguish.[7] Visiting *ZEE*, it reminded me of the idea of a "primordial sensory soup" newborns might live in (Campen 2007; Maurer and Maurer 1998) which might in turn be the origins of synesthetic perceptions (Maurer and Mondloch 2004; cf. Maurer, Gibson, and Spector, Chapter 3, this volume). And when I slowly started to find meaningful patterns and got a better hold of my environment, I was thinking of the hypothesis that this newborn sensory soup is pruned into meaningful sense perceptions during development (Maurer and Mondloch 2004). However I do not want to suggest that the installation is an ultimate test of theories of the development of synesthesia. My point is that the installation can show to a larger audience how uncommon intersensory experiences (i.e., synesthetic perceptions)

[6] A video of the *Capsule* can be seen online at: <http://vimeo.com/12597280>.

[7] A very limited impression of *ZEE*, which is not immersive at all, can be viewed online: <http://vimeo.com/4104503>.

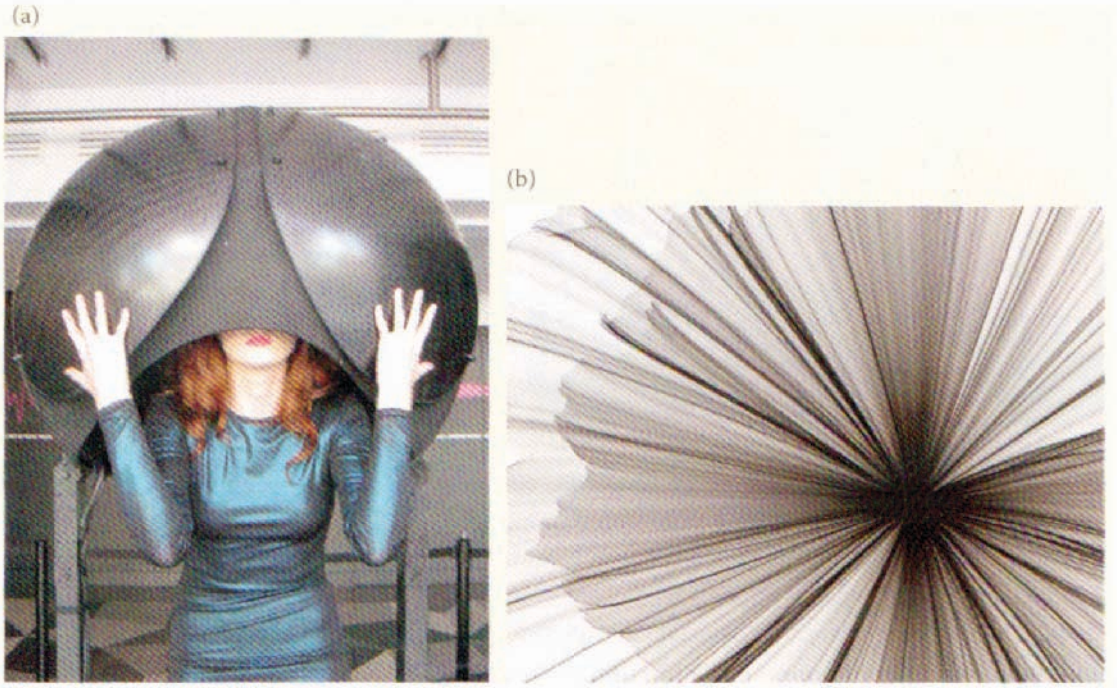

FIGURE 32.4 The *Capsule* by TeZ, exterior and image still from inside, 2008. © 2012, TeZ/ Maurizio Martinucci.

can develop. It can make the public aware that our daily way of sensorial living is not the only option.

Immersive art is a rather new art form, which nonetheless has already revealed interesting dynamics of perception that seem to be related to synesthetic perception. What is hardly studied in scientific experiments with synesthesia and might open new perspectives are bodily experiences in a sensorial environment. The artistic experiments above show, at least to the visitors, that the experience of being a body in a "sensorial sea" is elementary in the development of synesthetic perceptions. In scientific studies of synesthesia, the role of the subjective body has mainly been theoretical so far (cf. Merleau-Ponty 1945/2002; Sinha 2009). Though not scientifically tested and controlled, artists have, in my opinion, explored empirical tools to investigate this subject. For the public, these immersive installations may have made the idea of "developmental synesthesia" a sensible one.