



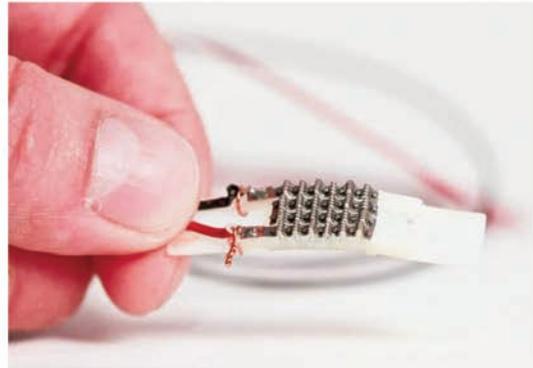
4. Memory-matter

a- *Lotus Dôme*. The installation by Daan Roosegaarde / studio Roosegaarde 2010-2011 is made of thousands of small sheets of shape memory metal that folds when you approach by creating an interactive relationship of light and shadow.

b- *Lotus Dôme*. Detail.

c- Artificial muscle for an android robot made using shape memory alloy. A muscle fibre 100 times stronger than the biological muscle obtained by researchers at MIT: Eduardo Torres-Jara, Kyle Gilpin, Jonathan Karges and Robert Wood.

d- *Hylzoic Series, Sibyl*. The site-specific installation by Philip Beesley, Sydney, 2012, refers to "hylozoism" an ancient belief that all matter has life. Here, the meshing of touch sensors creates waves of diffuse breathing movements designed to draw visitors into the depths of a forest of light. These creations are the hybrids of sculpture, engineering, chemistry, and experimental architecture able to "feel", "to be empathetic." © PBAI (Philip Beesley Architect Inc.).



The intense presence of absence

Hans Belting's *An anthropology of images*⁹² evokes this function of image as the double of the body, replacing it where it is absent, facing both the disappearance of the other and the next disappearance of the self. Studies of the first psychic images of childhood shows that this function is essential for each of us, since it allows us to form psychic image of the one who is physically absent, providing him or her to us as mentally present⁹³. The least of these separations, that of baby from mother, is better endured if an internal image representing her keeps a little of her inside us.

In fact, what makes the image unique is that it leads us to believe that it has unlimited powers; reaching for us a sort of absolute that it alone can approach : "the site of an exceptional marriage of the visible and the invisible."⁹⁴

Mental images inspired by emerging materials benefit from an intensification of this power of representation that adheres to all image, the presence of absence. Because of their strong presence in the world, these functional materials respond to their environment in an original and often very powerful manner. *Cognitive dissonance*⁹⁵ can result from this tension between our perception and our expectation of the material, and may be put in service of the image to intensify the feeling of presence.

The intensity of these images can cause remanence – the term remanence typically characterizing the persistent capacity of a phenomenon or sensation after the disappearance of what caused

⁹² BELTING Hans, *Pour une anthropologie des images*, Paris: Gallimard, 2004.

⁹³ TISSERON Serge, *Psychanalyse de l'image*, op. cit., p. 217.

⁹⁴ *Ibid.*, p. 41

⁹⁵ BORILLO Mario, *Dans l'atelier de l'art. Expériences cognitives*. Seyssel: Champ Vallon, 2010, p.59

them. This persistence, characteristic of certain physical quantities, can be applied here to our mental images. The stronger the emotional intensity – and emerging materials contribute to this – the more effective this remanence will be, enabling us to preserve this presence of absence.

The defamiliarization of the image that may be obtained with emerging materials because of their singular features participates in the *mana* of the image, to differentiate between its omnipotence and the common familiar objects around it. Contradicting those texts which foresee a life further from the material, which follows the formal logic of technology, which would displace the sensual in favour of the intelligible, the high-tech of emerging materials bypasses the pitfalls of this distorted experience. Unlike a photographic image or a digital image, reproducible countless times, the unique material image of which we speak, draws from the perceptual intensity of what makes its presence to the world its capacity *to be*, intensely. Its strength of transference between presence and absence. Its willingness to remember, for retention. The loss of the *aura* that Walter Benjamin⁹⁶ spoke of no longer applies: no mass reproduction, no work disembodied due to its reproducibility and its declension in infinite sub-models. The image is inimitable, the carrier of a singular vibration. It speaks several languages: that of the visible, the touch, and finally, the body.

And yet this capacity for a strong presence must not be at the expense of a sense of meaning or of the symbolic. Paul Ardenne, again, speaks about the meaning of the image in art that cedes to “the effect, the spectacle, and the attraction⁹⁷”, the allure of a line of

⁹⁶ BENJAMIN Walter, *l'Œuvre d'art à l'époque de sa reproductibilité technique*, (1939) Paris : coll. Petite Bibliothèque Payot, 2013

⁹⁷ ARDENNE Paul, “L'image d'art contemporaine: impossible définition et stratégies de recomposition”. *L'art même*, n°27, p. 4. Available online: <http://www2.cfwb.be/lartmeme/no027/pages/page4.htm>.

cosmetics that would be triumphant today. At this point, it is certainly necessary to be vigilant. Art, according Ardenne, is of course a simulacrum, which does not a priori limit its potential depth and authenticity. Provided that this simulacrum does not act to the detriment of the meaning of the work, only to be constituted as display of fireworks. Leading to the very essence of a fireworks show in works like *Fireflies*, *Waterlilies* and *Snowballs* by Bruce Munro: works that certainly delight the senses, both for the artist-artificer and the viewer. Able to trigger pleasure but nothing more. Losing the power to intervene on thought, on the ability to carry conviction, “without anything in terms of meaning firmly rooted or coming together.⁹⁸” Excellence has given way to availability, adaptation of supply to demand, the eager response to social desire. The temptation is obviously *to have an effect*, to play with surprise and engage the machine *even more*, which is what emerging materials know to do so well: to be higher, stronger, bigger, more difficult, more surprising. And of course, more beautiful.

The challenge is this: to avoid the lone fast-track of the superhighway and prefer a path through the fields, trampling the material underfoot, taking its measure, stringing it to encounters with another. The latter can also do many other things that make it beautiful: it must (it can) be a little bit deeper, a little bit heavier as well. Having consistency, a sedimentary heft. Or, conversely, a light vapour, closer to ether. Blurred (why not), cloudy, ambiguous. Intrigue, in the way of presenting a plot, a story, of posing questions without answers. Troubling our precepts and thus, the real. Giving way to indecision about what we see, initiating a movement of thought but leaving it to the public to discover its wake. To give them the responsibility to

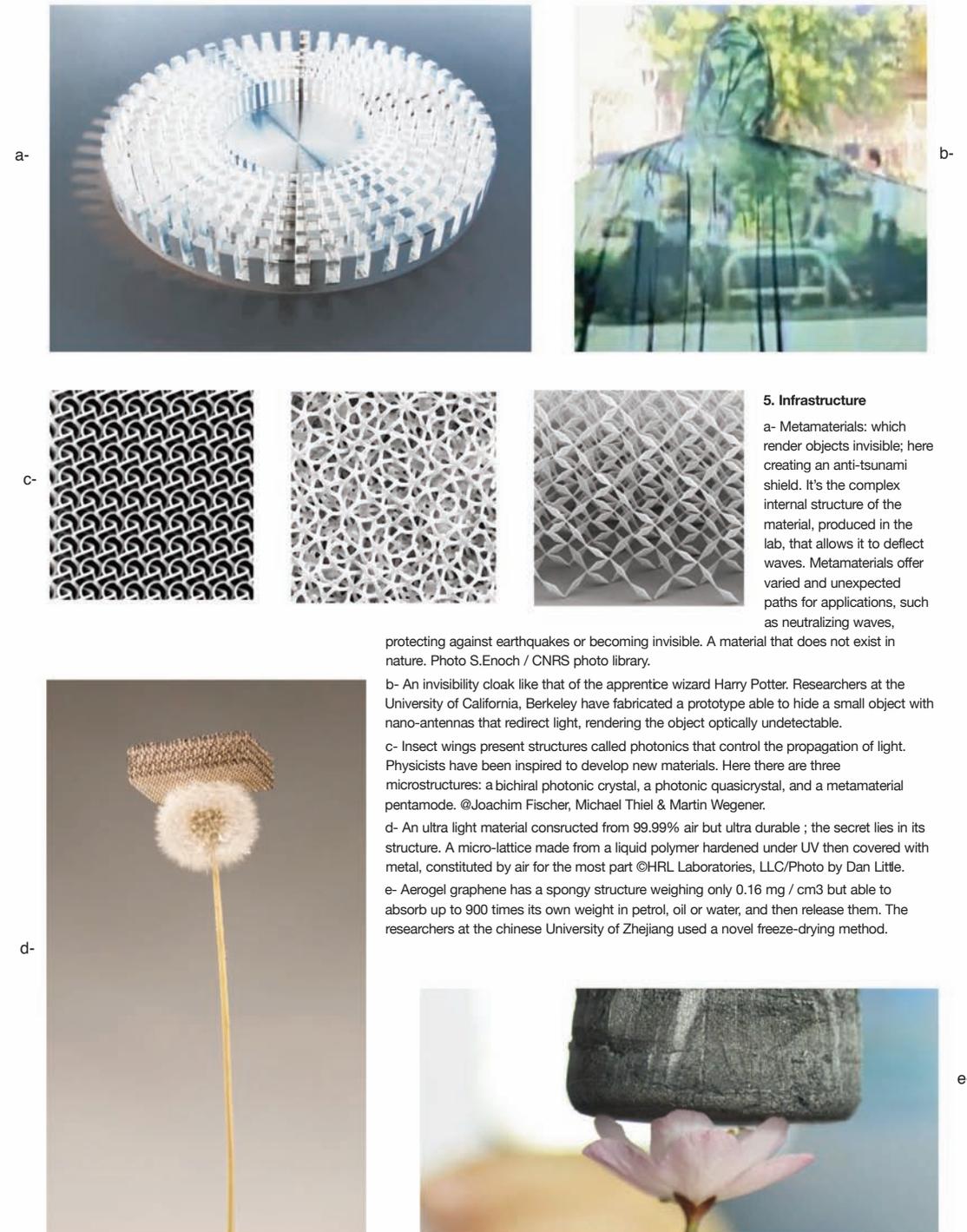
⁹⁸ *Ibid.*

construct a sense, of wanting to see things in perspective. The fog, for example, is ghostly, goes away and comes back, is *inframince*, as Duchamp would have said.

Works of art also give us beautiful demonstrations of the aura that can be born by images generated by emerging materials. Another natural material, unique in its structure, is the gold in Stefane Perraud's *The Rule of Three + 1*. In this work, the artist restores the arms of a wood and ivory crucifix with a moulded polymer, which he then re-covers in gold. The structural state of the gold differs for each sculpture: nanoparticles of pink gold, of blue gold⁹⁹, and of gold leaf. Three colours for one element, gold (Au), symbol of immutability. Here, the artist works directly on the most powerful religious icon like a medieval alchemist magically transforming lead into gold. A strong entry in the histories of both religion and magic. Allowing us to say, as for certain other works, that the emerging material effectuates an encounter with a state of being, with wonder, with the magic moment, both here and now, above and beyond, far from other realities – all while inscribed in a period, as testimony.

This does not mean of course that all works made of emerging materials participate in this lineage. But we can share the secrets of composition of those, as André Breton said of surrealist art, that “re-engender somehow the magic that created it.” Such as life, in the magic of *Algae-graphies* and *Temps-de-pose* by Lia Giraud, or, again, Eduardo Kac's *Specimen of Secrecy About Marvellous Discoveries*, and the secret action of creative microorganisms. The work *Or* by Marie-Julie Bourgeois, which stages a levitating coin,

⁹⁹ These two states of gold, pink and blue, come from synthesis techniques that create various sizes of agglomerations of nanoparticles, leading to different colours. It acts here as a physical colours due to the diffraction of light, like that of butterfly wings.



oscillating between two states (rather than falling heads or tails) fits well in our story. The coin is kept suspended in the air due to forces exerted by a superconductor located beneath. The installation is certainly technical and very difficult to achieve but the technology is effaced to make way for the magic of levitation, for the suspension of time (or at least gravitational forces). The work makes an instrument of observation: attention is directed towards the forces that seem to have pulled free from the singular object. And thus “emerges the distinction between figure and ground in the universe.¹⁰⁰” A powerful imbrication of space and time, “separated from other realities by an irreducible distance¹⁰¹”, a work that certainly has the aura of a unique art object. Paul Thomas’s *Nanoessence* is an audio-visual system that permits interacting with the image of a human skin cell, magnified to the scale of the atom by an atomic force microscope (AFM), and which can be seen dead or alive. Thomas sets the limits of a single skin cell’s life and death to interrogate the concept of life at this scale. A technical resolution to the question of the transitional passage to the after-life, after-death, usually taken up by religion.

Becoming poetry

For Umberto Eco, the aesthetic pleasure aroused by a work of art lies less in recognition of a stable form than in following the process of its opening.

The peculiarity of emerging materials is... precisely in being *particular*. This material uniqueness, which can be surprising or confusing, escapes ready-made representation. Our thinking can play

¹⁰⁰ MICHAUD Yves, “Gilbert Simondon (2)”, Philosophie Magazine, janvier 2013, Available at : <http://www.philomag.com/blogs/philosophe/gilbert-simondon-2>.

¹⁰¹ BONTEMS Vincent, “Quelques éléments pour une épistémologie des relations d’échelle chez Gilbert Simondon”, in Appareil [on line]. Septembre 2008 vol.2. Available at: <http://revues.mshparisnord.org/appareil>.

in this in-between of the reference to the known and the unexpected or unknown. Human thought characteristically builds gradually by referring to the *already known* and categorization by analogy¹⁰². It is a mode of understanding our reality that we see at work in the words of children, as with the little girl, Clementine, who asks her parents in her bedroom to turn down the music in the living room, saying “Softer: it overruns !” Her representation of sound is closer to an *invisible cloud* or a material capable of invading more or less space. The absence of a representative model of the physics of sound led her to more familiar images better known.

Many emerging materials activate physical processes which are surprising because they are different from those we encounter in our daily lives and for which we have no readymade analogy. This is the case with Ferrofluids, shape memory alloys, intelligent fabrics, bioluminescent organisms, etc. Or, on a different level, the magical appearances of images in fog on glass, the movements of small systems of non-motorized wood, the image created by tiny algae : in short, systems we know well but which have adopted modes of operation that seem unnatural to us and whose behaviour we can no longer predict. The multiplicity of mental interpretations that each build will be enormous. The images summoned by our need to understand the functioning of what surrounds us will be very different for every viewer and depend also on the form of the work given by the artist. Working on the imaginary, the artist takes advantage of the greater manoeuvrability of the materials’ power of evocation. The displacement of small balls of quills on a smooth surface of a Ferrofluid is very quickly assimilated by analogy to that of extraordinary little animals (as yet unrecognised). This

¹⁰² HOFSTADTER Douglas, SANDER Emmanuel, *op. cit.*, p.26-40