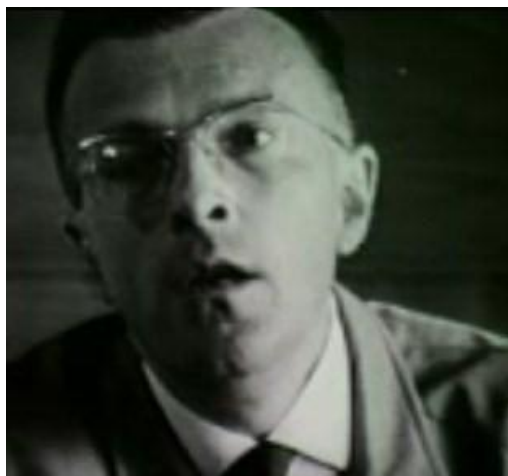


# How to accommodate to the invisible?

Simondon, Nanotechnologies & Impressionism



Vincent Bontems  
LARSIM-CEA



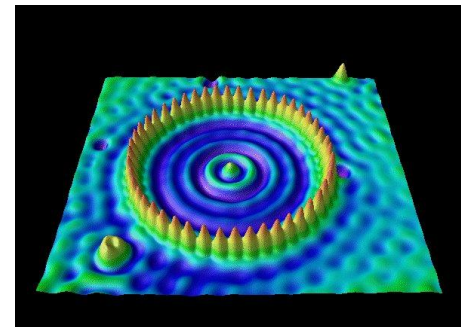
# Impressionism as an art of accommodation



C. Monet, Le Parasol. 1875

*Outlines volatilize, edges begin undulating in a halo of pale lights. Everything metamorphoses in a dazzle. There remains of the visible world only this impalpable haze, this round and this whirlwind of atoms which weave in space the mist of the illusion.*

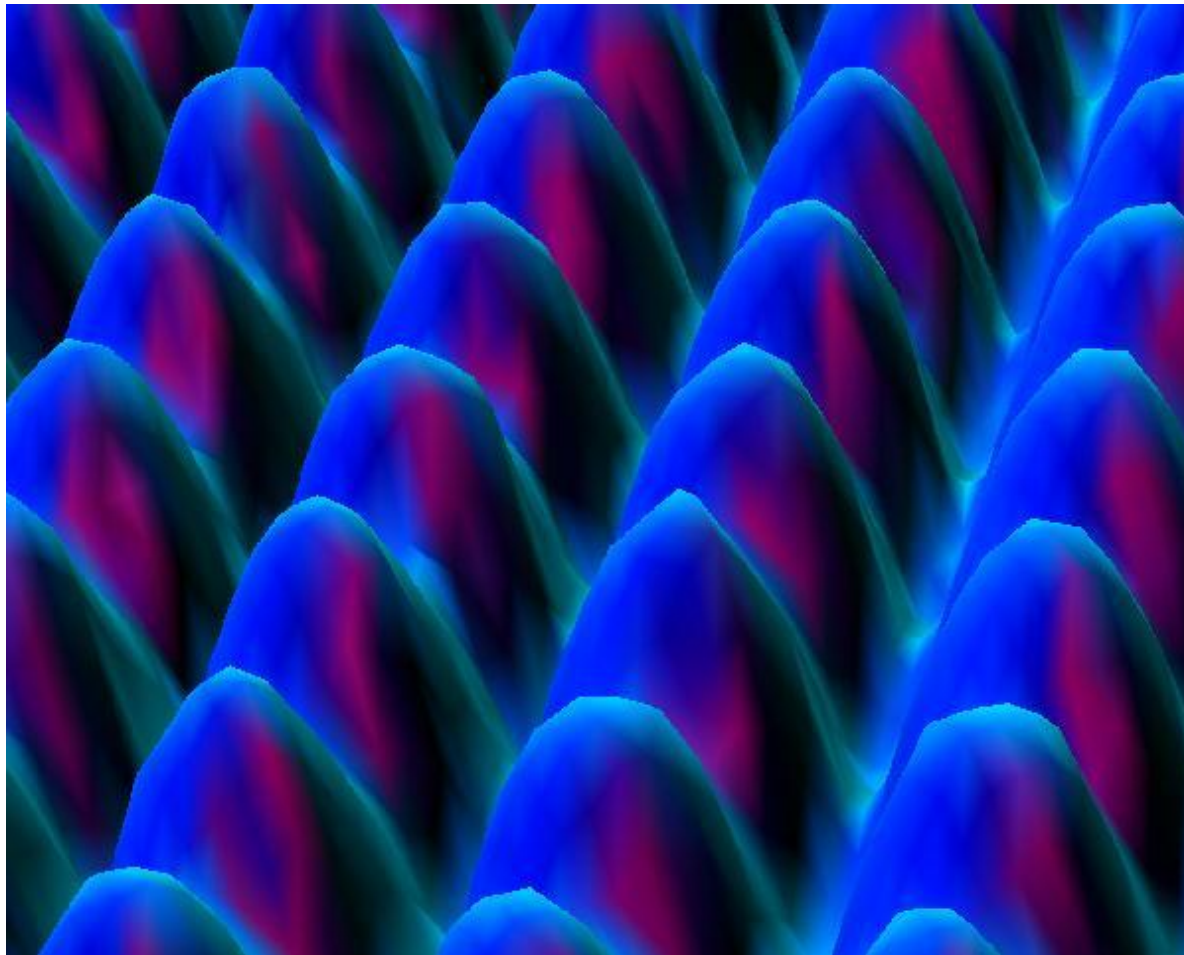
Louis Gillet, *Trois variations sur Claude Monet*, 1909.



Don Eigler, Quantum Corral

# To see the atoms?

It would be to see the « invisible »... a « vue de l'esprit »!





# Scanning probe microscopes

(STM & AFM)

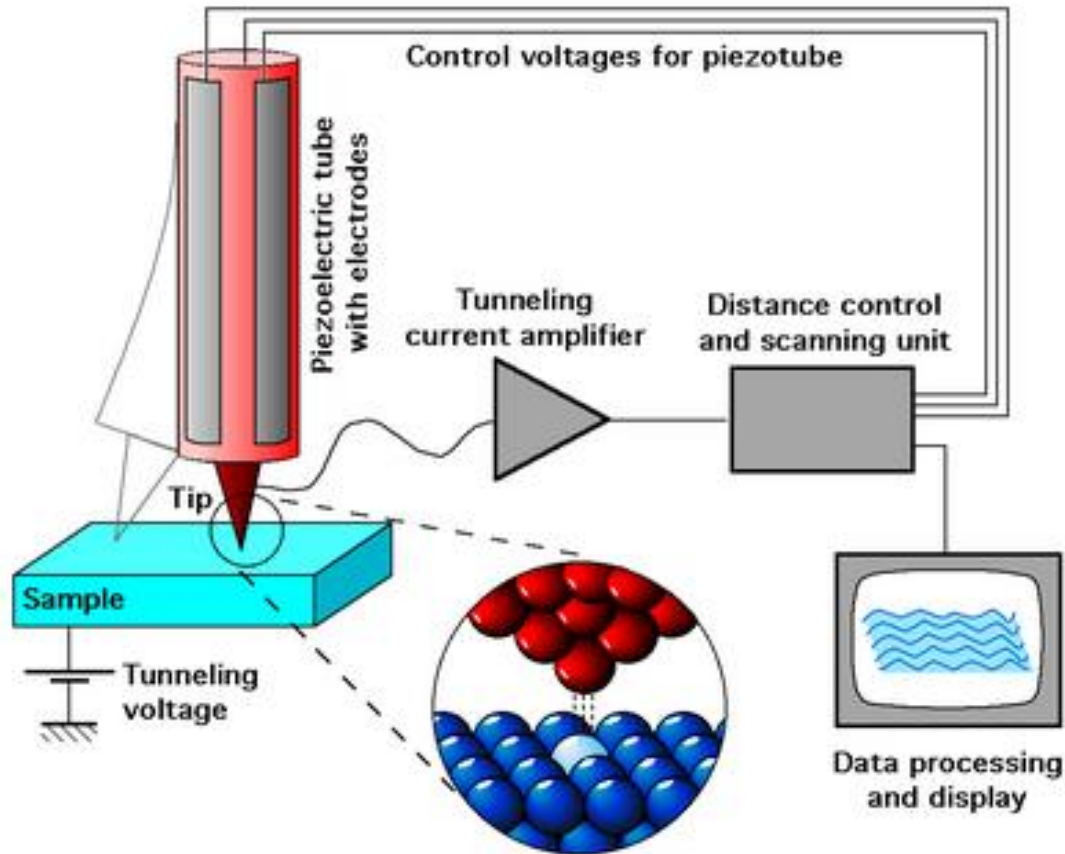


« The instrument allows the observation to change of order of magnitude. This is probably this role of mediation between scales which explains why the crucial role of the instrument is so misunderstood: perception, knowledge and action are well defined at different orders of magnitude, while instruments, as mediators or adapters, disappear from the field of knowledge and action, so that this kind of objects or extensions of the operator are rarely studied for themselves »

G. Simondon, *L'Homme et l'Objet*, 1975 (unpublished).

# How do we accommodate to the nanoscale?

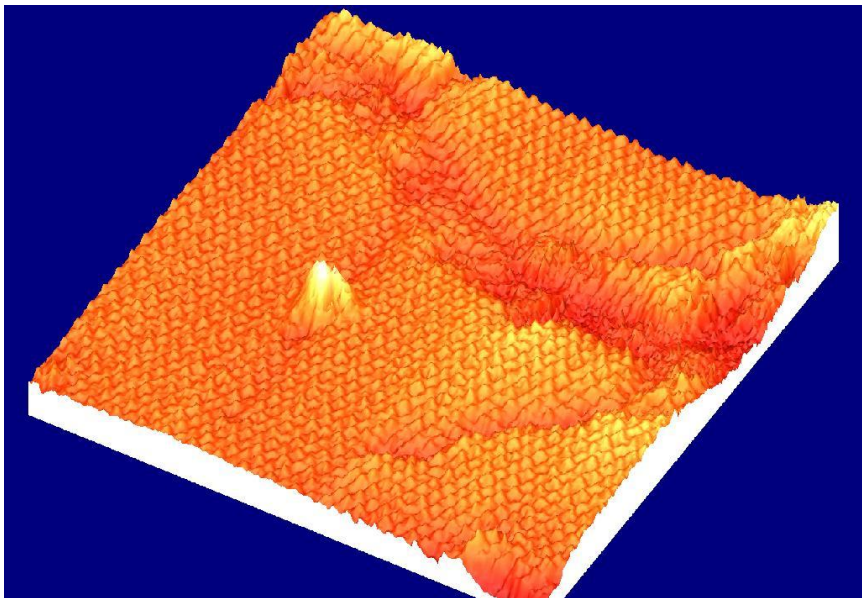
A phenomno-technical analysis



« The machine extends and adapts to each other subject and object through a complex chain of causalities. It is a tool since it allows the subject to act on the object, and it is an instrument since it brings the signals from the object to the subject ; it vehicles, amplifies, transforms, translates and conducts action in one way and information in the other »

G. Simondon, ILFI, p. 523.

# Artifacts & Interpretations



Projet européen « Nanomol »  
L. Patrone & J-P. Bourgoïn

C. Monet, Gare Saint-Lazare. 1876

*The look is exasperated, the vision is irritated. Tones, decomposed by vortex of atoms, lose all consistency; everything is panting and crackling in a blazer of sparks. A frenzy of analysis dissolves not only the aspects of reality, but the pictorial matter and the elements of language: an exhausted nature comes to the state of a cut-away diagram.*

Louis Gillet, *Trois variations sur Claude Monet*, 1909.

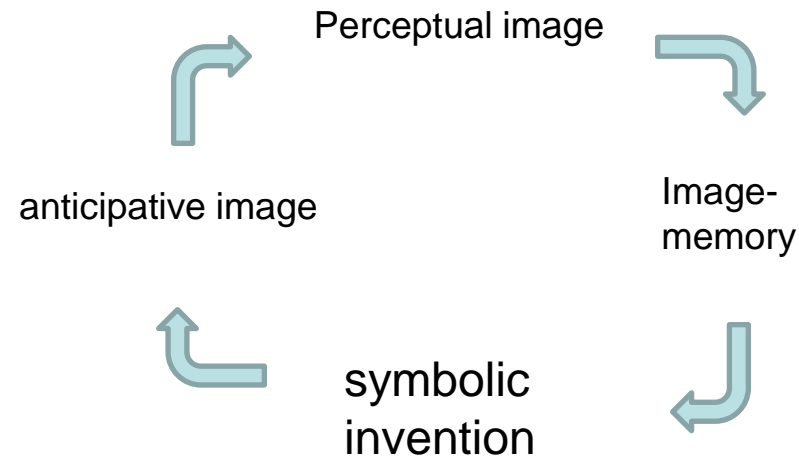




# The life cycle of images

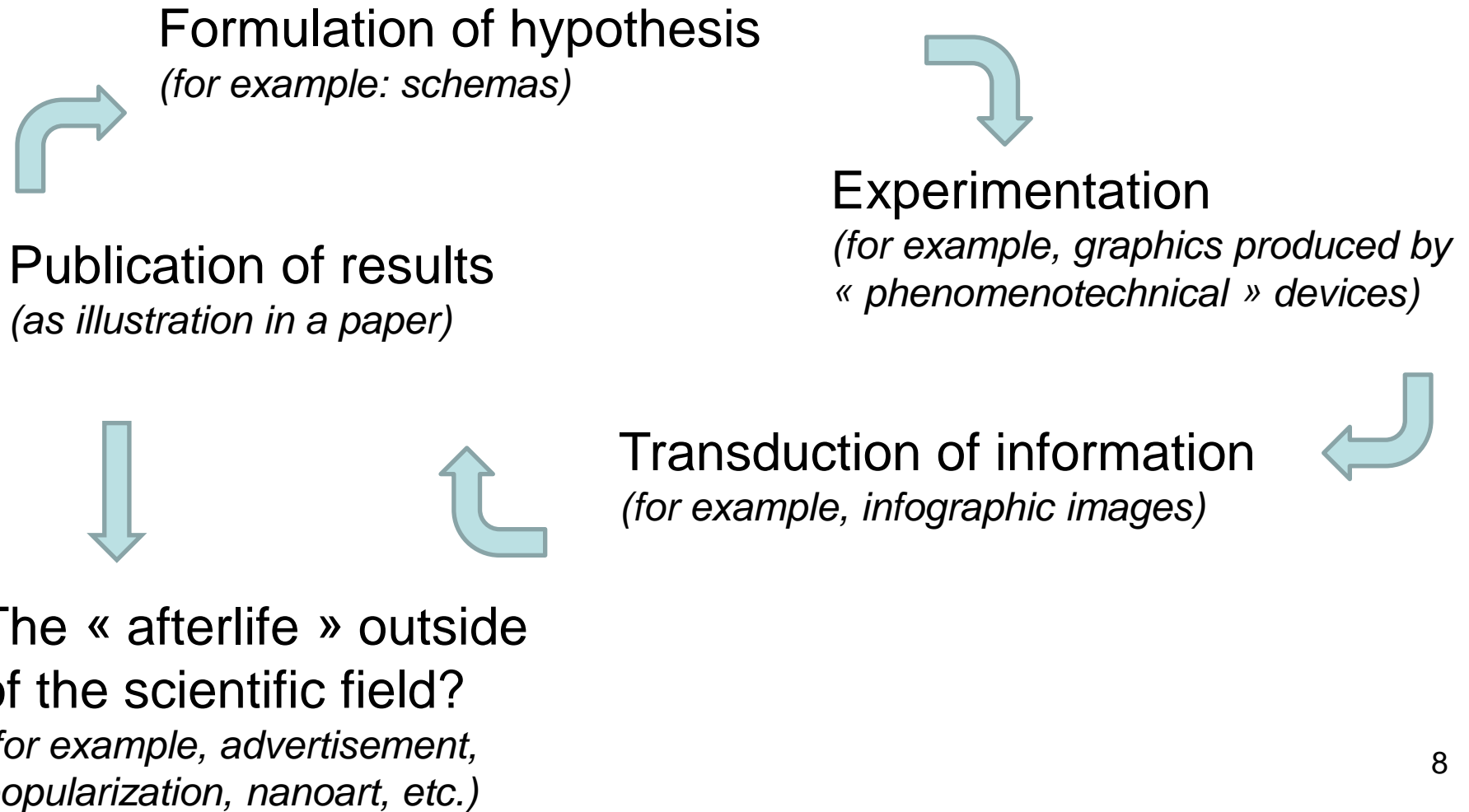
Gilbert Simondon, *Imagination et Invention (1965-1966)*, La transparence, 2005.

"The mental image is like a relatively independent subset within the living subject; at its birth, the image is a bundle of motor tendencies, a long-term anticipation of the experience of the object; during the interaction between the organism and the environment, it becomes the host system of the incident signals and allows the visual-motor activity to practice on a progressive basis. Finally, when the subject is again separated from the object, the image, enriched by the information, becomes a symbol. From the universe of symbols, which is internally organized, when it comes to saturate, may arise the invention which is the involvement of a dimensional system more powerful and able to incorporate more complete images in the way of synergistic complementarities. After the invention, the fourth phase of the becoming of images, the cycle begins again with a new anticipation of the meeting with the object, which may be its production"



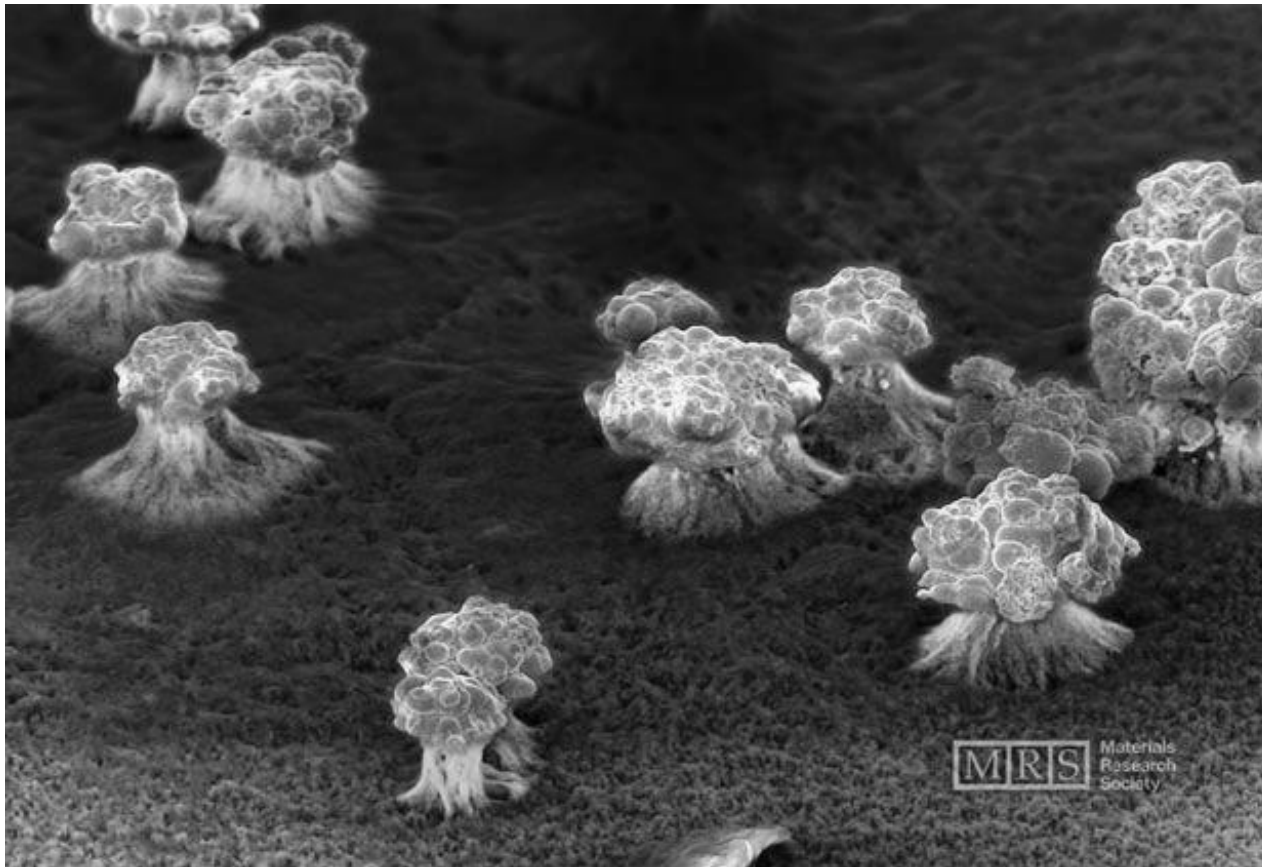


# The « *in vitro* » life cycle of the images inside the scientific field





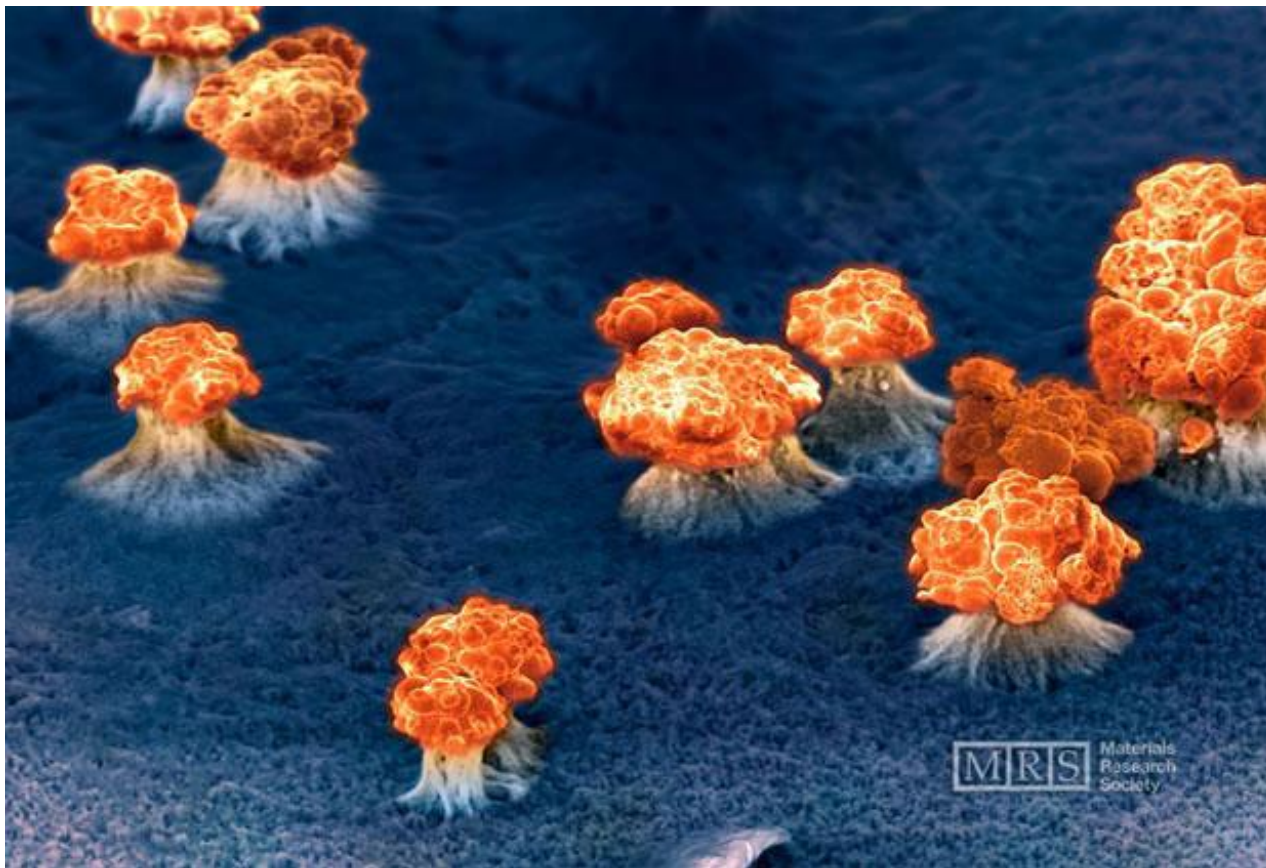
# Electron scanning micrograph to record the overloading of a CoFeB magnetic array



F. Beron

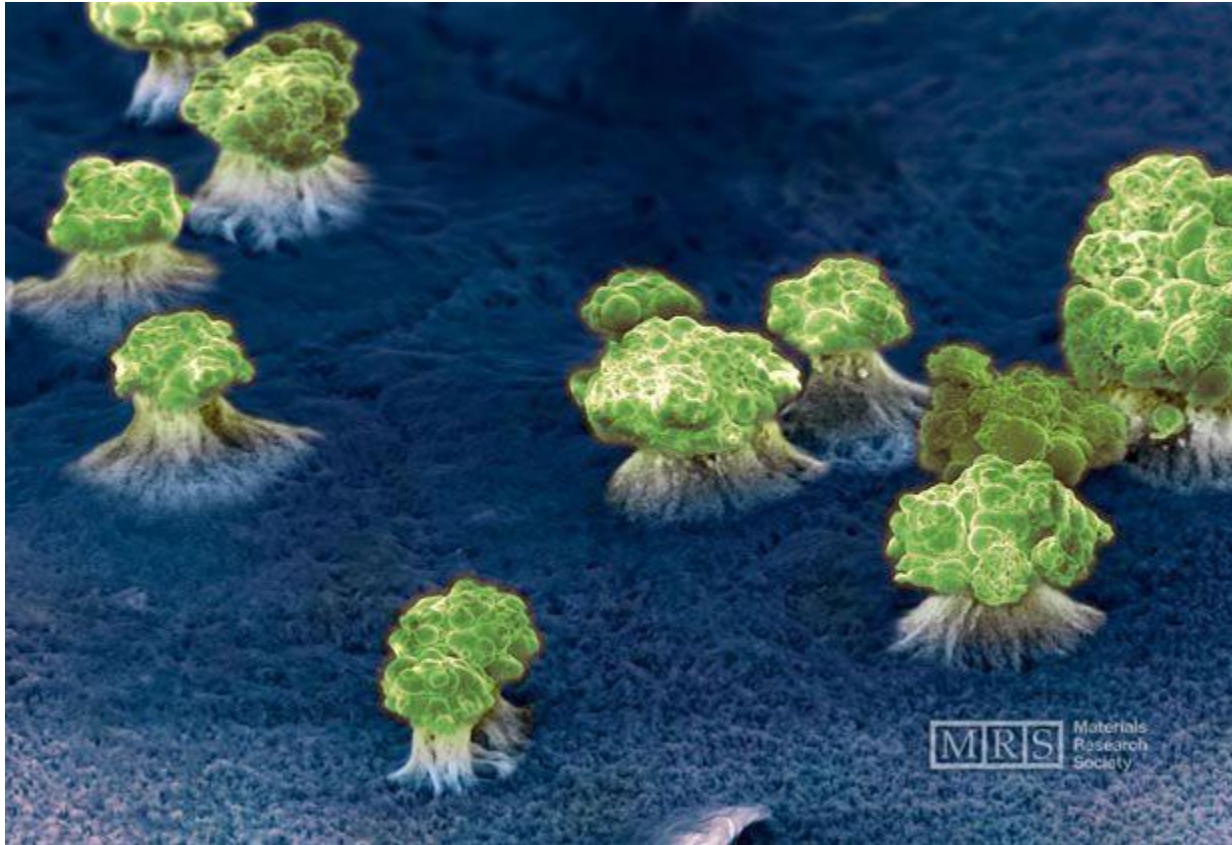
# The « halo » of nano: apocalyptic mythologies

« When Nano-Wires Explode »



F. Beron

# Atomic mushrooms... ...or nano-broccoli ?

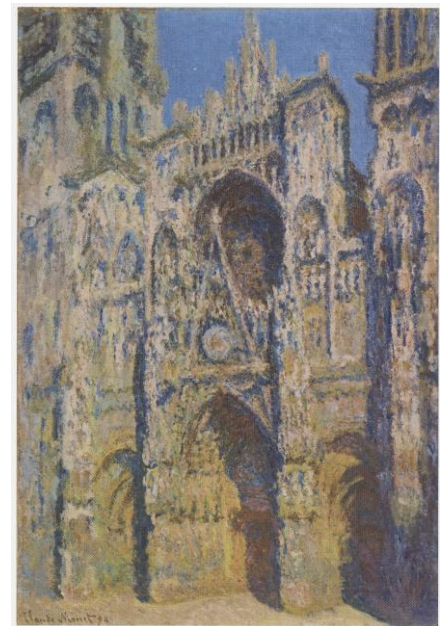
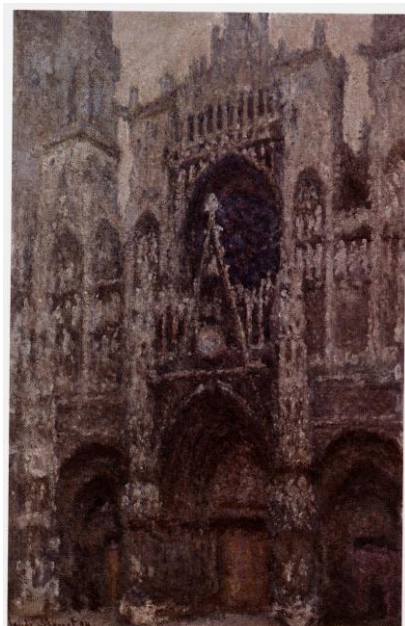
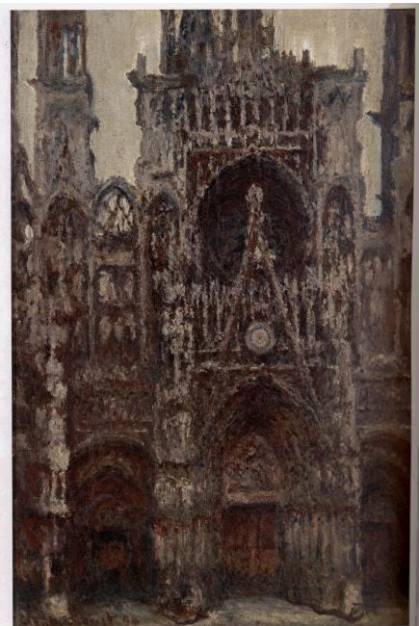
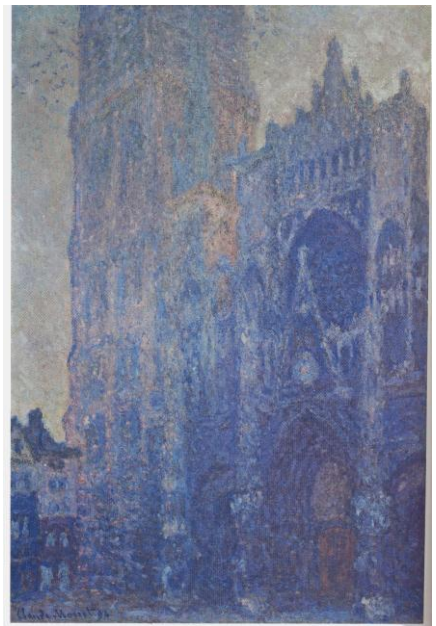


O. Cibois



*He understands things only in a cyclical way. Like the inside shock creates in the poet a succession of waves of varying lengths (...) or like a melody, before dying, goes through a series of state, undergoes a series of erasures and recalls which are, from its birth to its conclusion, the life of a sonic individual.*

Louis Gillet, *Trois variations sur Claude Monet*, 1909.



Roland Barthes' *Mythologies*: a strategy to accommodate to the image as a myth

As a sign (signifier/signified), the image carries a myth and can be accommodated to in three ways:

With an empty signifier: we see naively/cynically the myth.

With a full signifier: demystification.

By « accommodating » alternatively to the signified and to the signifier: we are aware of the myth, of the effect of imaging.

