



# Mental Models and Virtual Worlds

Mind and Computers  
Modeling the World of Practice



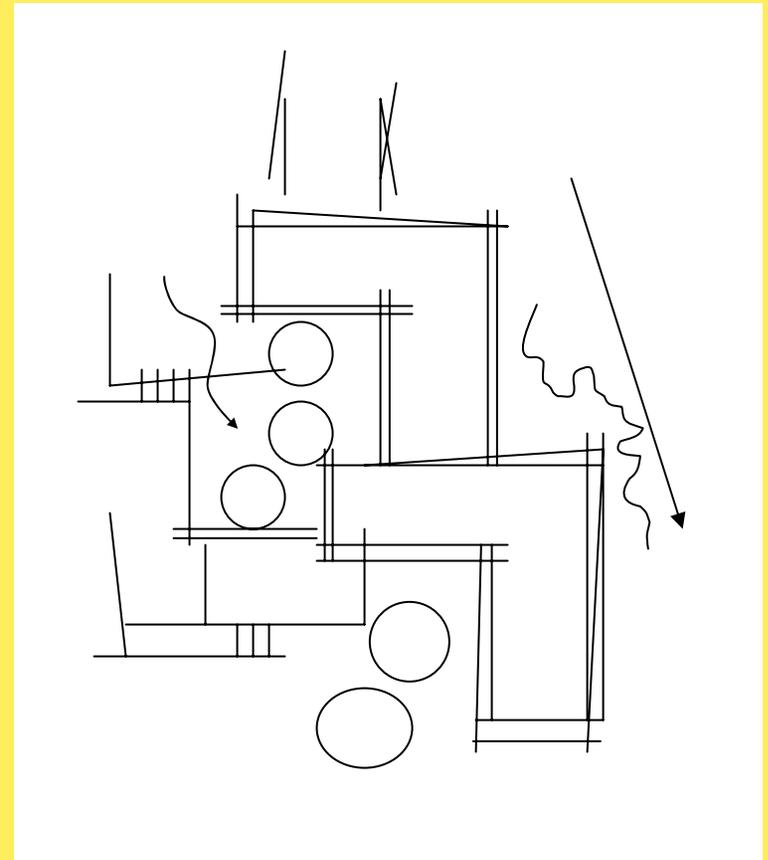
# The Virtual World of the Designer

When the architects look at a drawing they are not seeing the lines but the building, the trees, the slope, etc.

They go forward in the design of the building based on that image they have in their minds.

When they talk about the building both are referring to the image they see in their minds.

They can use a very synthetic vocabulary because of those images they have in their minds.





# The Abstract Model of the Psychologist

- The Psychologist, when listening his patient, deploys an abstract Model in his mind.
- Before the diagnostic he has a portfolio of mental diseases and the laws/characteristics of each of those diseases, a method of diagnosis, and a portfolio of cases.
- After the diagnostic he construct a Model of the case his is dealing with. The Model is group of statements about it.
- Everything the patient says is interpreted through the lenses of that Model. (If the case become stuck the Model will be changed)
- This Model and the information from the context are the references for making meaning with the expressions from the patient, and for deciding on recommendations to make.



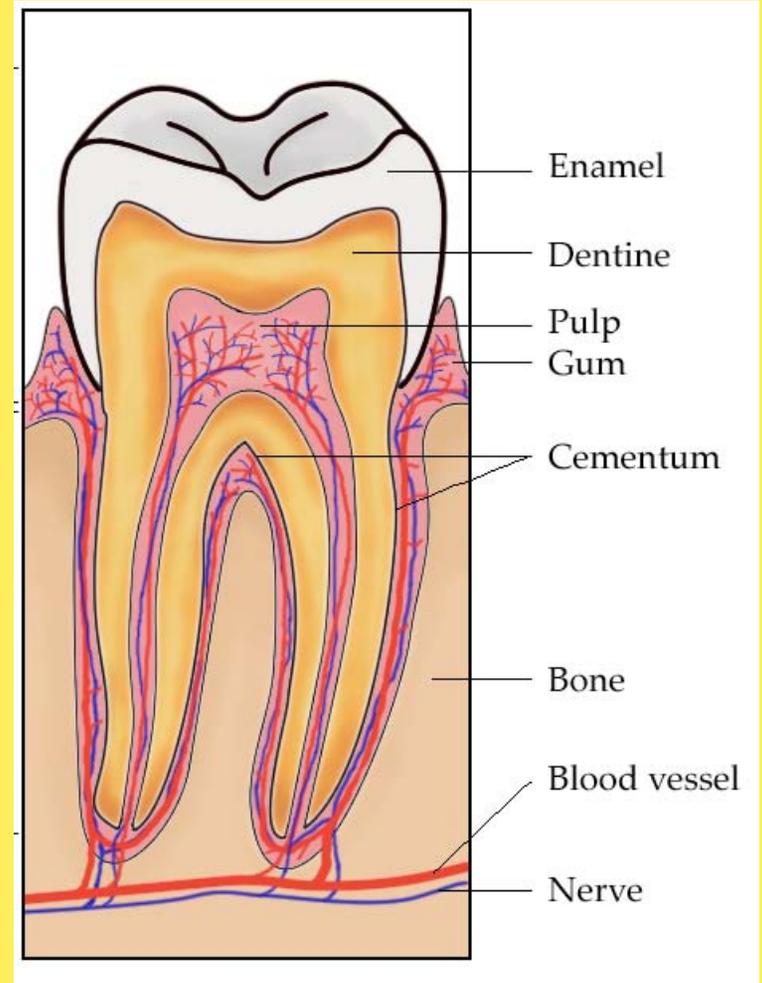
# What the Dentist Sees

As the dentist is drilling a tooth she is seeing an amplified image of the tooth in her mind.

Each time she touch the tooth with her drill she interpret her sensation of touch with an specific point in her image of the tooth.

That image is an important cognitive tool for the dentist's work.

Digital technology is trying to improve the visualization of that image for the dentists.





# The MIT Virtual

- Each student creates his Mental Model of MIT for taking advantage of the opportunities that MIT offers.
- For some of them, that Model is like a network map, of resources and enablers, but there are many other options.
- Each time an opportunity or a problem comes up, the student navigates through that map and plans his action based on his Mental Model of MIT.
- Those student with robust Models get more from the resources of MIT.



# Identification of a Mental Model

1. For an image, like the building:
  1. To identify the image and to describe it.
  2. To retrieve how the image is used and which features that are deployed in the use.
2. For an abstract construct, like the Model of the psychologist:
  1. To identify the Model and to make a brief description of it.
  2. To go through a concrete case of its use, describe the key actions undertaken, the reasons and/or the control parameters of that actions.
3. To make a preliminary version of the Model.
4. To use and to improve it through experience and reflection.