

THE ARCHITECTURAL RELEVANCE OF CYBERNETICS

GORDON PASK

"The Architect is responsible for building conventions and shaping the development of traditions."

CYBERNETICS

WHAT?

The scientific study of how humans, animals and machines control and communicate with each other.

GOAL

To understand and define the functions and processes of systems that have goals and that participate in circular, causal chains that move from action to sensing to comparison with desired goal and again its action.

PERT programming
↓ USED IN
Construction scheduling

Cybernetic technique
↓ IS A
Computer assisted design
↓ IN

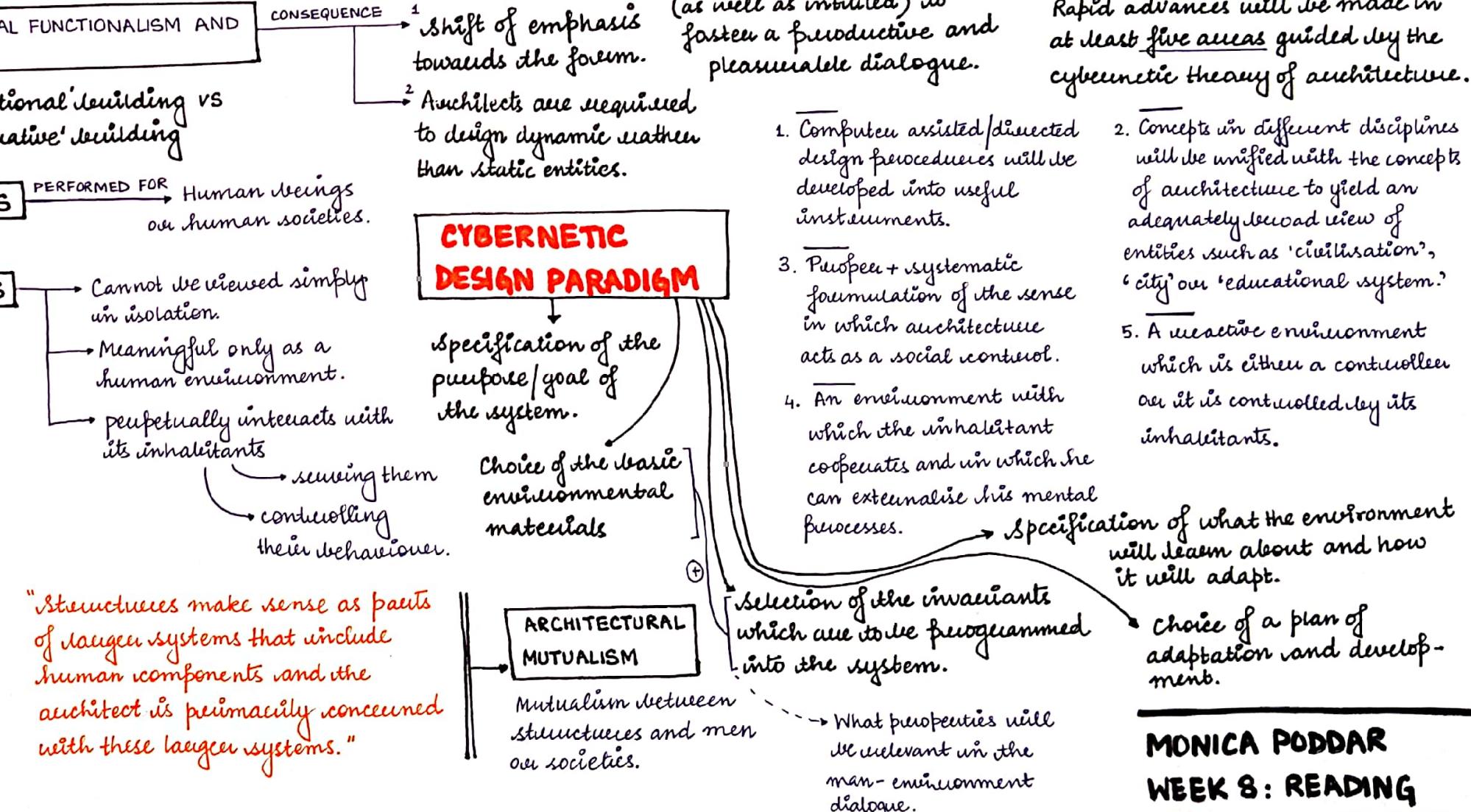
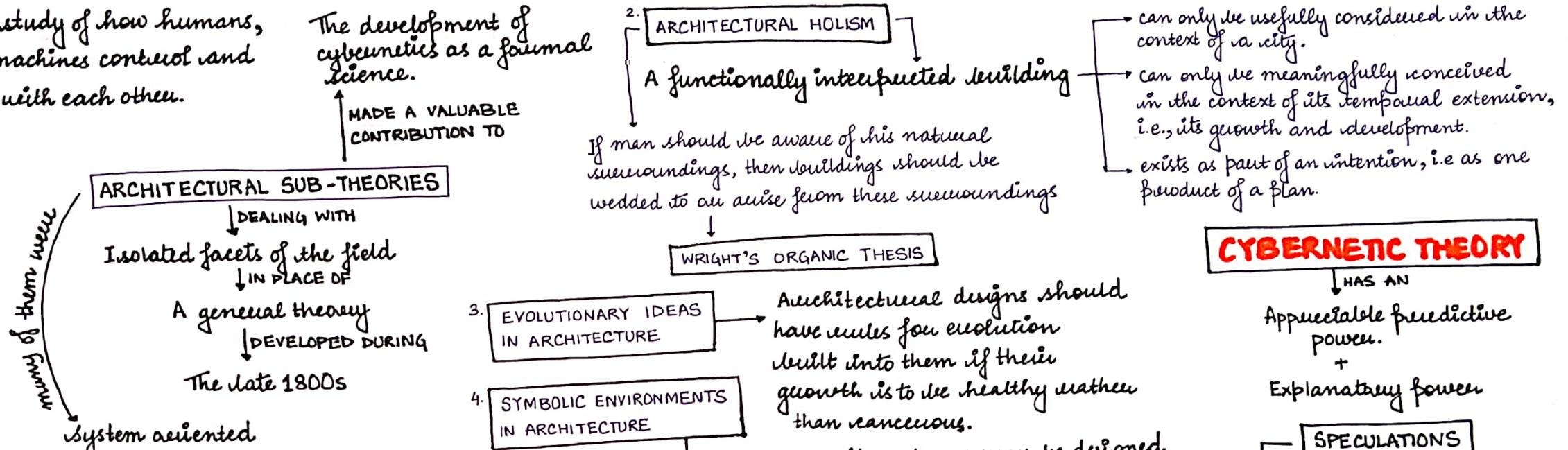
CYBERNETICS + ARCHITECTURE

enjoy an intimate relationship

"Architects are first and foremost system designers who have been forced, over the last 100 years or so, to take an increasing interest in the organizational (i.e. non-tangible) system properties of development, communication and control."

HISTORY

- Early 1800s - 'Pure' architecture existed as an abstraction from the art of building.
 - There was a 'metalinguage' for talking about these instructions, directives and ideas, for comparing them, criticizing them, and evaluating them.
 - The metalinguage was restrictive and discouraged innovation.
- Victorian era - New problems were posed and could no longer be solved by applying the rules of pure architecture.
 - The new (augmented) architecture had not yet developed a metalinguage, i.e., no theory.



CYBERNETIC THEORY

HAS AN

Appreciable predictive power.

+ Explanatory power

SPECULATIONS

Rapid advances will be made in at least five areas guided by the cybernetic theory of architecture.

1. Computer assisted/directed design procedures will be developed into useful instruments.
2. Concepts in different disciplines will be unified with the concepts of architecture to yield an adequately broad view of entities such as 'civilisation', 'city' or 'educational system'.

3. Purpose + systematic formulation of the sense in which architecture acts as a social control.
4. An environment with which the inhabitant cooperates and in which he can externalise his mental processes.
5. A reactive environment which is either a controller or it is controlled by its inhabitants.

Specification of what the environment will learn about and how it will adapt.

- Choice of a plan of adaptation and development.

MONICA PODDAR

WEEK 8: READING