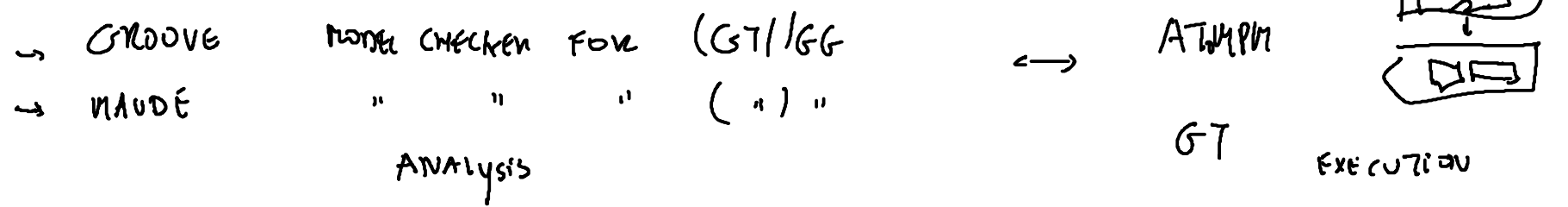


↑ DESIGN
↓ REQ

PROPERTIES
CTL/LTL



STRINGS / SEQUENCE

⊆

TREES

⊆

GRAPHS

JAVA/Python ...

COGNITIVE

TASK

⊆

TASK

⊆

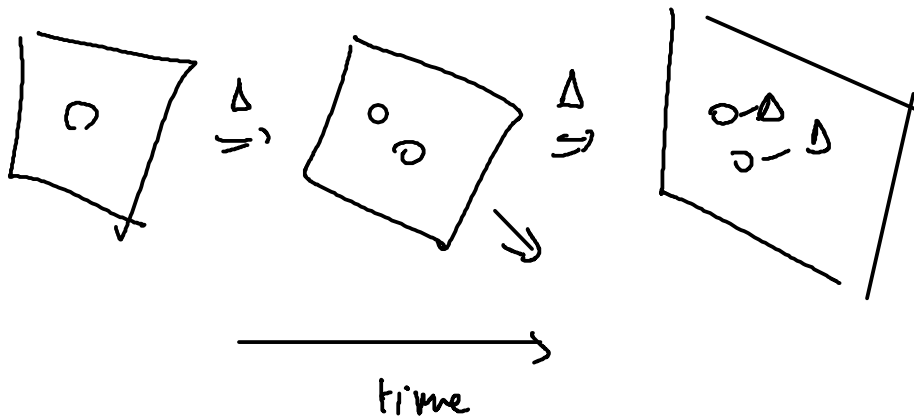
TASK

↑
HOW

WHAT? ↑

DECLARATIVE

DYNAMIC STRUCTURE



WHY NOT ALWAYS USE GRAPHS / GRAPH TASK. ?



① COMPLEXITY → PERFORMANCE / EFFICIENCY

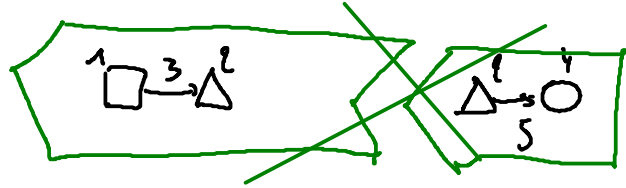


② COGNITIVE UNDERSTANDING

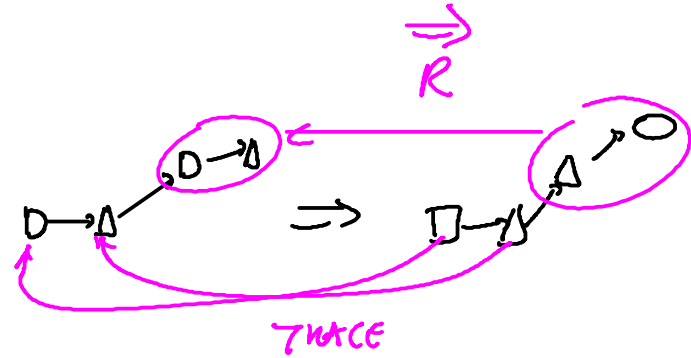
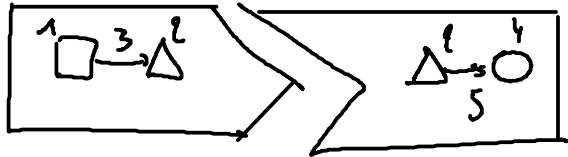
- ABSTRACTION

MOST APPROPRIATE - FORMALISM

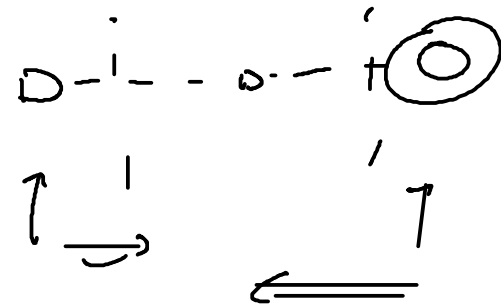
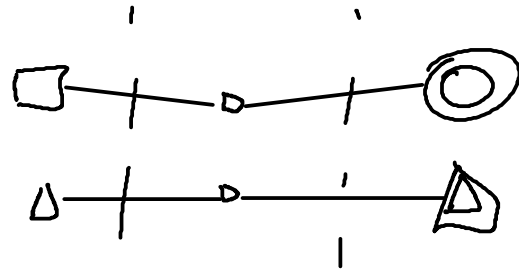
(DATA / COMPUTATION ... ENERGY / COST / ...)



R or R



RELATION

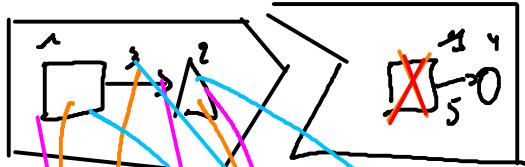


Bi-DIRECTIONAL
TRANSF.

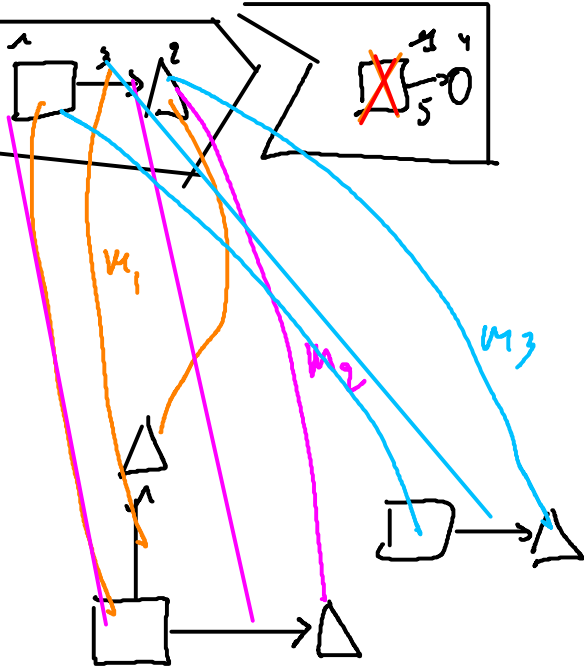
90's DOME DOMAIN MODELLING ENVIRONMENT (IBM) HONEYWELL
—— ~~X~~ AT

2000 GME GRAPH MODELLING ENVIRONMENT (IBM) VANDERBILT
GReAT UT
isis

RULE



HOST GRAPH

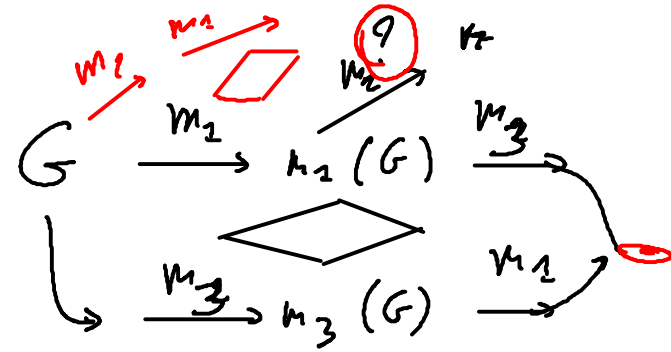


$$\text{MATCH SET} = \{ m_1, m_2, m_3 \}$$

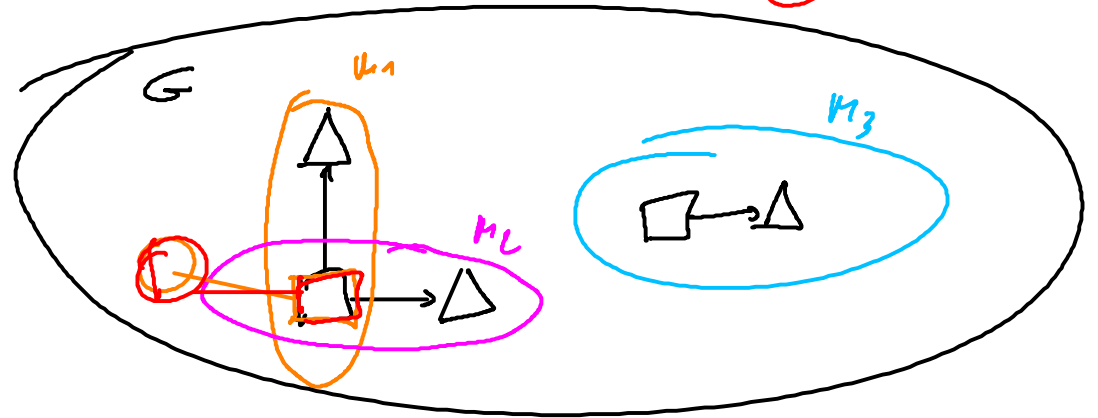
TOOLS : AGG/HENSHIN
GROOVE



$$m_1 \cap m_2 \neq \emptyset$$



// INDEPENDENT
CONFLUENT ~~x~~



$$m_3 \cap m_2 = \emptyset$$

$$m_3 \cap m_1 = \emptyset \quad \text{~~x~~}$$