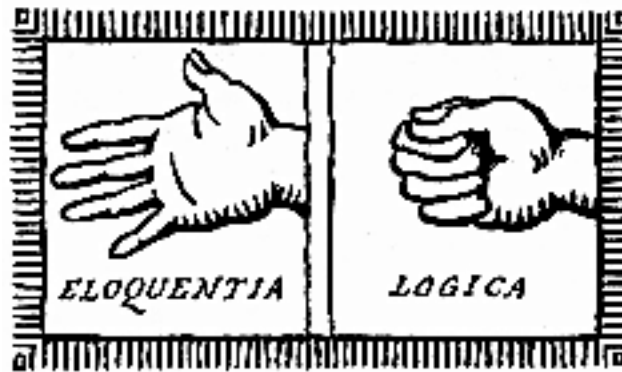


Expertise and Agency: Transformations of *Ethos* in Human–Computer Interaction



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Press, in press.

Paul N. Edwards, *The Closed World: Computers and the Politics of Discourse in Cold War America* (MIT Press, 1996)

closed-world
discourse:

“language, technologies,
and practices that support
centrally controlled,
automated global power”;
containment metaphor

cyborg
discourse:

“psychological,
metaphorical, and
philosophical aspects of
computer use”; computer
as mind metaphor

Two modes of human–computer interaction

expert systems:

rhetoric of machine
control

intelligent

agents:

rhetoric of
computational
subjectivity

Two conceptions of *ethos*

Aristotelian

- allied with *logos*
- emphasizes *phronesis*
- “ethos of reliability”

Roman

- allied with *pathos*
- emphasizes *eunoia*
- “ethos of sympathy”

Expert systems, according to Edward Feigenbaum ...

- “Our agents must be knowledge-rich, even if they are methods-poor.”
- “in the knowledge is the power”
- The knowledge engineer must “take the knowledge, the experience, the ... intuitions of experts and put them in computer software.”

From the knowledge base of DEFT:

“IF the testcase failure is not CFTSA(E) and there are multiple failures and multiple devices are failing and the failures are on A1 controller and multiple parts are failing THEN the cause of the failure is A1M2 DHPLO (VFO) card with 60% probability or A1X2 DDC/DXB card with 20% probability or A1N2 SERDES/CLOCK card with 20% probability.”

Feigenbaum, McCorduck, and Nii, *Rise of the Expert Company* (1988)

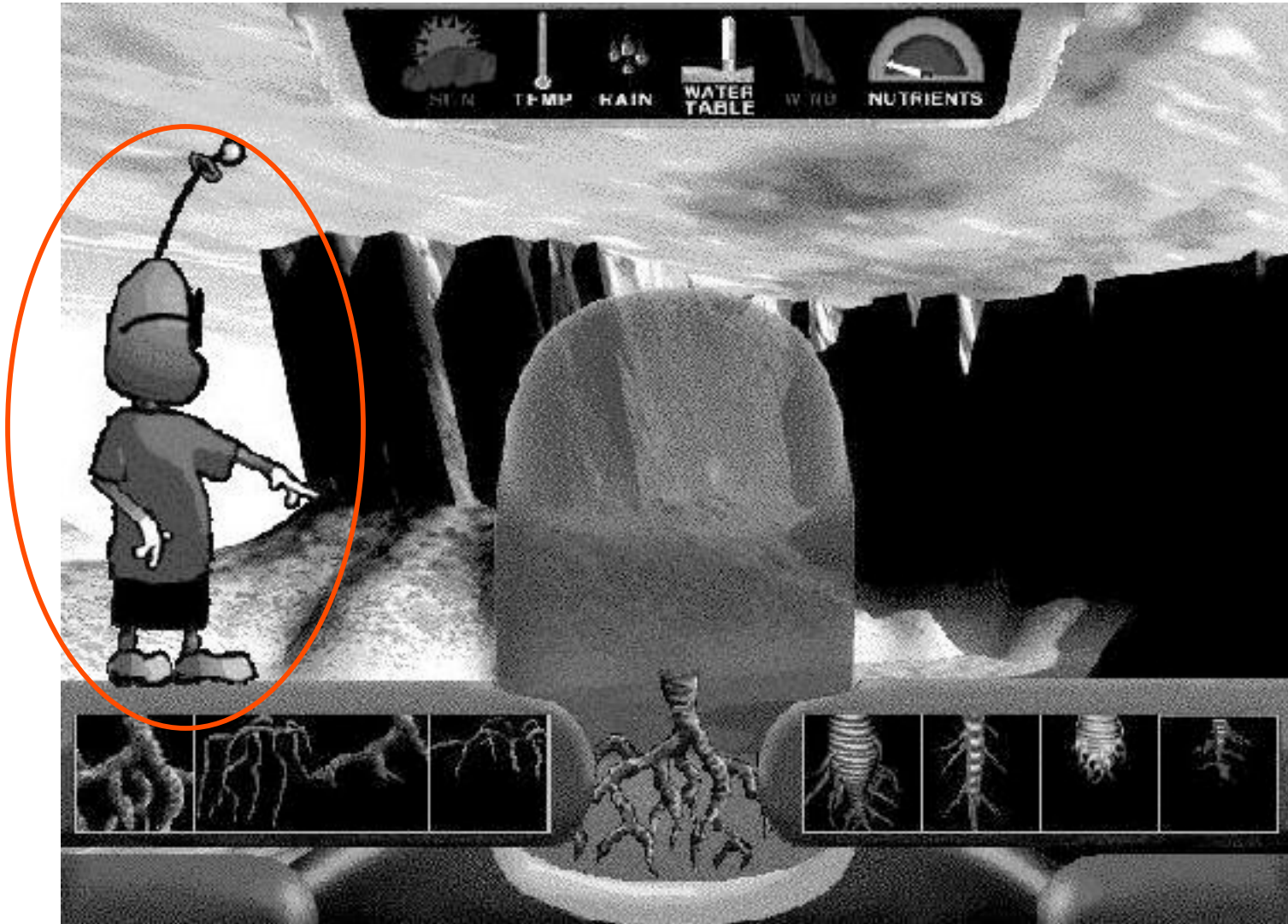
Expert systems enact agency:

“My preferred therapy recommendation is as follows: Give the following in combination: 1) ETHAMBUTAL, Dose: 1.28 g (13.0 100-mg tablets) q24h PO for 60 days. . . . Although I suspect that fungus may be a possible pathogen, in the absence of definitive evidence, I will not recommend antifungal therapy at this time. Please obtain samples for fungal, TB, and viral cultures.”

From MYCIN

Julia, the softbot:

- You say, "julia, what can you do?"
- Julia says, "I relay messages, Lenny."
- You say, "do you have a message for me, julia?"
- Julia says, "I have no messages for you."
- You say, "julia, how many messages are you carrying?"
- Julia says, "I am holding 114 messages for 98 players, Lenny."



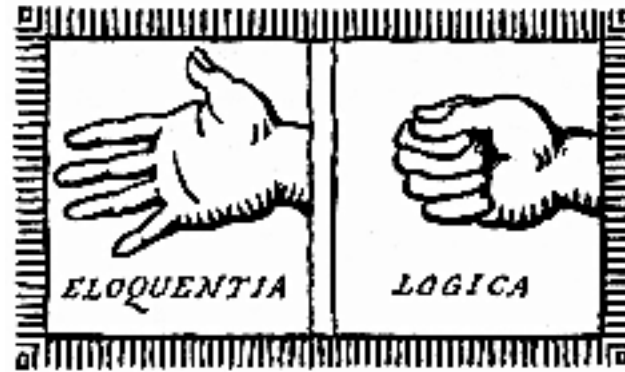
Herman the Bug, an “animated pedagogical agent”

Intelligent agents ...

“agents that understand social relationships, maintain histories with users, have some knowledge of human emotion, ... understand human speech, ... [and can] deliver morphing faces, music, and theater-quality sound ... have tremendous inherent attachment-forming capabilities.”

(Elliott and Brzezinski, AI Magazine, 1998)

My claim:



Closed-world discourse

- Expert systems
- Ethos of reliability
- Dialectic: the closed fist

Cyborg discourse

- Intelligent agents
- Ethos of sympathy
- Eloquence: the open hand