Thoughts on Symbolic Systems and Practical Advice

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Symbolic Systems 2
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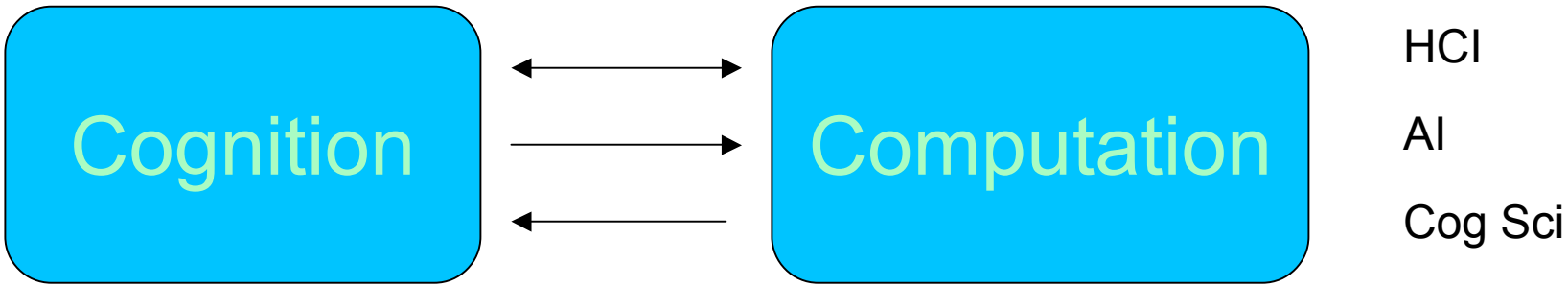
What is Sym Sys about?



Some theoretical questions

Can computers think?

Is language innate?

Are humans rational?

Is information technology prosocial?

Is the brain symbolic?

Does language shape thought?

Do animals use language?

Some practical questions

How can you design a voice interface that will work well for people?

How can you design an ontology for events in a calendar program?

How can you design an experiment to see whether an interface change will improve usability?

How can you design a computational model that will predict human responses on a task?

How can you design a program that will correctly parse a sentence?

How can you design software that will enhance democracy?

Core methods and their markers

Philosophical – definitions, claims, arguments, analysis

Formal – definitions, axioms, theorems, proofs, syntax, semantics, models

Computational – data structures, algorithms, programs, frameworks, complexity

Observational – independent and dependent variables, qualitative and quantitative measures, hypotheses, data, analysis

Experimental – conditions, subjects, hypotheses, data, analysis

Characteristics of the Symbolic Systems Program

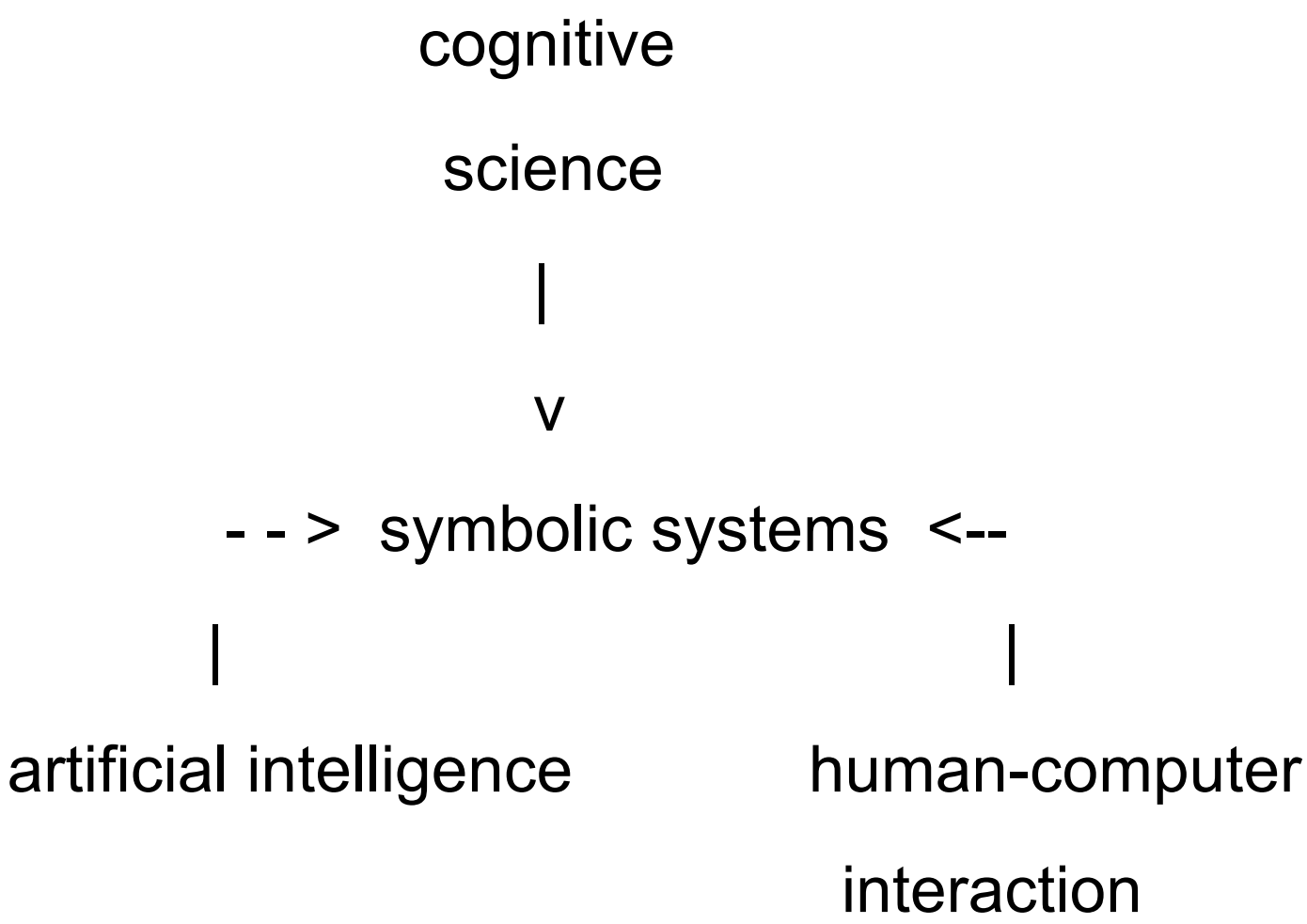
Interdisciplinarity

Problem/question-based, not methods-based

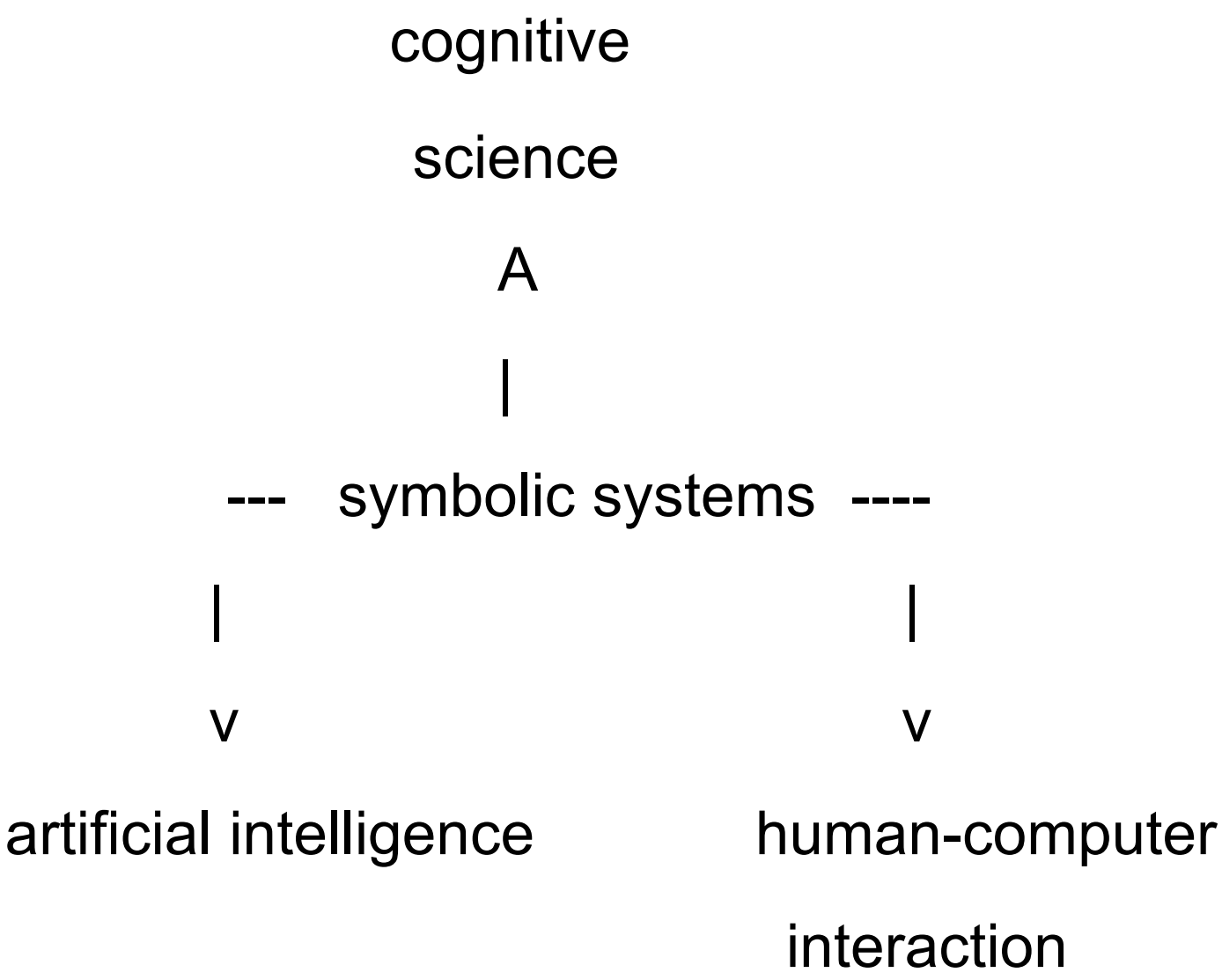
Application-oriented

- computation<->cognition
- theory to practice

The Sym Sys trajectory 1980s



The Sym Sys trajectory 2000s



What is a symbolic system?

formal logic?

language?

Turing machine?

computer program?

person?

mind?

brain?

society?

Practical advice

Get to know faculty – find an advisor

Do some research and/or independent study

Plan ahead

Don't take too many courses

Read your SSP email

Go to the forum, other lectures, and dinners

Attend SSP social events

View courses and lectures as being about skill development

Practical advice (continued)

- Practice reading and listening – learning is a skill
- Think of yourself as the young version of whatever you want to become
- Talk to people about what you are studying
- Watch to see what excites you
- Don't get too caught up in how much you like instructors
- Learn time management