Title:  Historical notes
AIMA:  Chapter 1

Introduction to Artificial Intelligence
CSCE 476-876, Spring 2010
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Announcements/Reminders

- Lab room: AVH 20 (Mon from 5:00–5:50 pm)
- ACL free version: check the class schedule page
- Reminder: pretest on Friday. Closed books.

Anyone tried Lisp?
Summary

- Goal of AI:
  - Understand intelligent entities
  - Build intelligent entities

- Multidisciplinary:
  - philosophy, psychology, cognitive science
  - mathematics, engineering, computer science

- Study:
  - general mechanisms
  - specific tasks

- Dimensions:
  - Concern: thought+mental processes vs. action+behavior
  - Performance: human-like vs. rational

Quick historical note (I)

1956: McCarthy organizes a two-month workshop in Dartmouth no breakthrough, united major players, term coined

1952-1969: Early enthusiasm and great expectations
General Problem Solver (Newell & Simon),
Chess program (learning disproved “computers do what they are told to do”),
LISP in 1958, time sharing, principles of knowledge representation and reasoning,
Split: logic (neat) vs. anti-logic (scruffy, clumsy),
Microworlds (e.g., block world: → vision, constraint propagation, NL understanding, planner),
Neural Nets, etc.
Quick historical note (II)

1- Systems work on 1 or 2 examples, failed otherwise
   NLP: Russian → English.
   The spirit is willing but the flesh is weak
   → the vodka is good but the meat is rotten
2- Intractability: difficulty to scale up, handle combinatorial explosion
   UK → report Lighthill in 1973, etc.
   Neural Net almost disappears

1969-1979: Knowledge-based systems
   Knowledge-based system (DENDRAL) expert knowledge
   expert systems (MYCIN), certainty factors, frames (OO!)

Quick historical note (III)

1980-present: AI becomes an industry
   R1 at DEC, Fifth Generation project.
   S/W: Carnegie Group, Inference, Intellicorp, Teknowledge
   H/W: Lisp Machines, TI, Symbolics, Xerox.

   Late 80’s-early 90’s: AI winter

1987-present: Big changes. AI becomes a science
   Claims more rigorously supported: empirically or theoretically

1988-: Resurgence of probabilistic & decision theory (UAI).
   “Nouvelle AI,” ALife, GAs, soft computing

1995-present: Emergence of intelligent agents