Title: Historical notes
AIMA: Chapter 1

Introduction to Artificial Intelligence
CSCE 476-876, Spring 2005
URL: www.cse.unl.edu/~choueiry/S05-476-876

Berthe Y. Choueiry (Shu-we-ri)
choueiry@cse.unl.edu, (402)472-5444

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