Logic has been a—disputed—ingredient in the emergence and development of the now very large field known as knowledge representation and reasoning (KRR). In this book (in progress), I select some central topics in this highly fruitful, albeit controversial, association (e.g., non-monotonic reasoning, implicit belief and logical omniscience, reasoning temporally), identifying their sources and analyzing/explaining their elaboration in highly influential published work. Below, the tentative structure and corresponding readings. (Comments welcome: luis.ml.augusto at gmail.com)

PART 1: Pre- and protohistory

Prehistory: Logical Machines

Leibniz
  Lovelace (1843)
  Peirce (1887)
  McCulloch & Pitts (1941)
  Newell & Simon (1956)

Protohistory: Commonsense reasoning

McCarthy (1959)

PART 2: Main developments

Symbols, general intelligence, & knowledge

Newell & Simon (1963)
  Newell & Simon (1976)
Default and non-monotonic reasoning

Reiter (1980)
   McDermott & Doyle (1980)
   McCarthy (1980)

Reasoning under uncertainty

Belnap (1977)
   Zadeh (1989)
   Nilsson (1986)

Reasoning about domains

Brachman & Schmolze (1985)

Reasoning temporally

McDermott (1982)

Inductive reasoning

Muggleton & De Raedt (1984)

PART 3: Facing up to the problems

The frame problem

McCarthy & Hayes (1969)
   Minsky (1974)

Epistemological and other philosophical problems

McCarthy & Hayes (1969)
   McCarthy (1977)
The logical-omniscience problem

Hintikka (1962)
Hocutt (1972)
Levesque (1984)
Fagin & Halpern (1988)

The computational costs of logic in KRR

Cook (1971)
Levesque & Brachman (1987)
Bibliography


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