OpenMind Indoor Common Sense Summary

Robert McIntyre, Dylan Holmes, Chris Calabrese February 20, 2011

There are 48 tables in the OpenMind Indoor Common Sense database; of these, 11 seem to have information that could be used by Genesis. They are:

• causes

- -73459 entries
- Data in the form (:obj1) has (:prop1) causes (:obj2) to have (:prop2).
- {:prop1 hungry, :prop2 lit, :obj2 propane stove, :obj1 camper} → ("If the camper is hungry, he is likely to light a propane stove." OR "Why did the camper light the propane stove? Because he was hungry."

• desires

- -20258 entries
- As a result of object (:obj1) having property (:prop1), one wants other object (:obj2) to have other property (:prop2).
- $\{:$ obj1 hatchet, :prop1 hit hard, :obj2 handle, :prop2 stable $\}$ "A hatchet that tends to hit things hard should have a stable handle."

• locations

- 5781 entries
- Places (:room) and the things (:obj) you expect to find in those places.
- {:room bathroom, :obj hot water} \rightarrow "You expect to find hot water in a bathroom."

• parts

- -27118 entries
- A whole object, and part of the object.
- {:obj computer, :part harddrive} \rightarrow "A harddrive is part of a computer."

• people

- 6204 entries
- Describes the mental states of a person that an observer might infer given the actions of the person., i.e. if a person whines then they might want their way.
- $\{:vp1 \text{ open a bottle}, :vp2 \text{ want a drink of water}\} \rightarrow \text{``If a person opens}$ a bottle then they might want a drink of water.''

• problems

- 23738 entries
- Tasks to perform coupled with problems which might prevent one from accomplishing said tasks *alone*. For example, if you want to push something, you might be unable to do so because the object is too heavy.
- {:problem the table is dirty, :task set the dining table} → ("If you want to set the dining table, you may be unable to do so if the table is dirty" OR "You can't set the dining table if the table is dirty.")
- Out of 100 randomly selected entries, 5 were spurious and around 10 were duplicates. See also: help.

• help

- 22861 entries
- Like the opposite of :problems, but social. Describes a state that person1 is in and an action that person2 can take to help person1.
- {:vp1 want to sleep, :vp2 keep the room quiet} → "If someone wants to sleep then you can help them by keeping the room quiet."

• proximity

- 5593 entries
- One object (:obj1) evokes mental images of another object (:obj2) due to "conceptual proximity."
- vegetable/refrigerator, bunny/field, doughnut/coffee
- The actual relation/reason for association between objects is various and unmentioned.

• relationships

- 9326 entries
- One object (:obj1) could reasonably be found in this prepositional relation (:relationship) to another object (:obj2).

nail clipper/in/bathroom, indoor plant/next to/window, flute/in/flute case, wall painting/over/fireplace, stapler/next to/rubber band

• statechange

- entries 155547
- If one applies (:action) to an (:object1) having (:state1), it will change state into an (:object2) having (:state2).
- blow out/candle/lit/candle/extinguished
- A few conflate psychological states: find new words in/dictionary/unused/dictionary/amusing, and a few include lack-of-action: not touch/grill/in use/grill/unused

• uses

- 10878 entries
- The object/person/role(:obj) is generally used (to do)/(in the process of doing) activity (:vp).
- {:obj felt hat :be worn outside} \rightarrow "A felt hat is generally worn outside."

I propose to make a function for each of the 11 tables to convert each entry into a form that can be read by Boris' START parser and can then be transformed into a rule suitable for including in stories.

An example:

- 1. Start with entry from :people table {:vp1 are angry, :vp2 are mistreated}
- 2. Convert to English using START output "If X is mistreated then X may become angry"
- 3. Read the sentence back in as a common sense rule.