Treebank Changes Made for the Treebank/PropBank Merge
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1) Fixed wh-trace errors, i.e., added missing traces or missing coindexing

2) Standardized the position of modifiers of conjoined S to

```
(S (S-MODIFER)
   (S ...)
   (CC and)
   (S ...))
```

(In fact, virtually all of these were like this already, so there were very few changes)

3) Made NPs with adjuncts and relative clauses/reduced relatives recursive

```
(NP (NP (NP the girl)
        (PP with the flower)
    (SBAR who was in the park)))

(NP (NP (NP the girl)
        (PP with the flower)
    (VP walking in the park)))
```

4) Reorganized verbal complementation and control as follows:

4a) Distinguished subject control from raising. The * empty category is now used only for cases of syntactic movement, i.e. passives and subject raising, while *PRO* is used for control structures. Otherwise the syntactic structures haven't changed.

Raising:

```
(S (NP-SBJ-1 she)
   (VP seems
      (S (NP-SBJ *-1)
         (VP to be happy))))
```

Subject control:

```
(S (NP-SBJ-1 she)
   (VP decided
      (S (NP-SBJ *PRO*-1)
         (VP to be happy))))
```

The verbs/predicates are categorized as follows:

Raising predicates: *appear, begin, continue, end up, fail, figure, happen, keep, need, ought, prove, quit, remain, say, seem, start, stop, tend, wind up, apt, certain, due, likely, sure, unlikely, be about to, be bound to, be going to, be set to, be supposed to, have to, have got to, turn out to, used to*, plus the passives of ECM verbs (see 5).

Subject control verbs: *admit, afford, agree, aim, apply, arrange, ask, attempt, avoid, be willing, bother, come, care, choose, claim, clamor, concede, conspire, decide, decline, delay, deny, deserve, determine, disclaim, discuss, enjoy, elect, favor, figure, flock, force, forget, get, go to show, hate, hesitate, hope, intend, jump, know, learn, like, look, love, manage, mean, mind, miss, move, negotiate, offer, opt, plan, pledge, plot, pose, ponder, prefer, prepare, press, proceed, profess, promise, propose, push, quite, race, recall, refuse, report, resolve, risk, rule out, rush, scramble, seek, serve, set out, sign, sound, stand, strive, struggle, suffice, swar, threaten, try, undertake, vote, vow, wait, want, wish*

4b) Fixed some missed purpose clauses and switched infinitives with 'work' from complement to purpose infinitive to match new TB policy.

```
( (S (S-ADV (NP-SBJ (-NONE- *PRO*-1))
           (ADVP (RB Belatedly))
           (ADJP-PRD (JJ aware)
                     (PP (IN of)
                         (NP (JJ public) (NN concern)))))
     (, ,)
     (NP-SBJ-1 (NP (NNS lawmakers))
               (CC and)
               (NP (JJ financial) (NNS middlemen)))
     (VP (VBP are)
         (VP (VBG working)
             (ADVP-MNR (RB overtime))
             (S-PRP (NP-SBJ (-NONE- *PRO*-1))
                    (VP (TO to)
                        (VP (VB create) (CC and) (VB sell)
                            (NP (NN college) (NNS savings)
                                (CC and) (NN investment)
                                (NNS schemes)))))))
     (. .)))
```

4c) Changed unindexed empty categories from * to *PRO* -- note that I didn't change the original TB policy of when to coindex an empty category (i.e. I didn't try to apply the new TB policy of not coindexing to the subjects of S in PPs, for instance).

5) Recategorized verbs treated as monotransitive (i.e. ECM verbs) in the TB (e.g. 'force'), and ditransitive with object control to more closely match PropBank

Ditransitive:

```
(S (NP-SBJ he)
   (VP forced
       (NP-1 them)
```

```
            (S (NP-SBJ *PRO*-1)
               (VP to go to school)
```

List of ditransitives (including those that were originally ditransitive): *ask, admonish, authorize, bribe, catch, caution, choose, commision, compel, convince, designate, devise, direct, dispatch, empower, enable, encourage, entice, expand, force, hire, impell, induce, influence, inspire, invite, lead, leave, license, motivate, move, name, oblige, order, permit, press, prod, program, prompt, push, require, retain, schedule, select, sensitize, slate, spur, teach, tell, trust, urge, warn*

Monotransitive (ECM):

```
(S (NP-SBJ he)
   (VP allowed
       (S (NP-SBJ them)
          (VP to go to school)
```

List of monotransitives: *allow, assume, believe, cause, consider, declare, deem, estimate, expect, find, get, hold, imagine, intend, judge, know, make, mean, need, perceive, project, repute, rumor, report, say, see, show, suppose, think, want, wish*

6) Redrew the boundary between which verbs take small clauses and which take secondary predicates in consultation with PropBank. Basically verbs that take an S complement are also treated as taking small clauses, while all 'label' verbs, plus a few others are treated as taking secondary predicates (with –CLR).

Verbs taking secondary predicates:
(a) Label verbs: *appoint, call, code-name, designate, dub, elect, entitle, headline, label, mark, name, nickname, quote, rank, rate, rename, subtitle, tag, term, title, vote*
(b) Others: *drive, keep, leave, render, turn*,


```
( (S (NP-SBJ they)
     (VP elected)
        (NP-1 her)
        (S-CLR (NP-SBJ *PRO*-1)
               (NP-PRD president)))))

( (S (NP-SBJ (NN uncertainty))
     (VP (VBZ drives)
         (NP-3 (NNS people))
         (S-CLR (NP-SBJ (-NONE- *PRO*-3))
                (ADJP-PRD (JJ wild)))))
  )
```

Verbs taking small clauses: *believe, consider, declare, deem, fancy, fear, find, get, have, hold, judge, make, presume, proclaim, pronounce, prove, regard, render, report, rule, rumor, see, think, want, wish*

```
( (S (NP-SBJ (PRP They))
      (VP (VBP want)
          (S (NP-SBJ (NN psyllium) (NNS prices))
             (ADJP-PRD (JJ low)))
          (PP-PRP (IN for)
                  (NP (NP (PRP$ their) (NNS purchases))
                      (NP-TMP (IN next) (NN year)))))
      (. .))
   )
```

7) Eliminated all parentheticals except those that enclose sentential material; changed the empty S/SBAR complement of the verb in the parenthetical to match the new TB policy (i.e., from *T* with coindexing to *?* with no coindexing). I've maintained the WSJ distinction between SBAR/S for the empty category, based on whether there are quotation marks.

```
( (S (NP-SBJ (NP (DT The) (NN view))
             (PP (IN of)
                 (NP (NP (DT some) (NNS others))
                     (PP-LOC (IN in)
                             (NP (JJ Big) (NN Oil))))))
     (PRN (, ,)
          (S (NP-SBJ (PRP he))
             (VP (VBZ maintains)
                 (SBAR (-NONE- 0)
                       (S (-NONE- *?*)))))
          (, ,))
     (VP (`` ``)
         (VBZ is)
         (ADJP-PRD (ADVP (RB very) (RB much))
                   (-LRB- -LCB-)
                   (JJ similar)
                   (PP (TO to)
                       (-RRB- -RCB-)
                       (NP (NP (NNP Amoco) (POS 's))
                           (NN outlook)))))
     (. .)
     ('' '')))
```

8) Changed simple copular complements to small clauses for the following verbs: *appear, prove, seem, turn out*.

```
(S (NP-SBJ-1 (DT that))
   (VP (VBZ seems)
       (S (NP-SBJ (-NONE- *-1))
          (ADJP-PRD (JJ unlikely)))))
```

9) Corrected random errors.