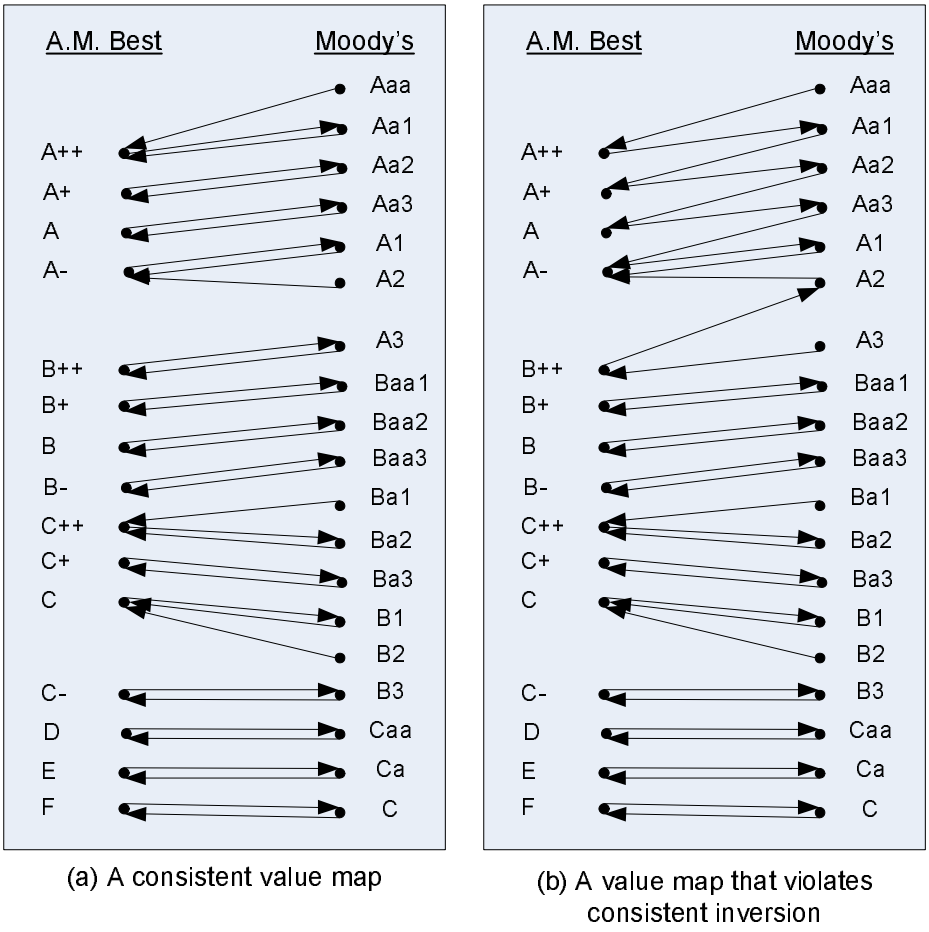

Figure 6.4: Consistent and inconsistent value maps between A. M. Best and Moody's ratings (note the changed mapping for A. M. Best's B++ rating

Duff & Phelps to S&P, the best match for AAA (i.e., 1) and AA+ (i.e., 1.4) would be AAA (i.e., 1), and nothing would map to AA+. However, in the reverse direction, we would need to map AA+ (i.e., 2) to something, and the best match for it would be AA+ (i.e., 1.4).

The value sets of Table 6.2 are all finite. In general, this need not be the case. Value sets may be infinite, in which case they may be modeled as discrete and unbounded on one end (like the natural numbers), discrete and unbounded on both ends (like the integers), dense (like the rational numbers), or continuous (like the real numbers). The above assumes that the value sets use total ordering relationships. In general, if a value set represents data pairs, then the ordering relationship defined for it would not be total. For instance, if a service rates

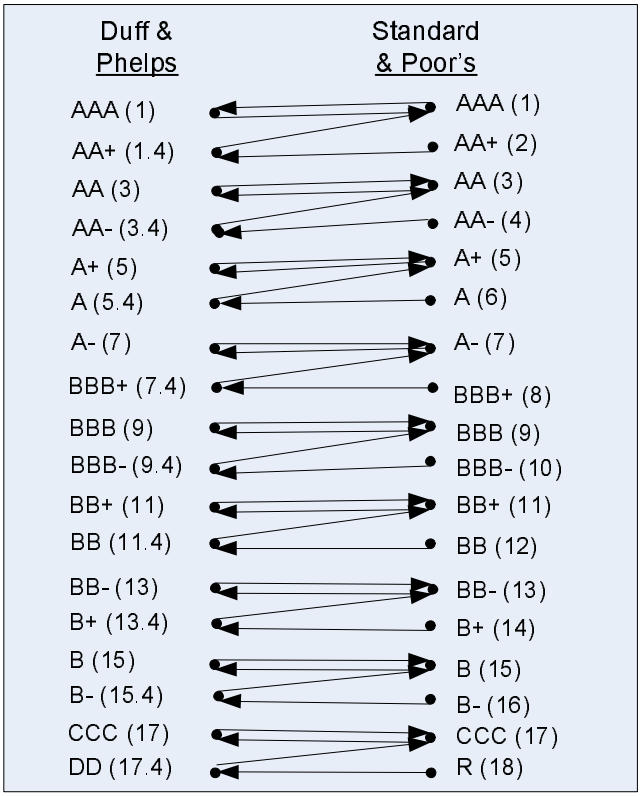

Figure 6.5: An example of an unintuitive value map between the grading schemes of Duff & Phelps (D & P) and S&P. The numbers are fictitious. Notice the interesting pattern

insurance companies with separate grades for their claims-paying ability and the friendliness of their customer response, the value set for that service would not be totally ordered in a natural manner.

6.4 Knowledge Representations

Many efforts are underway to devise classification schemes and to use the schemes to build and populate classification structures. The following list includes four main types of classification schemes of varying power that provide semantics for messages among services or agents. Each scheme has particular strengths and weaknesses, and provides a foundation upon which particular capabilities can be built.

Keywords. Keywords are a quick way for agents to locate potentially useful information.