

Constraints Underlying Analogy use in a Real-World Context: Politics

Isabelle Blanchette (ISABLAN@PSYCH.MCGILL.CA)

Kevin Dunbar (DUNBAR@PSYCH.MCGILL.CA)

Department of Psychology, McGill University
1205 Dr. Penfield avenue. Montreal, Canada. H3A-1B1

Introduction

How is analogy used in real-world contexts? What does the real-world use of analogy reveal about the cognitive constraints underlying the production and understanding analogies? We addressed these questions by analyzing the use of analogy during the latter stages of a political campaign.

Although a number of detailed models of analogical reasoning exist (e.g., Forbus, Gentner & Law, 1994; Holyoak & Thagard, 1989), little is known of its use in real-world settings. Studies conducted by Dunbar (1995, 1997) reveal that the use of analogy is frequent in the day-to-day reasoning of scientists. In the present study, we explore the role of analogy in politics. We conducted an investigation of analogies used during the 1995 Québec referendum, held to determine whether Québec should separate from Canada and become an independent country. The goals of our research were to determine (1) the frequency and the types of analogies used in this campaign, (2) whether there were differences in types of analogies used by the two sides, and (3) whether the analogies had an emotional dimension that was mapped from the source to the target.

Method

The dataset consisted of articles from the three most important newspapers in Montréal over a period of one week during the campaign. All cases where a person stated a similarity exists between X and Y and mapped a feature or features from X to Y were coded as analogies. Analogies were coded as pro YES or pro NO only if they clearly stated a position on the central question of the debate. Analogies with sources taken from the domain of politics were coded as *Within-domain* and the remaining analogies were coded as *Other-domain*. Other-domain analogies were grouped into sets of semantically similar sources. This grouping resulted in ten *SOURCE CATEGORIES*: Family-relationships, Geography-climate, Religion-mythology, Housing, Sports, Animals, Transportation, War, Business, and Medicine.

Two independent coders judged whether each of the sources had an intrinsically positive, negative, or neutral *CONNOTATION*. Inter-rater agreement was 70%. Sources for which the coders did not agree were coded as indefinite.

Results

We obtained 434 articles about the referendum. Overall, 167 (38%) of the articles contained at least one analogy. A total of 234 different analogies were identified. Example analogies

are: Formation of a new country being like the birth of a baby, or formation of a new country being like a divorce.

A majority of the analogies analyzed were other-domain analogies using sources outside the domain of politics (n=179, 76.5%). The categories of sources used most frequently were: Magic-Religion, Sports, and Family-relationships. The types of analogies made by the YES and NO sides did not differ significantly. Both used the same proportion of other-domain analogies and both used the same source categories. Importantly, although both sides used the same overall source categories, the two sides never used the same sources (see examples above). Analyses of emotional connotation reveal that 39.7% (n=66) of the analogies were intrinsically negative, 15% (n=25) neutral, and 45.1% (n=75) positive. The proportion of sources with positive, negative, and neutral emotional loading varied as a function of the range ($p < .0001$, $\chi^2 = 32.894$). Other-domain analogies were judged less neutral than within-domain analogies.

Discussion

Analogies were frequently used in this political campaign and provide a number of new insights into the mechanisms underlying the generation of analogies. Our analyses suggest three main constraints are involved in the selection of a source while generating a political analogy: familiarity, simplification, and emotional loading.

The selection of a source is not only constrained by the similarity in features and relations between source and target, but also by what the analogizer thinks is the knowledge state of the audience. Both politicians and journalists used familiar source categories such as sports or housing to explain the complex aspects of the political debate.

Analogy, when used in a complex reasoning situation like politics, can serve as a way of simplifying the task at hand. Analogy limits the set of factors of the problem that will be addressed and it is used to relate the unfamiliar and complex domain of politics to more familiar domains of knowledge.

Another factor involved in the use of other-domain analogies is the emotional connotation associated with a source that is then mapped onto a target. We suggest that, especially in this domain, analogy is not only a way to import new knowledge onto a target, but also a way of associating a specific emotional state with the target of interest. The transfer of emotional connotation could be crucial in the persuasive process. The use of emotional connotation as a factor in the selection of a source could also explain why the opposing sides tend to select alternate sources from the same categories instead of disputing the particular features of a given analogy.