



Response to Robison, “Category Structures and Fuzzy Sets”

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[1] I am gratified by Brian Robison’s response to my essay, not the least because his references are drawn exclusively from the end of the alphabet, a place dear to my heart. I also value Brian’s close and sensitive reading of the essay, and his extension of some of its informal formalizations through further formalization and fuzzification. Readers familiar with the SMT list will remember the considerable amount of interest in fuzzy set theory expressed on the list somewhat over a year ago, and may even have at hand the fine bibliography Betsy Marvin assembled and distributed through the list. Because I think of the theoretical methodology I proposed in the essay as a flexible one, I have no argument with Brian’s extension. My response is consequently geared toward a brief exploration of some of the implications of Brian’s response, as well as a few points of clarification.

[2] In my original propositions I offered a fairly loose characterization of categorical structure, intended to model the understanding of a listener moderately familiar with the repertoire but not necessarily well-acquainted with Bruckner’s Sixth. As I mentioned in the essay, my assumption is that a listener would arrive at these characterizations without recourse to even the informal formalizations I offered (Zbikowski, 1995: [25])—the propositions instead reflect listeners’ “intuitions” about musical organization.

[3] Of course, some people’s intuitions are considerably more refined than others, and so one would expect the structure of their categorizations of musical events to be rather more detailed, and perhaps embody the specificity of Brian’s P3’c ([7] above). Figuring out which is the more accurate characterization would seem to be a matter for empirical verification: recompositions of the relevant passages might be played for listeners, each passage emphasizing different aspects of the hypothesized categorical structure, with the intent of revealing just what musical attributes are most relevant for determinations of similarity. A model for this sort of investigation is Lucy Pollard-Gott’s 1983 study. Interestingly enough, initial determinations of thematic similarity by most of her listeners had little to do with pitch structure, but were instead based on what are oftentimes thought of as “secondary” parameters: register, dynamics, and the like (Pollard-Gott, 1983: 92–93).

[4] The aspect of contour is another area where Brian and I had slightly different approaches. Here I am guilty of a little bit of sloppiness in my prose (what Kerry Snyder, within the context of looking for typos, referred to as a “thinko”). When I

claimed there was an “exact mirror” of contour pattern, my thoughts were firmly in Robert Morris’s c-space (Morris, 1987). Brian’s accommodation of my observation is entirely appropriate, and clarifies what I had expressed unclearly. His discrimination between large and small intervals (and his comment about the problem of large steps and small leaps) fits well with Eugene Narmour’s recent work on melodic intervals (see Narmour, 1990; Zbikowski, 1993; and Krumhansl, 1995), which offers a more-or-less explicit formalization of this discrimination. And Brian’s fuzzy corollary relating to the importance of the beginnings of thematic statements [10] is borne out by any number of psychological studies of in-time processing.

[5] What remains, of course, is a specific implementation of the fuzzy logic approach sketched in Brian’s response. The advantage of this approach is that it will introduce a type of formalization about which there is a good deal of interest into the theoretical methodology I proposed, and use this formalization to create somewhat more precise characterizations of categorical structure. I look forward to seeing further work in this area.

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