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Good Read: Disputed Definitions

-Karen Baker (PAL/CCE)

This short news feature in Nature (2008, Oct 23. Disputed Definitions. Nature 455: 1023-1028) presents five example terms commonly used in the scientific realm. The examples - paradigm shift, epigenetic, complexity, race, and tipping point - are a mix of discipline-specific and interdisciplinary terms. Each is defined briefly by one of the co-authors and shown to have a number of interpretations. For instance, in the case of 'tipping point', the term is explained as being used with two very different meanings: 1) an irreversible point of no return and 2) a threshold at which a reproductive rate goes above one. For the terms, the article introduces two types of definitions, both susceptible to ambiguity: stipulative or working definitions and essential definitions that identify uniqueness or characterize difference. The ambiguous terms are presented as exceptions since there are a plentitude of terms that are not so 'troublesome'.

The article is a quick read and an interesting one, especially with semantics playing an increasingly important role for all those working with data whether addressing metadata in particular or ontological issues in general. The article seems to miss, however, the opportunity to make explicit the idea that ambiguous terms may be identified as areas of active knowledge building in contrast to discussing them as problematic. The article sets the stage from the start with a title that identifies definition differences as 'disputes' perhaps as a journalistic device for drawing in the reader. An alternative title such as 'Ambiguous Terms Represent Knowledge-Making Arenas' would have foregrounded knowledge making processes. This change in focus transforms the 'disputes' into 'inquiries' and 'healthy tensions' that are integral to scientific research. While the semantic work associated with data and metadata has exploded onto the scene in recent years, the work of knowledge-making remains largely implicit as is the case in this article. That is, in addition to highlighting a lack of consensus on contemporary

topics, it is also valuable to focus on articulating what is an ongoing, exciting arena of scientific inquiry. From this perspective, ambiguous terms are placeholder concepts, indicators of arenas where scientists are participating in integrative work and where time is required for describing, classifying, and synthesizing the intellectual landscape. Explicitness may well shape how participation in semantic issues unfolds, though wishful thinkers may hope this knowledge work will be done “elsewhere” - perhaps as a comprehensive automated mapping or maybe an agreement negotiated by a disciplinary ‘semantic disambiguation’ working group of some type. Though lacking in semantic scope, the article ‘Disputed Definitions’ alerts us to the existence of terms with multiple meanings and prompts us to consider the ramifications of ambiguity in scientific definitions.