In search of intended meaning: Investigating Barwise's equation $C_R(S, c) = P$

İ. Emre Şahin and Varol Akman
Department of Computer Engineering
Bilkent University, Bilkent, Ankara 06800, Turkey
{iesahin,akman}@cs.bilkent.edu.tr

(EXTENDED ABSTRACT)

In [2], which is—to our best knowledge—his only work on literary interpretation, Barwise presents a semantical equation to relate (constrain) the basic constituents of content:

$$C_R(S, c) = P$$

Here, S is a sentence—or possibly a smaller or larger unit of meaningful expression for a language—that's written by an author and c is the circumstance in which S is used. R is defined as the language conventions holding between an author and a reader (or better yet, his readership). P, probably the most important part of the equation, is the content of S or, the intended meaning of the author. We assume that the communication between an author and a reader is limited only to written text. Consequently, it is not possible to ask the author about his intention for writing S; that will have to be discovered by a reader.

To give an example, our implicit assumption in writing the present paper can be formulated as:

$$C_{R_a}(S_a, c_a) = P = C_{R_r}(S_r, c_r)$$

where R_a, S_a, and c_a are our language conventions, sentences, and circumstances respectively, and R_r, S_r, and c_r are those of our reader's. We have some intended meaning P in mind, and in this paper, our goal is to transmit that to our readers. (R_a and R_r are hopefully overlapping to a large extent.)

For many kinds of written material, the content P is a single intended meaning which is addressed by an unequivocal author. However, in most literary works, and especially in poetry, authors may aim, for assorted reasons, at more than one intended meaning. The so-called "richness" of a literary work is usually rooted in its being ambiguous (or rather, multi-faceted) in meaning.

To address this problem, the right hand side of Barwise's equation may be defined as a set of possible intended meanings. These are clear to the author—we suppose—during the writing activity but may be cumbersome to discover during (subsequent) reading.[1]

Some would think that Ps that reside in the mind of an individual directly map into some structures of language, viz. there is a rather principled relation between P and S in the formula. We will approach this subject using the inverse of the notion of "efficiency of language," cf. Barwise and Perry [3]. Here, since we believe in the inevitable role of P in communication, we will make the opposite claim—that there are different ways to express P and that this is the source of variations of language use.

An author, especially when writing fiction, creates an artificial circumstance at first and builds his work around this circumstance. We can safely assert that every work, fiction or nonfiction, depends on some circumstance and its author either—usually in fiction—creates this circumstance across a bunch of pages, or—usually in nonfiction—assumes that reader is familiar with the background subject to some extent.

Suppose that author has something in his mind and wants to share this with his readers. He has an intended meaning P in mind. To achieve P, he determines the elements of circumstance that best fit to his needs.

There may be objections to this view, because some authors do not start from a top-level intention, but from a lower level one and proceed from that one. Although this seems like an obstacle for the view mentioned above, this sort of writing has also some preliminary circumstance, and starting from details, authors of this kind of writing *explore* their intention.

After determining the detailed situations and the course of events, the author's aim is to create a circumstance as similar as possible with the tools provided by language. Here, the author can choose to play with the rules of language in order to reflect the circumstance. Also, this is the point where the author makes either implicit or explicit assumptions about the language conventions.

A reader, picking up the written material in his hand, normally reads it from beginning to the end. Therefore, ideas frequently appear in his mind as they are written, viz. sequentially. And more often than not, a reader understands the text in his first pass; he does not go through the text over and over again in order to bind variables, rewrite portions, reorder passages, make optimizations, etc. (unlike the compiler of a programming language).

Our primary notion to understand the reader activity is the *intention space* and the progress (or evolution) of it during reading. We now try to underline the effects that are posed by elements of Barwise's equation.

From the perspective of a reader, who never saw some book, the author could have intended every possible meaning. This can be denoted with the cardinality of intention space being infinite. If a reader is familiar with the

[1] This applies even to the author himself: many of us have encountered those disturbing situations where we see a note we have scribbled a month ago and spend a lot of time just to recover our original intention for writing it.

language conventions that the book uses, we assume that he can read the book. Here, if the text is accessible and not boring for the reader, we can claim that the world the book offers can be built in the intention space that the reader has in his mind. The reader may read sequentially, may skip pages or chapters, or may choose to browse. The intention space, with every element that is added, acquires new restrictions and readers start to understand what the author is saying about the world in the book.

Of course, things are not always clear cut. Ambiguity comes in two kinds. The first one is due to large intention spaces, and the other is due to incompatible intentions in an intention space. The former can be exemplified by the so-called "open texts" [5]. In such texts, the openness stems from the size of intention space: the intention space cannot be fully circumscribed in a reader's mind. The author does not write something to mean *something* in an open text. Rather, he writes to keep his intention space large so that reader can consume only a portion of that. (And just what that portion might be is up to reader.)

The second kind of ambiguity is in fact an incompatibility problem. Being in an intention (sub)space does not eliminate the need to have a "copy" of the intention (super)space, and from this complications can arise. In general, being a reader makes one to divide the infinite intention space into pieces and discarding irrelevant pieces. The criteria to discard some intention in favor of other seems the exact problem of understanding texts [1].

Authors must also assume some familiarity on the part of a reader with the concepts they write about, and this assumption lies between the borders of R and c. Because this type of familiarity usually counted among the language knowledge, there will not be a clear distinction between c and R in these cases. If the author tells about some planet and assumes that a reader knows the meaning of the word *planet*, does he assume something for R, since he assumes the reader must know what a planet is, or does he assume something about c, that is, if the reader knows what a planet is, he must be able to infer some knowledge about the circumstances told in the work?

In order to cope with this problem, the easy way is to posit R and c as being mutually exclusive, and define c as the *special* part of circumstances that are used in the work and R as the remaining part of the language. This is a solution, but does not present us with a standard about separating c and R. To wit, the assumptions underlying children's books and Shakespeare's plays are not the same. This leaves in our hands an approach which displays close dependence on the specific work to be interpreted. Such dependencies are usually the key points of a debate concerning the value of a literary work.

In order to produce some standard about the separation of c and R, one must come up with explicit definitions for these elements. Definitions may be reader-oriented and follow the reference rules in the mind of a general reader (i.e., the model reader of Eco) or writer-oriented and follow the rules of the author.

We hope to give a much broader and more precise account of these issues in the full version of our paper.

References

[1] Akman, Varol, "Ripping the text apart at different seams," *Stanford Humanities Review* 4(1): 31-34 (1994). [Special supplement: *Bridging the Gap (Where Cognitive Science Meets Literary Criticism)*, G. Gzeldere and S. Franchi, eds.]

[2] Barwise, Jon, "On the circumstantial relation between meaning and content," Chapter 3 of his *The Situation in Logic*, CSLI Lecture Notes, Number 17, Center for the Study of Language and Information, Stanford, Cal. (1989).

[3] Barwise, Jon and John Perry, *Situations and Attitudes*, MIT Press, Cambridge, Mass. (1983).

[4] Percy, Walker, *The Message in the Bottle: How Queer Man is, How Queer Language is, and What One Has to Do with the Other*, Farrar, Straus and Giroux, New York (1975).

[5] Eco, Umberto, *The Role of the Reader: Explorations in the Semiotics of Texts*, Indiana University Press, Bloomington, Ind. (1979).