

# The (In)Determinacy of the Pictorial Sign: Evaluating Health Education Illustrations from a Semiotic Perspective

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## Abstract

The basic point of departure for the present study was one of Habermas' principles of communicative ethics, namely universalization, requiring the acceptance (*Zustimmung*) of the communicative norms at play by all concerned without coercion. The study focused on evaluating the communicative acceptability of health education illustrations meant for an elderly (mean age 71.7 years), pre-dominantly Sesotho-speaking (84.7%) and primarily female (87.1%) target group in Sharpeville, South Africa. The emphasis was on the relationship between the semiotic other (members of the target group) and the semiotic self (the researcher), i.e. on the contractual axis of semiosis in Johansen's 'semiotic pyramid' model. The first phase comprised a survey with questionnaires (n=140) to obtain input about pictorial illustration preferences. The respondents indicated their preferred option among a range of different pictorial signs and illustration approaches, explaining their choice. On the strength of this input, an illustrated nutrition education calendar was produced and disseminated in the target group. The second phase involved follow-up questionnaires (n=137) approximately one year later. The second set of questionnaires measured whether the target group wanted to move away from the previously agreed on pictorial signs and consensus-based pictorial illustration approach. The outcome was that the target group strongly disagreed with the introduction of new pictorial signs and illustration approaches. This result highlights that evaluating the acceptability of pictorial signs and illustration approaches in a particular target group is not necessarily primarily a question of understanding the complex and tenuous relationship between the referent and the iconic sign, but also about how pictorial meaning may be stabilized, or de-stabilized, as a result of a shifting and evolving relationship between the semiotic other and the semiotic self.

## 1. INTRODUCTION

The present paper engages with the notion of vagueness, or indeterminacy, of the pictorial sign in a development communication setting. For the purpose of this paper, indeterminacy is defined in a Piercian sense. As pointed out by Brock (1981: 133-134, see Bergman, 2009: 265):

It is important to note that Pierce's concepts of indeterminacy were initially defined and interpreted relative to a given universe of discourse and a given state of information. This relativity is presupposed by the later pragmatic analysis of indeterminacy and determinacy. According to this analysis, a term is indeterminate if it allows a latitude of interpretation or further determination relative to the purpose(s) of a given discourse or inquiry and is determinate if it does not.

The latitude of interpretation of a pictorial sign in a particular target group, or «universe of discourse», ultimately links with questions surrounding the referent-pictorial sign relationship in a general sense, as discussed in influential and often-cited publications such as Sonesson (1989), Groupe  $\mu$  (1992) and Saint-Martin (1990). In this regard, Blanke (1998: 229) points out that over and above the main limitations of the notion of resemblance as a basis for iconicity, icons in general and pictorial signs in particular ultimately have to be interpreted by someone, implying that an in-depth understanding of how pictorial signs operate involves engaging equally with issues of referent-sign resemblance, or the lack thereof, as well as culture-based contingencies and contextual determinants. A similar sentiment is expressed in greater detail by Sachs-Hombach (2000). Culture-based contingencies and contextual determinants that impact on the pictorial signification process relate closely to Habermas' work in the area of discourse ethics, where universalization is a dominant principle. Universalization requires the acceptance (*Zustimmung*) of the communicative norms at play by all concerned without coercion, implying both agreement (*Einverständnis*) and a contract (*Vereinbarung*). According to Habermas (1998):

Only those norms can claim validity that could meet with the acceptance of all concerned in a practical discourse. ... A norm is valid when the foreseeable consequences and side effects of its general observance for the interests and value-orientations of each individual could be jointly accepted by all concerned without coercion.

This means that the latitude of interpretation associated with a specific pictorial sign in a particular target group depends on the type of agreement reached regarding the communicative norms at play, or the contract concluded by the parties of the pictorial signification process concerning the properties of the pictorial signs to be included in the discourse, and the manner in which they are employed. In an instructional communication setting, it therefore seems fair to assume that the vagueness, or indeterminacy, of a pictorial sign, or an aggregate of pictorial signs for that matter, will decrease as the level of acceptance and/or agreement concerning their use increases.

## 2. DISCUSSION OF AN EXAMPLE

Some of the above-mentioned issues were explored further in an elderly (mean age 71.7 years), pre-dominantly Sesotho-speaking (84.7%) and primarily female (87.1%) target group in Sharpeville, South Africa. The home language distribution of the target group was 70.6% Sesotho, 7.8% Tswana, 8.8% Zulu, 10.8% Xhosa, 1.0% Pedi and 1.0% Afrikaans. The emphasis was on the relationship between the semiotic other (the members of the target group) and the semiotic self (the researcher), i.e. on the contractual axis of semiosis in Johansen's «semiotic pyramid» model (Johansen, 1993; Johansen and Larsen, 2002). In particular, the focus of the investigation was on how a shifting and evolving relationship between the semiotic other and the semiotic self may either stabilize or de-stabilize the latitude of interpretation of the pictorial sign in this specific target group.

In a development communication setting, issues and concerns relating to the latitude of interpretation of a pictorial sign usually link in the first instance with the need to strike a balance between using a pictorial sign in a way that is not so difficult as to create a sense of hopelessness and frustration on the part of the viewer, nor in a manner that is so easy as to lead to boredom on the other hand (this design guideline is also discussed, albeit in a different context, in McLellan, 1998:197). In other words, the successful use of pictorial signs in a development communication setting typically involves negotiating a dilemma. The one horn of the dilemma is that the majority of authors recommend a simple, straight-forward style of presentation for the pictorial signs in order to avoid the risk of needlessly confusing the target group, especially when the overall levels of formal education in the target group are low. The other horn of the dilemma is that over-simplified pictorial signs usually fail to attract and maintain, or continually re-draw, the attention and interest of the target group.

In the light of the above, the first step of the present investigation involved conducting a survey with questionnaires (n=140) to obtain input about pictorial illustration preferences in the target group. The respondents indicated their preferred option among a range of different pictorial signs and illustration approaches, explaining their choice during a voluntary personal discussion conducted in the respondent's home language with a research assistant, who completed the questionnaire in the presence of the participant. For example, three different versions of an illustration depicting two hands being washed under a flowing tap in order to illustrate a personal hygiene-related message were presented to the respondent for comment. The three versions differed with regard to:

1. The level of pictorial abstraction. The respondents were presented with a range, or continuum, of options ranging from a highly abstracted version consisting only of basic pictorial information, i.e. only the outlines of the hands, the tap and the flowing water, to a version where some additional details, such as the outline of finger nails on the hands, were added, to a version with a considerable amount of pictorial detail, including lines and creases on the surface of the hands and fingernails, details on the handle of the tap, details on the soap between the hands with the word «Soap» written on it etc.

2. The level of shading or color fill. The respondents were presented with a range, or continuum, of options ranging from a black and white line drawing with no color fill at all, to partial color fill (for example, only the hands were shaded a light brown color and some of the water drops were shaded a blue color), to an illustration where all the pictorial elements had a color fill.
3. The overall illustrative style. The respondents were presented with a variety of options ranging from illustrations that were produced in a pictorial style similar to the clip art found on standard illustration software, to illustrations done in a style associated with children's storybooks, to a pictorial style where the emphasis is on photo-realistic rendering.
4. The picture-written information relationship. The respondents were asked to comment about the relationship between the pictorial illustration and accompanying written information. It is important to note that while the exact level of verbal illiteracy was not established, the target group may be described as low-literate, where approximately a third of the members were not able to read and write independently a simple sentence about everyday life. This meant that the data collection was designed in such a way that the respondents were not required to read or write in order to participate, as the field worker read the contents of the questionnaire, or the written information associated with the pictorial illustrations, out loud to those participants who were not able to read them independently. In addition, the field worker completed the questionnaire on behalf of the respondent in her/his presence.

Further, the questionnaire contained several items where a pictorial illustration was presented to the respondent together with the simple question «What does this image show?». The answers to these questions gave a valuable indication of the level of vagueness, or latitude of interpretation, of a particular pictorial sign in the target group. For example, an abstract, clip-art style illustration of a salt cellar was shown to the respondents accompanied by the question «What does this image show?». Only one percent of the respondents supplied the correct, or envisaged, answer. The remainder of the respondents gave a wide range answers along the lines of «It is a hamburger 'or' A hat 'or' A bangle you put around the upper arm» etc., indicating a very wide latitude of interpretation.

On the strength of the questionnaire responses, an illustrated A1-size nutrition education calendar was produced and disseminated in the target group free of charge. The calendar covered the twelve most important nutrition education guidelines (one guideline per month, written in three languages), and each of these guidelines was accompanied with one pictorial illustration compiled according to the lessons learned during the first set of questionnaires and the consensus-based preferences of the target group that emanated from these questionnaires. The second phase of the investigation involved follow-up questionnaires (n=137) approximately one year after the calendar was disseminated in the target group. The second questionnaire measured whether the target group wanted to move away from the previously agreed on pictorial signs and consensus-based pictorial illustration approach, by asking the target group

to comment on additional pictorial illustration options. Specifically, the second questionnaire introduced pictorial illustrations produced in a style associated with the signs typically used at international airports, or pictograms, primarily based on examples in Abdullah and Hübner (2006). The second questionnaire covered:

1. Placing two versions of a pictorial illustration next to each other and asking the respondent to indicate the preferred option, as well as reasons for the choice. For example, a hand-drawn illustration of a lollipop sweet, used in the calendar in order to illustrate the nutrition guideline «Use sugar sparingly», was placed next to a similar pictogram-style version of the same lollipop sweet.
2. Showing pictogram-style illustrations both with white lines on a black background and with black lines on a white background and asking the respondent to comment on which of the two is clearer, linking with Boehm's notion of «ikonische Differenz» (Boehm 1994, see also Halawa, 2008:129).
3. Presenting the respondent, similar to the approach in the first questionnaire, with different versions of a pictogram that differ with regard to the level of pictorial abstraction, asking the respondent to indicate the preferred option, as well as reasons for the choice.

As was the case in the first questionnaire, the second questionnaire also contained several items where a pictorial sign was presented to the respondent together with the simple question «What does this image show?». The answers to these questions pointed towards the level of vagueness, or latitude of interpretation, especially regarding pictograms as a particular type of pictorial sign in the target group. For example, a pictogram of tablets, or medication pills, drawn in white lines on a solid black background was shown to the respondent with the question «What does this image show?». The majority of the respondents were not able to identify what was depicted correctly, giving answers such as «Footprints in the sand 'or simply' I do not know». The majority of the respondents also indicated that pictograms with black lines on a white background were clearer than pictograms with white lines on a black background. Seen as a whole, the outcome of the second questionnaire was that the target group strongly disagreed with the introduction of new pictorial signs and illustration approaches and opted not to deviate from the approach used in the nutrition education calendar. The majority of respondents indicated that the pictograms, or pictorial illustrations produced in a style associated with the signs used at international airports, were to them not as clear as the hand-drawn, sparingly shaded or filled in, photo-realistic line drawings used in the nutrition education calendar.

### 3. CONCLUSION

The above example highlights that evaluating the acceptability of pictorial signs and illustration approaches in a particular target group is not necessarily primarily a question of understanding

the complex and tenuous relationship between the referent and the pictorial sign, but also about how pictorial meaning may be stabilized, or de-stabilized, as a result of a shifting and evolving relationship between the semiotic other and the semiotic self. In the above example, negotiations relating to the contractual axis of semiosis (Johansen, 1993; Johansen and Larsen, 2002), or the communicative relationship between the semiotic other (the members of the target group) and the semiotic self (the researcher), occurred by means of structured questionnaires, as well as the comments supplied by the members of the target group in the course of the data collection process. Such an approach is in fact very close to Gadamer's understanding of praxis - i.e. a «...dialogical experience by listening as well as talking while at the same time being open to redefine our position on what we are seeking to find». (Roy & Oludaja, 2009:265). In the end, the above example shows that dialogue, albeit highly structured, between the semiotic self and the semiotic other(s) may assist in raising the acceptability and reducing the vagueness, or indeterminacy, of a pictorial sign in a particular setting. That is not to say that the categories of «self» and «other» are always watertight, and that the political dimension of research practice does not impinge on the semiotic self-semiotic other dialogue. With regard to the latter, Shome (2000:172) writes that:

If the goal of intercultural work is to empower the voice of Others, then a serious examination of our histories, geographies, locations, and positionalities that inform the politics of our research must be taken into account. These are important issues, for they highlight how in the process of producing knowledge about Others we may too often find our knowledges ending up reinforcing the very systems that we want to destabilize.

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