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Text Quality Three Paths in Experimental Research (*)

Jan RENKEMA

1. Introduction

The term "text quality" is used in this article in a very broad sense. It serves as a blanket term for readability, attractiveness and purposiveness. For a similar approach, see e.g. Van Wijk and Sanders (1987).

There are three problems which arise in text quality research.

First, the vagueness and subjectivity of qualitative judgments : judgments about texts are usually very vaguely worded (see Carroll 1960, Renkema 1986 and Molinié 1989). Thus, for example, a typical qualitative assessment might read : "the text does not flow smoothly", "the text is messy" or "I do not understand the context". It is often unclear which text element has led to a particular judgment : the verdict "messy" may be based on a formal characteristic, such as the fact that almost every sentence begins on a new line, but also on the fact that similar, redundant information is presented at different points in the text. Moreover, different qualitative judgments on one and the same text may be widely divergent (in this respect, see discussions on essay assessment, e.g. Diederich 1974). Our article presents an experiment providing more insight into the criteria on which qualitative judgments are based.

Second, advice given for the improvement of text quality usually lacks a firm basis in text research (see Davison and Kantor 1982, Wagenaar, Schreuder and Wijlhuizen 1987, and Davison and Green 1988). So for example, recommendations against use of the passive voice do not usually state that this form is actually to be preferred in certain cases, for example when it is important not to name the agent ; nor are there empirical data on better readability or greater attractiveness of the active form. Our article gives an account of experimental research into the question of whether certain types of syntactic constructions are more difficult to read than their counterparts. This research is triggered off by the recommendation given by many writing advisers to avoid discontinuous constructions in Dutch.

(*) Article edited by the RBPH staff.

Third, in discussions of text quality the role of the reader is generally disregarded. An exception to this is Nystrand's approach (1986): he argues for a text analysis based on the principle of reciprocity between writer and reader. This principle reads as follows:

“[The principle of reciprocity] governs how people share knowledge, specifically their determination of what knowledge they shall exchange when they communicate, plus how they choose to present it in discourse”. (1986: 52).

On the basis of this principle, Nystrand has suggested that the quality of a text is determined by the balance between the goals and intentions of the writer on the one hand, and the expectations and needs of the reader on the other. In our article an account is given of a particular sentence structure.

These three experiments are dealt with here because they represent three styles of research aiming at better understanding of the concept of “text quality”, i.e.:

1. the criteria on which judgments of texts are based;
2. the effect of acting upon writing recommendations, and
3. the influence of expectations about the text on assessment of the text.

2. *A judgment experiment*

In order to discover which criteria govern text quality judgments, an experiment was carried out with various versions of a single text (see Renkema 1990a). The texts differed in quality, on the basis of intuitive judgment. The texts had been written (in Dutch) in a course on journalistic reporting, and were based on the same information. Blatant spelling and stylistic mistakes in the text were corrected, because these have a strong influence on judgment. A literal translation of one of the texts used in the experiment is given below. An explanation of the figures 1, 2, 3 and 4 occurring in the body text is provided later.

MORE ATTENTION SO SAFETY IN DE VLIERT (translation of specimen text)

DEN BOSCH — The safety (3) of players and public in the sports stadium of De Vliert (3) in Den Bosch can be considerably improved in the coming facelift of the stadium. The municipal authorities have adjusted the renovation plans to create a better division of the stands, making a more efficient (4) separation of the supporters possible (3). The municipal authorities have to allot an extra (2) 650,000 guilders for the extra (2) work. That is twice as much as (2) for the old (1) plans.

The mayor and aldermen propose that the city council make a supplementary sum of around one million (4) guilders available for the extra

work (1). A condition however is that central government make a contribution in the context of the so-called rechanneling regulation. This regulation was introduced by the government in order to stimulate municipalities, when building, to help long-term unemployed builders back to work (2). Agreements (3) were made about this with the contractor Ballast-Nedam.

The extra work which now has to be carried out in the renovation of De Vliert consists of placing more dividing fences on the stands without seating, which increases the safety of the people in the stadium. There will be more steps between the sections, so that in case of emergency the public can leave the stadium faster. The municipality (4) also wants more safety and comfort for the public by having individual (1) seats in the covered seating area and fitting rows (2) of seating in the stands.

Forty subjects (advanced Dutch-speaking students and text researchers) were given the texts about this topic with the request to rate them as "good", "average" or "bad". No explanation was given as to the nature of these qualifications. When two or more texts were placed in a single category, a gradation was to be given within that category. The subjects were also asked to indicate, during the reading, which text elements led to a particular judgment, and to give a motive for their judgment afterwards. The sample text above was judged to be the best by some readers, and rated as the worst by others, surprisingly on grounds of the same text elements.

In this experiment with forty test subjects an average of five elements per text were marked and provided with a motivated judgment. Of these judgments, 95% could be placed in the following four categories. Each criterion is followed by qualifiers describing negative and positive "excess" in the category.

I. completeness :	incomplete	over-comprehensive
II. accuracy :	too vague	too detailed
III. structure :	unstructured	over-structured
IV. consistency :	contradictory	monotonous

I. Completeness :

This category is very similar to the Gricean maxim of quantity : "Make your contribution as informative as is required". A negative judgment ("incomplete") can be related to the lack of required information. The judgment "over-comprehensive" could have something to do with repetition on a paragraph level, for example, but also with pleonasm or tautology.

Examples of completeness (marked by (1) in the sample text) :

- line 8. No information about old plans.
- line 11. The whole sentence is unnecessary

line 22. The word "individual" for "seats" is superfluous or pleonastic. Seats are by definition individual.

II. Accuracy :

Regardless of the aspect of completeness, the information may or may not be presented accurately or explicitly. The phenomenon of "ambiguity" is an example of insufficient accuracy. When too many details are given there is exaggerated accuracy. The difference between "over-comprehensive" (I) and "too detailed" (II) can be described as follows : judgments of the first type only refer to redundant information, e.g. when a writer states twice that an event takes place at a particular time ; whereas in the category of accuracy, the issue is the degree of precision : compare the statements of time "it is nearly three" and "it is 14.53 and 16 seconds".

Examples of accuracy (identified by (2) in the sample text) :

lines 6 and 7. The words "extra", "more" and "twice as much as" are too vague. Detailed information is required here.

line 15. The explanation of the rechannelling regulation is too detailed.

line 23. What are rows of seating ? More precise information is needed.

III. Structure :

This category consists of judgments of the arrangement of information and the distinction between main and subsidiary points. If the reader judges the text to have "neither head nor tail", or when sentences and paragraphs "appear out of nowhere", then there is a negative deviation. The same is true for qualifications like "fragmented information" or "unmotivated paragraph division". A positive deviation could refer to section titles with four decimals, or too many connecting words, or an excess of introductory and summarising paragraphs.

Examples of structure (marked by (3) in the sample text) :

lines 1 and 2. The word "safety" and "De Vliert" form a good link between this first sentence and the title.

line 6. This sentence belongs to the second paragraph. Therefore a new paragraph should begin here.

line 15. This sentence comes out of the blue.

IV. Consistency :

Judgments which originate in consonance or parallelism are placed in this category. For example, the consistent use of words from a particular register, or adhering to a particular principle of arrangement. A case of "over-consistency", for example, is the use of an exaggeratedly long metaphor, or too little variety in word usage. Examples of the lack of consistency are stylistic

errors, violations of the "agreement" rule, or skipping to **another** principle of division.

Examples of consistency (marked by (4) in the sample text) :

line 5. The word "efficient" can only be applied to **things** and **not** to people (in Dutch).

line 10. The amount of "a million" contradicts the **sum** of "650,000 guilders" mentioned previously .

line 21. Here, it is as if the municipality has already agreed **on a** plan, while previously only a proposal by the municipal executive **was** mentioned.

From this experiment, several interesting indications can be **gained**. Firstly, in judging a text much more attention is paid to **characteristics** of content than to those of form (the categories "completeness" and "accuracy"). Secondly, at the level of formal characteristics the issue is **not so much** the care taken with language, as the relation between paragraphs and sentences. Judgments of text quality, then, appear to be determined **mainly** by content and structure.

The next experiment addresses the question of whether **advice about** sentence structure is actually conducive to better text writing.

3. *The recommendation about discontinuous constructions*

According to many Dutch advisers on writing, the **examples** marked **b** are presumed to be "better" than the corresponding **a-examples**. (*It should be noted here that the examples are translated literally, almost word-for-word, from Dutch, and that the discontinuous NP structures, which rate as altogether ungrammatical in English, correspond to possible sequences in Dutch*).

(1a) At this moment in time the long-term real **minimum-wage** earners are in an inhuman position, according to a — written **by** members of the University of Leiden — report.

(1b) At this moment in time the long-term real **minimum-wage** earners are in an inhuman position according to a report written **by** members of the University of Leiden.

(2a) On being asked, the CITO commented that although **the** score only gave an indication for possible further training, the **test** was acquiring more and more the status of the most important basis **exam**.

(2b) On being asked, the CITO commented that the **test** was acquiring more and more the status of the most important basic **exam**, although the score only gave an indication for possible further **training**.

Sentence (1a) is supposed to be difficult to read because **of** the distance between the indefinite article "a" and the noun "report". This **discontinuous** nominal structure has been rewritten in (1b). Sentence (2a) **is** supposed to

be more difficult to read because the subordinate clause "that ... the test was acquiring etc." is interrupted by another subordinate clause. In (2b) this subordinate clause discontinuous structure has been rewritten by placing together what belongs together. Are the a-versions really more difficult than the b-versions? To answer this question, Dutch texts were designed which differed only in this respect, i.e. : the nominal discontinuous structure vs. the verbal discontinuous structure. An example of each (see Renkema 1990b), translated literally from Dutch, is given below.

Nominal discontinuous structure (*again, note that the ungrammatical structure in English corresponds to a possible NP structure in Dutch*) :

NEW PRESIDENTIAL CANDIDATE

In both the Republican and the Democratic camp, new candidates are constantly coming forward for the American presidential elections in 1988. The Republican party has recently announced a new candidate : the 41-year-old James Callaghan from Wisconsin. Callaghan stands out clearly from the grey mice which his party has up to now put into the ring. According to senior politicians, Callaghan's ideas are damaging to the *by many Republicans regarded as too democratic* policy.

On defense in particular, there could be deep cutbacks for the benefit of education and welfare.

According to Callaghan, the current negotiations on disarmament offer an opportunity to direct annually tens of millions of dollars to a much more worthwhile end.

Subordinate clause discontinuous structure

PROVOCATION IN STRIKE CONFLICT

The industrial union FNV has accused the management of the Rotterdam Vervoersbedrijf of provocation in last week's strike.

The management then insisted on a demonstrative march with fifteen non-strikers from outside the site to the factory gate.

The march was not repudiated by a spokesman of the company, but it was denied that it was intended as a provocation.

The management wanted to show that *as long strike leaders use gate blockades against non-strikers*, the daily intimidation and attempts at assault will escalate.

The management actions, according to strike leader De Jong, are in conflict with agreements made before the outbreak of the strike. The industrial union and the management have agreed that both parties will refrain from intimidatory actions in order to avoid making negotiation unnecessarily difficult.

In the "minus discontinuous structure" condition, only the sentences with a discontinuous structure were changed in the Dutch original, i.e. in the first

text : "According to senior politicians, Callaghan's ideas are damaging to the policy *which is regarded as too democratic by many Republicans*" ; and in the second excerpt : "The management wanted to show that the daily intimidation and attempts at assault will escalate *as long as strike leaders use gate blockades against non-strikers*".

These texts were used in a reading time experiment. It was also checked whether there was a difference in the response to verification questions, after a reading of the full texts, and whether typing mistakes in the middle part of the discontinuous structure were less noticeable than in the corrected version. This was done to verify the assumption that a reader has to carry out an extra activity with a discontinuous structure, that is, to store temporarily the beginning of the construction and then read the middle section. This experiment revealed that for the nominal discontinuous structure, during and after reading no significant difference could be ascertained between the conditions of "plus discontinuous structure" and "minus discontinuous structure". The subordinate clause discontinuous structure produced a significant difference during reading, i.e. the middle section required more reading time in the "plus discontinuous structure" condition. Processing a subordinate-clause discontinuous (mid-branching) structure takes more time, but the construction, it appears, does not lead to a worse understanding of the text. Similarly, with the typing mistakes, there appeared to be only a slight effect with the subordinate-clause discontinuous structure.

The following indications can be gained from this research : firstly, the advice to "avoid discontinuous structures" is too general. In Dutch at least, a subordinate-clause discontinuous structure appears to be "worse" than a nominal discontinuous structure. Secondly, arguments with regard to "worse" understanding of the text are not as yet convincing. In this research, it turned out that more time was needed to read the text, but after reading no difference could be ascertained. It would appear that to determine readability, and with it text quality, more insight into the reading process is required. A more precise idea of this process may be gained by research into readers' expectations, to which we must now turn.

4. *Readers' Expectations*

In the introduction, it was argued that the quality of a text can be defined in terms of balance between the writer's aims and intentions on the one hand, and the reader's expectations and needs of the reader on the other. Naturally, these expectations and needs are not always known. But analysis of expectations controlled by the text seems a good third approach in researching text quality, as can be shown by means of a few examples from current research into news announcements on Dutch cable TV (translated literally).

A. DOVES MUST STAY

- (1) Until further notice, the practice of releasing doves of peace at the opening of the Olympic Games will be continued.
- (2) The IOC has decided this "because it is a tradition which is a message to the rest of the world".
- (3) Animal protectionists objected to the release of the birds.
- (4) A number were burned alive above the Olympic fire.

B. OPENING OF COMMUNITY CENTRE

- (1) The residents of the Gerardus Majella neighbourhood once again have their own community centre.
- (2) Alderman Raak performed the official opening.
- (3) In honour of the festive occasion there were all kinds of outdoor activities for the children.
- (4) In constructing the building care was taken to save energy, and soundproofing material was used.

In judgment experiments, (A) was almost without exception assessed higher than (B). A very acceptable explanation for this is that in (A) each successive sentence responds better to the expectation aroused by the text. Exploratory research confirms this explanation.

Subjects were given the texts sentence by sentence, and were to state in their own words what they expected from the next sentence throughout the experiment, and after presentation of the next sentence assess whether the expectation had been met. Below are two representative examples for each text: after each sentence the expectation is found as it was formulated by the test subject; "yes" or "no" indicates whether or not the expectation was met.

Expectations and judgments for (A)

- (1) a. Who has decided that
b. Who determines that.
- (2) a. Yes. On what basis the decision had to be made.
b. Yes. Which they agreed upon in a meeting.
- (3) a. Yes, actually. The reason they objected.
b. No. The reason the objected.
- (4) a. Yes.
b. Yes.

Expectations and judgments for (B)

- (1) a. Why they have not had that community centre for a while.
b. What happened to the old community centre, destroyed or burned out or whatever.

- (2) a. No, but it is logical. So now the reason from (1).
b. No. Why a new community centre was needed.
- (3) a. No. What other festive things there were to do that day.
b. No, but it is logical. About a party night with music.
- (4) a. No.
b. No.

With (A), the question whether the expectation was met is answered in the affirmative far more often. With both texts it is noticeable that expectations are often formulated in terms of reason and cause. This could mean that in the news bulletin genre, quality attribution is influenced by the presence or absence of clear cause-effect relations.

Expectations are aroused not only by the content, but also by the form. A single example of this : it is logical to assume that a successive sentence will continue from the main clause rather than from the relative clause. See the following text :

- (a) (1) The 34-year-old West German, who had already been in trouble with the police three times for extortion and fraud, has been sentenced to ten years imprisonment for the taking hostage of the army colonel Kieft.
(2) The court in Arnhem believed that the German was not personally responsible for the death of the colonel.
(3) Van der Kieft was actually killed by the shot from a marksman.

The successive sentences elaborate on the information from the main clause of the first sentence. In the next text the successive sentences elaborate on the information from the relative clause.

- (b) (1) The 34-year-old West German, who was sentenced to ten years imprisonment for the taking hostage of the army colonel Van der Kieft, had already been three times in trouble with the police for extortion and fraud.
(2) The court in Arnhem believed that the German was not personally responsible for the death of the colonel.
(3) Van der Kieft was actually killed by the shot from a marksman.

From judgment experiments it appears that (a) is assessed as being "better" than (b). An obvious explanation is that in (b) the expectation that the text will elaborate on information in the main clause, is disturbed. However, it is possible to imagine another explanation, that is, the distance. For it is also possible that the expectation refers to the continuation of the last part of the sentence, regardless of the status of this part (in terms of main clause or subordinate clause). In order to study this explanation it is necessary to place the information with which the rest of the text continues, in a relative

clause at the end of the sentence. Therefore, texts with the following versions must be included in the research (The examples stem from current research into text-induced expectations in text readers) :

- (c) The taking hostage of the army colonel Van der Kieft resulted in ten years imprisonment for the 34-year-old West German, who had already been three times in trouble with the police.
- (d) The courts had already had to deal three times with the 34-year-old West German, who was sentenced to ten years imprisonment for the taking hostage of the army colonel Van der Kieft.

5. Conclusion

When, in an article about research into the vague and diffuse concept of text quality, three ways are mentioned, then the reader naturally asks : why these three ? In conclusion, I will offer a brief answer. Of course, there are more methods for researching text quality. The three approaches mentioned above can be distinguished from the others by their attention to the core problems in the research of text quality, viz. the practice of judgment, the recommendations for the improvement of texts, and the relationship between expectations about a text and quality judgments. If we are to gain more insight into the vague notion of text quality, and be able, for example, to offer an explanation of the fact that quality judgments diverge so often, then data about the practice of judgment are indispensable (the first approach). If we are to investigate why one version of a text is rated as better than another, then the extensive literature on text improvement offers a good angle of approach for testing hypotheses (the second approach). If we want to investigate the extent to which readers' expectations have an influence on the attribution of quality, then the research into text-induced expectations offers a good perspective (the third approach). Especially if these expectations are made explicit in successive sentences, the form and content-related qualities of a text can be studied with relative ease.

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