A Semantic Prototype of the English Word "Responsible" in Tanzanian Usage

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Abstract

Though the notion of prototype is better illustrated by natural species and conerete objects, this article argues that abstract concepts can also exemplify it. To prove this, the article investigates the semantic prototype of the English word *responsible*. In order to evaluate Tanzanian English speakers'' judgment of several meaning elements forming this semantic category, the investigation uses a questionnaire based on a set of seven stories. The assumption behind the question concluding every story is that the informants' judgment of responsibility involved can be recorded on a three degree scale. By computing the average score of every story, it is possible to rank the meaning elements composing a semantic prototype for different speech communities, and make relevant comparisons.

Introduction

To interpret and organize experience, people rely on *mental blueprints* or categories. By their research in this field, Rosch *et al.*, (1976) revealed that we recognize members of a semantic category by matching them with their *prototype* or typical example. A semantic prototype gathers a number of properties among which some are central and others peripheral. The semantic category of *cars,* for instance, can be thought of as vehicles · having the following central features: (i) four-wheeled, and (ii) self-propelled. Therefore, three-wheelers and carts are not typical of cars for two reasons. First, the former are self-propelled vehicles which lack the central property of being *four-wheeled*. Second, the latter are neither *four-wheeled* nor *self-propelled* despite their being vehicles.

Though concrete objects (e.g., cars, chairs, cups, etc.) and natural species (e.g., dogs, fish, trees, etc.) are among the best examples of prototypic categories, it is not correct to assume that the concept of prototype cannot apply to such abstract concepts as *lie* and *responsibility*.

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This paper aims at proving this by developing a prototype category of the adjective 'responsible' in Tanzanian English after Coleman and Kay's (1981) model prototype of *lie*. This prototype category is of course related to those which are found in the other types of English. This resemblance will be better reflected through a comparison between the people's judgment of this English concept in England and in Tanzania.

In order to reach this objective, the paper proceeds along the following lines. The first section will search for several prototype elements of the word 'responsible'. The second section will describe the experiment on which the investigation is based. The third section will analyze the results of the experiment. The fourth section will compare the prototype of 'responsible' in the two speech communities. The fifth section will unveil the methodological problems that were met in the investigation, followed by a brief conclusion.

1. Searching for the Prototype Elements of 'Responsible'

The first idea that springs to the mind while thinking about the word 'responsible' is that of "guilt" as opposed to "innocence", i.e., the word "'responsible'" basically means that someone is accountable for the actions (generally bad ones) one is supposed to have performed. This interpretation might not be far from general belief.

In attempting to identify the other elements constituting the prototype of this word, I will use my personal experience as well as *Hornby's Oxford Advanced Learner's Dictionary of Current English*. This somehow random choice was justified by availability of the source when the investigation was being devised rather than by any personal preference.

Though it did not bring any new elements, the Lancaster-Oslo-Bergen Corpus (in short LOB Corpus), from which the data attached in the appendix has been extracted helped a lot in checking quickly several uses of this word in context, given the time limitations.

The prototype element search revealed the following meaning constituents that were going to be used later in the experiment:

(1) (a) X is legally accountable
  (b) X is morally accountable
  (c) X knows s/he is accountable
  (d) X is in a position to be accountable
  (e) X is to be relied upon
  (f) X has the obligation to make decisions for Y

(g) *X* bears the blame for *Y*'s mistakes

(h) *X* is the cause/source of *Z*

Despite the foregoing attempt to identify several meaning elements and isolate them for the sake of this analysis, one should acknowledge that they are not completely separate since they have a good deal of overlap. There is, for instance, no clear-cut distinction between legal and moral accountability because laws are sometimes based on principles of morality.

The LOB Corpus data confirm that the meaning elements in (1) have the following frequency in Standard British English.

**Table 1: Frequency of the meaning elements
of RESPONSIBLE in the LOB Corpus data examined**

Element	Number	Frequency in %
(a)	2	2.15
(b)	0	0
(c)	1	1.07
(d)	6	6.45
(e)	4	4.30
(f)	30	32.25
(g)	19	20.43
(h)	31	33.33

The data summarized in Table 1 does not represent the whole language. The zero frequency of element (b) should therefore be seen as meaning its absence in the data sample examined rather than in the language.

Figure 1 shows clearly how the meaning elements (f) and (h) are the most common in British English usage. They are by far followed by element (g). The other meaning elements have a very low frequency. This is more noticeable through the chart.

Quite interestingly, the leading rank of element (h) confirms the remark that the first idea that springs to mind when we say "*X* is responsible for *Y*" is that *X* is guilty or is suspected of causing *Y*.
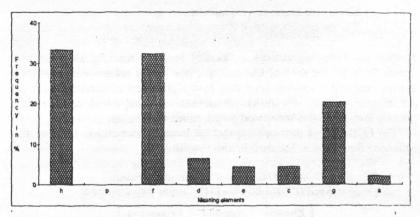
Fig 1: Proportions of the meaning elements in the LOB Corpus data

As shown by the adverbs they include, elements (a) and (b) refer respectively to law and morals. One's responsibility is generally determined with regard to laws, and principles of right and wrong.

In element (c), people's belief that nobody is to be blamed for unconscious deeds was taken into consideration. An adult, for instance, is better disposed to tolerate a slap in the face from a baby than from a mature person because the latter already knows what s/he has done, and is therefore answerable for it.

In element (d), one's position sometimes determines his/her degree of responsibility. For example, in a society people feel more committed to helping closer relatives than strangers.

Element (e) views 'responsible' from the angle of trustworthiness. Some people, for instance, have such a high sense of duty that others generally trust them because they always do what they are expected to at the right time.

In element (f), it turns out that responsibility refers to the obligation to make decisions on behalf of others, e.g., to be responsible for a group implies to bear the charge of deciding its fate.

Element (g) has a rather pessimistic view of responsibility. A responsible person appears here to be a scapegoat. S/he is blamed for the mistakes of the people of whom s/he is in charge.

It appears from element (h) that 'responsible' is sometimes used to refer to the origin, the source, or the cause of some action—e.g., to be responsible for a change is to have caused it.

The above elements of the prototype of 'responsible' are not always so clear-cut as the analysis above tends to suggest. More concretely, saying for example "Who is responsible for this mess in the kitchen?" implies asking who has caused it. This may, as well, amount to looking for who is to be blamed for it. In connection with this, Coleman and Kay (*op. cit.*: 27) say:

> Semantic categories frequently have blurry edges and allow degrees of membership. On this view, applicability of a word to a thing is in general not a matter of Yes or No, but rather of more or less.

After this analysis the prototype elements of 'responsible', the following section describes an experiment aiming at testing them.

2. The Experiment

The experiment supporting this investigation is based on a questionnaire which was pre-tested on a small group of eleven native English speakers with a minimum level of B.A. degree. For the sake of comparison, their results will be matched with those of a larger group of one hundred and sixteen Tanzanian English speakers, including indiscriminately undergraduate and postgraduate students at the University of Dar es Salaam. While the British group ranged between sixteen and fifty-five years of age, the Tanzanian one included informants aged between twenty-one and forty-five. The linguistic background of the latter consisted of Swahili, other Bantu languages, and English.

The questionnaire was based on seven stories among which one was true, and six fictitious. These stories were carefully selected in such a way as to facilitate a comparison of the prototypes of the word 'responsible' as used in these two speech communities. Each story ended up with a question enquiring about an implicit prototype element. The question sought the informant's judgment of the degree of certainty as regards the prototype element concerned.

For the sake of simplicity, the informant's answer was to be given in the form of a three degree scale as shown below. The informant was therefore offered to tick the appropriate answer, thus scoring the grades below.

Is *X* responsible?	*No*	*Not too sure*	*Yes*
	(1)	(2)	(3)

According to Coleman and Kay (1981:30), this scoring system yields a numerical judgment for each informant's rating of each story.

The order in which the meaning elements occur in stories does not correspond to that in which they are presented in (1(a)-(h)). Since negativity of meaning may have psychological effects on answers, it was preferred to start with a positive meaning of 'responsible' followed by a neutral and a negative one, and to mix all of them so as to avoid any suggestive order.

The stories in the questionnaire appeared as follows.

I. Mary was a blind person. One day, she fell down and had a bump on the head. Since then she says that she can see and describe any concrete object she couldn't see before.

Is that fall 'responsible' for Mary's recovery?

(1) No   (2) Not too sure   (3) Yes

II. GCM is a mining company. It owns a farm which is looked after by Bob and Max. This is the only job these two people have. They are paid by GCM.

Is GCM 'responsible' for the management of this property?

(1) No   (2) Not too sure   (3) Yes

III. Once Jack and John had a hot discussion. Jack took a knife from his overcoat pocket and stabbed John to the heart. John died of that wound later.

Is Jack 'responsible' for killing John?

(1) No   (2) Not too sure   (3) Yes

IV. Bob and Martin are friends. They live in Lonsdale. One night they attended a party. The next morning Bob was so ill that he could neither speak nor communicate by any other means.

Is Martin 'responsible' for Bob's health?

(1) No   (2) Not too sure   (3) Yes

V. Peter was driving his own car. On his way home from work, he realized that he had left his office key hanging on the door and stopped suddenly. The driver behind him came and hit him in the back.

If you were Peter, would you say that you were 'responsible' for that accident?

(1) No   (2) Not too sure   (3) Yes

VI. Jacob has an account at Barclays. He often gets credits from this bank and never forgets to pay these debts.

Would You consider Jacob to be a 'responsible' customer?

(1) No   (2) Not too sure   (3) Yes

VII. Joe met Pamela reading a newspaper at a local restaurant. They did not know each other before, neither did they have any conversation. After taking a cup of tea, Joe left Pamela still reading. On the road, Joe realized that he had forgotten his umbrella on the restaurant table. He could not find it when he went back there, though Pamela was still there reading her newspaper.

Is Pamela 'responsible' for that loss?

(1) No   (2) Not too sure   (3) Yes

Table 2 shows which meaning elements were present in each story (cf. +).

Table 2: Meaning Elements present in each story

Stories:	I	II	III	IV	V	VI	VII
Meaning elements:							
X is legally accountable:	-	-	+	-	-	-	-
X is morally accountable:	-	-	-	-	+	-	-
X knows s/he is accountable:	-	-	-	-	-	-	+
X is in a position to be accountable:	-	-	-	+	-	-	-
X is to be relied upon:	-	-	-	-	-	+	-
X has the obligation to make decision for Y:	-	+	-	-	-	-	-
X bears the blame for Y's mistakes:	-	+	-	-	-	-	-
X is the cause or source of Z:	+	-	+	-	-	-	-

Though each story was meant to test a single meaning element, stories II and III contained two.elements which were not so easy to separate. Let us now turn to the results of the main investigation.

3. Results of the Experiment

This experiment aimed at producing a different ranking of several meaning elements resulting from Tanzanian speakers' judgment of the degree of responsibility involved in the stories. This supports the viewpoint of cognitive psychology that the same experience of the world/ may be interpreted and organized differently depending on mental blueprints called *categories*. Table 3 presents a summary of the results of the main investigation.

Table 3: A Summary Presentation of the Results of the main test

Answer:	No	Not too sure	Yes	Total score	Mean
Story					
I. Mary	38	76	120	234	2.01
II. GCM	30	16	234	280	2.41
III. Jack & John	4	32	288	324	2.79
IV. Bob&Martin	80	48	36	164	1.41
V. Peter	24	32	228	284	2.44
VI. Jacob	12	32	264	308	2.65
VII.Joe & Pamela	72	80	12	164	1.41

Every answer was scored as explained in Table 3. By adding up the scores on each answer, a total score by story was calculated. From this total score a mean scale score was worked out.

The mean scale score for each story shows how much the speech community members believed that story to be an instance of responsibility. It should be noticed that the mean scale score was obtained by dividing the total score by the number of questionnaires, i.e. 116.

Table 4 compares the ranking of the stories by Tanzanian English speakers to that by native English speakers.

Table 4: A Comparison in the Ranking of the Stories

	Standard English			Tanzanian English	
Order	Story	Mean score	Order	Story	Mean score
1.	III. Jack & John	3.00	1.	III.Jack & John	2.79
2.	VI. Jacob	2.45	2.	VI.Jacob	2.65
3.	I. Mary	2.18	3.	V.Peter	2.44
4.	V. Peter	1.90	4.	II.G.C.M.	2.41
5.	IV. Bob& Martin	1.18	5.	I.Mary	2.01
6.	II. G.C.M.	1.09	6.	VII.Joe & Pamela	1.41
7.	VII. Joe&Pamela	1.00	7.	IV.Bob&Martin	1.41

Though this comparison shows that some meaning elements (namely, III & VI) rank similarly in the usage of the two communities, it should be admitted that the majority of elements prove that the hierarchy of meaning elements is highly susceptible to changes depending on the environment and people's perception.

The histogram in Figure 2 derived from Table 4 shows clearly how the investigation led in the two speech communities yields two different rankings of the stories by comparing the mean score of each.
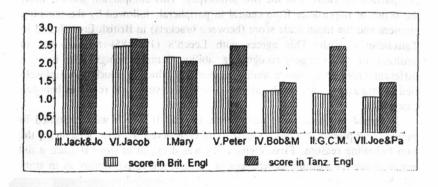

Fig. 2: Comparison of the mean scores for the two communities

Apart from the fact that stories III, VI, and VII keep respectively the same ranks (namely first, second, and last), no story has been evaluated the same way on both sides.

A close examination of why some stories were ranked so high revealed that responsibility in story III was easily recognized by all British English speakers, and a vast majority (82.7%) of Tanzanian informants. This easy recognition is probably due to the number of the prototype elements in this story, i.e., apart from legal accountability, it also implied that Jack was the cause or the source of the killing action.

In contrast with that, story II was assumed by the author to contain two prototype elements. Yet responsibility was not so easily recognized in it by different English speakers. While the author assumed that GCM's responsibility for the management of its farm implied both the obligation to make managerial decisions and guilt in case of mismanagement, informants on both sides probably recognized the first element only. This lowered story II to rank 4 among Tanzanians, and rank 6 among British English speakers. What does the comparison of the two prototypes reveal?

4. Comparison of the Two Prototypes of "Responsible"

Substituting the elements concerned to the stories in Table 4 Yields the comparison in Table 5 of the two prototypes. This comparison shows, first, the order of importance from central to peripheral, followed by the meaning element and the mean scale score (between brackets) in British English and in Tanzanian English. This agrees with Leech's (1981:85) remark that in addition to the category-recognizing ability, human beings also have a different order of cognitive ability—something which is much more closely tied to language—which is the ability to recognize structural relations between categories.

It should be made clear that stories III and II which were assumed to include two prototype elements have been considered for one element for the two following reasons. First, element (h) was dropped in story II since it did not increase the informants' chances of recognizing responsibility as in story III. Second, element (h) was also dropped in story III because there was an unambiguous (and therefore better) way of testing it in story I. Hence story III had to be considered as testing element (a) which had no better way of being tested.

Table 5: Comparative Table of the two Prototypes

| | Standard English | | | Tanzanian English | |
Order	Prototype element	Mean Score	Order	Prototype element	Mean Score
1	X is legally accountable	3.00	1	X is legally accountable	2.79
2	X is to be relied upon	2.45	2	X is to be relied upon	2.65
3	X is the cause/source of Z	2.18	3	X is morally accountable	2.44
4	X is morally accountable	1.90	4	X has the obligation to make decisions for Y	2.41
5	X is in a position to be accountable	1.18	5	X is the cause/source of Z	2.01
6	X has the obligation to make decisions for Y	1.09	6	X knows s/he is accountable	1.41
7	X knows s/he is accountable	1.00	7	X is in a position to be accountable	1.41

5. Methodological Problems

The problems encountered in this investigation are of two types: procedural and technical.

1. The procedure adopted in this attempt was not irreproachable. Here are some of the problems that were encountered.

   - A number of complete questionnaires had to be dropped because they were filled by non-Tanzanian informants. This waste of

materials and energy was due to the fact that informants to whom the questionnaire should be given were not selected in advance.

- Some questionnaires got lost for two reasons. First, due to my lack of familiarity with the informants, I had to be more diplomatic by persuading even those who said they did not have time to take it to accept to collect it and work it out at home. As a consequence, some informants did not return the questionnaire. Second, the questionnaires distributed by the investigator's assistant were not worked out under strictly controlled conditions. No tracks could be found of some.

- Lack of a homogeneous community of native English speakers in Tanzania forced me to limit the scope of my comparison to the eleven British English speakers of the pre-test.

- The reduced number of informants in the pre-test did not enable the researcher to generalize the results with confidence.

2. From a technical point of view, two shortcomings can be mentioned.

- The three point answer scale which was adopted for the sake of simplicity did not reflect real psychological distinctions.

- The failure to separate some prototype elements (e.g., (a) & (h) in story III and (f) & (g) in story II) did not allow the researcher to evaluate them to their real importance in the prototype.

Conclusion

We have seen from this investigation that the word "responsible" does not have a unitary meaning. It is rather a complex of meaning elements. The paper has illustrated how the concept of prototype applies not only to natural species and concrete objects, but also to such an abstract notion as 'responsibility'. It has showed how the two speech communities interpret and organize the same experience of the world differently. Though the same meaning elements have been recognized as forming the prototype of responsible by the two communities, they have not been appreciated to the same value. Starting from the same central meaning elements (namely, "being legally accountable" and "being relied upon"), either prototype shows a different order of elements. The experience revealed that in Tanzanian English, X is responsible implies that

1. *X* is legally accountable
2. *X* is to be relied upon
3. *X* is morally accountable
4. *X* has the obligation to make decisions for Y
5. *X* is the cause/source of Z
6. *X* knows s/he is accountable,
    or *X* is in a position to be accountable.

The results of the experience also proved that in British English, the prototype of 'responsible' has the following order of the same elements.

1. *X* is legally accountable
2. *X* is to be relied upon
3. *X* is the cause/source of Z
4. *X* is morally accountable
5. *X* is in a position to be accountable
6. *X* has the obligation to make decisions for Y
7. *X* knows s/he is accountable

The finding that the hierarchy of meaning elements differs in the usage of the two communities implies that one's judgment of an experience may not necessarily be shared by a member of a different community. Such differences in people's perception of the world can make communication difficult (if not impossible) accross cultures. Being responsible for the management of a company does not necessarily mean to British citizens what it does within an African context.

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APPENDIX

The LOB Corpus data
The sentence fragments below come from the Lancaster-Oslo-Bergen Corpus (LOB corpus in short) which is a collection of spoken and written English data from the British news media. The numbers before them refer to their location in the source, whereas the bracketed letters at the end show the meaning elements they illustrate.

A03 197...Ministry or Minister directly 'responsible' for it...(f)

A11 169...regard him as 'responsible' for a breach of confidence...(h)

A21 104 ...solve successfully the 'responsible' tasks facing us. (f)

A27 219 They are 'responsible' for a great deal of charity work...(h)

A31 162 Is he not 'responsible' to the whole House?(a)

B11 176 ...until a 'responsible' government with an African Prime Minister...(e)

B12 185 On Berlin again the 'responsible' Labour Party view and the Conservative view are so close...(f&d)

B13 110 With his UNO team he has been 'responsible' for more bloodshed (h)

B14 172 Executive councils are 'responsible' for the general practitioner, the dentist, the supply drugs. (f&g)

B121 185 ...or Mr. Kruschev as 'responsible' for East Berlin... (f)

B25 154 Those 'responsible' obviously have too much time on their hands... (d&f)

D06 112 Even those who held a high and 'responsible' office lived... (d&f)

D171 149 But it can be reasonably hoped that 'responsible' leaders of those two powerful branches of the Dutch Reformed Church... (f&g)

D17 201 ...politics is {politikos, civilis} that which belongs to the citizen as a citizen, and is, therefore, constitutional, and 'responsible'.(f)

E28 200 ...water for which the Metropolitan Water Board was 'responsible' for so much contemporary research... (f&g)

E30 134 ...the economic Intelligent unit, which is 'responsible' for so much contemporary research... (f&h)

E37 134 ...milk in two separate six-stall three unit bails with one cowman 'responsible' for each. (f&g)

F01 183 ...the doctor who observes signs, and records symptoms and diagnoses the inner states 'responsible' for them (h)

F02 72 ...an approach to members of the panel 'responsible' for the scheme.(f,g&h)

F14 123 Maybe Keith hasn't been as 'responsible' as he should ...(e)

F21 7 The belief that a man is as old as he feels is 'responsible' for a great many pulled muscles. (h)

F22 151 ... and 'responsible' for all debts ... (h)

F27 12 ... who would have been individually 'responsible' for resisting the peasants' claims at law... (a&h)

F38 33 ...this fish is probably 'responsible' for innumerable false record... (g&h)

F41 205 There are usually separate buyers 'responsible' for the requirements of each section... (g&h)

F43 77 ...authorities should be active and 'responsible' in the preservation of this country's heritage. (f&g)

F44 186 ...is a serious musical student, and is 'responsible' for most of the shadows arranging... (f&g)

G07 162 ...'responsible' for the collapse of the marriage (h)

G08 98 ...that he was 'responsible' for the strict adherence to recorded precedents... (h)

G24 179 ... was 'responsible' for the poor surface from which Brooklands suffered. (h)

G43 43 This means that all 'responsible' should be experts...(d&f)

G43 64 ...he is still 'responsible' for the movements on the stage (which includes arranging that... (f,g&h)

G43 72 Moreover, he is 'responsible' for checking the construction ... (f&g)

G46 19 ...disorder of her matrimonial affairs, for which she was not altogether 'responsible' . (h)

G62 43 ...he was 'responsible' for selecting... (f&g)

G66 64 ...since war in the atomic age no longer presents a 'responsible' and sensible possibility for solving ...(e)

G73 165 ...the principle of 'responsible' government with adult franchise. (c,e&f)

G75 174 ...whether this alleged inferiority of striking power or the conflicts ... is 'responsible' for Kruschev's postponement ...(h)

G76 72 ... and to set forth conditions of recognition which seem 'responsible' to a watching world. (e)

H02 59 ... an independent expert body should be 'responsible' for advising which substance... (f, g&h)

H05 96 ...company officials 'responsible' for the management of property ... (f&g)

H10 74 ...the overseas producer and those 'responsible' for handling and processing ... (f,g,d)

H11 29 ...enable Greater London to enjoy an adequate measure of 'responsible' self-government. (e)

H15 21 ...is not solely 'responsible' for slum clearance ... (h)

H25 145 ... a Christian Child Care Organization should be 'responsible' for their future ... (f&g)

H29 25 ... body which will be 'responsible' for their future ... (f&g)

H29 227 ... any vehicle so left by causing it to be removed in the name of the cost of the student 'responsible'. (h)

H30 169 ...too, show that people are living longer. A brighter outlook on the life plus, of course, many far-reaching advances in medicine, is partly 'responsible'. (h)

J13 10 The antibody 'responsible' for the pan-agglutination... (h)

J24 127 ... Projection of shadows, and correlations experiments... were likely to be responsible for this. (h)

J28 29 ... in the event of a breach in the bound all villagers must be equally 'responsible'. (h)

J29 97 ... The school is 'responsible' for behaviour to a great extent... (h)

J31 98 ... their husbands were 'responsible' for the methods ... (h)

J31 142 ... their husbands were 'responsible' for the contraceptive measures ... (h)

J39 59 ... How far were the Webbs 'responsible' for their demise (h)

J39 97 .. Sidney Webb was 'responsible' for the direction taken by the affairs in 1901 ... (g&h)

J40 13 ... the reactionaries created a vast feeling of insecurity, and face with this the 'responsible' authorities generally erred towards the safe side. (d&f)

J42 187 However, there are many people, in 'responsible' positions ... (f&g)

J65 69 ... the eastern countries were 'responsible' for the manufacture ... (f&h)

J75 70 ... complete explanation of the conditions 'responsible' for the similarity ... (h),

J77 52 ... who are 'responsible' for the maintenance of ... (f&h)