Michael P. Maratsos & Demetra Katis

Grammatical Structure and Conceptual Understanding of Experiencer-Agency Relations

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Universität Duisburg-Essen
Michael P. Maratsos & Demetra Katis

Formerly University of Athens (Greece)

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1. Introduction

In spite of the revival of discussions regarding the linguistic relativity principle (e.g. Lucy 1992, Gumperz & Levinson 1995, Lee 1996), the dominant tradition within cognitive science continues to espouse the Fodorian view of language as a code of translating an independent language of thought (e.g. Pinker 1994). As Lucy has, however, pointed out, the relativity hypothesis has hardly been investigated empirically. Moreover, the relevant research within the psycholinguistic tradition has been mainly concerned with the relationship between the lexicon and thought, the latter seen more specifically as cognitive processing, rather than with what Whorf (1956) considered critical, i.e. the relationship between grammar and cognitive content. We present here the results of two empirical investigations of this lesser-studied problem, i.e. the relation between grammatical patterning and conceptual understanding.

We are, more specifically, interested on whether Greek, Italian and English speakers conceptualize experiencers in a different manner, given that experiencers are sometimes coded by different grammatical patterns across the three languages. What triggered our interest are the following grammatical differences. First of all, experiencers coded in English as grammatical Subjects of Active verbs (example 1a) are sometimes coded as Oblique Objects in Greek (example 1b) and Italian (example 1c). Second, experiencers coded in English as Active verb Subjects (example 2a) are sometimes coded in Greek as Passive verb Subjects (example 2b).

(1)

a. *Ann likes John*
b. *Tis Annas tis aresi o Jannis*
c. *Ad Anna piace Jovanni*

(2)

a. *Mary remembers the incident*
b. *I Maria θίματε to simvan.*

We wish to see whether experiencers are conceptualized as more or less agentive, depending on the grammatical pattern involved. We begin with the assumption that, across languages, the Active Subject grammatical pattern is strongly associated with experiencers who are agents, while the Oblique Object and the Passive Subject patterns are associated with some sort of agency defocussing. Undoubtedly however, the functions of these grammatical patterns across languages, including of course the three which concern us here, is a matter
that needs much more careful consideration and raises difficult questions. The work of those
who have attempted a cross-linguistic description of Voice and Oblique Object (e.g.
Langacker 1990 on Voice and Indirect Object, Kemmer 1993 on the Middle Voice, Givon's
collection of papers on Voice and Inversion 1994) indicates that the semantics/pragmatics of
these patterns are very complex. It still seems safe to assume that agency is an important
dimension in the meaning of these grammatical patterns, in the sense at least that they
involve some type of focusing/defocusing of agency.

Given the above assumption, the following twofold prediction can be made. Italian
and Greek speakers should conceptualize experiencers coded as Oblique Objects, and as
Passive Subjects in the case of Greek, as less agentive relative to experiencers coded as
Active Subjects in their language as well as to English speakers' conceptualizations of
experiencers. This prediction may be stronger in the case of the Oblique Object pattern,
as Objects are normally the targets of processual relations and not the sources. After all,
the presence of an Active verb in such constructions necessarily marks an entity other
than the experiencer as the stimulus/source of the experience (e.g. example 3 from Greek)

(3)  
\[
\text{M}u \text{ li}p\text{i o Janis}  
\text{To-me miss:NP:IMPF:ACT:3S the John}  
\text{("I miss John").} 
\]

The prediction may be less clear in the case of the Passive Subject experiencers, because
verbs of Passive morphology include in Greek (as well as in other languages, see
Langacker 1990)- a wide range of meaning patterns, among which the reflexive (Τα παιδιά
πλένοντε "The children are washing themselves"), the reciprocal (Τα παιδιά αγαπίοντε
"The children love each other") and what are traditionally termed deponent verbs (Το
παιδί σεβετε τι δασκαλα τυ "The child respects her teacher"). In other words, the Greek
Passive morphological pattern is not restricted to what might be seen as true passives,
these being in many languages including Greek impersonal passives (Το παιδί καίκε "The
child was/got burned). It also includes experiencers which seem to be agents, whatever
else they may also be thought to be, as is obvious in reflexives such as πλένομε "I wash
myself" and deponents such as ερχόμε "come".

2. Method

Two separate experiments were undertaken, the first comparing English with Italian
speakers and the second English with Greek speakers. More specifically, 26 Italian
speakers of high school and college education were compared with 40 English speaking
American college students, and 76 Greek speaking college students of Education were
compared with 50 English speaking American college students of Child Psychology.

Subjects were presented with 75 sentences and were then asked to rate the degree of
control exercised by the experiencer and the stimulus of the experience over the involved
experience -i.e. event/process/state denoted by the verb of the sentence. Ratings were on a scale from 1 to 7, with 1 showing low control and 7 showing high control. The degree of agency was computed as an Experiencer-Stimulus score.

Different types of sentences were used, most exhibiting the prototypical Transitive pattern of Subject-Verb-Object John hates Mary and fewer the prototypical Intransitive pattern of Subject-Verb such as Phillip died. Included in this set were:

(a) Two experiencers coded as Oblique Objects in Italian and Greek but as Active Subjects in English, involving the verbs like and miss. So, an English sentence such as Suzan likes Peter would correspond to Ad Susana piace Pietro in Italian and Tis Suzanas tis aresi o Petros in Greek.

(b) Four experiencers coded as Passive Subjects in Greek but as Active Subjects in English, involving the verbs sevome "respect", ipoptevome "sympath", xriazome "need", fovame "fear". It must be noted that these Greek verbs are traditionally termed deponent and, as might be suspected, have no corresponding Active form.

Moreover, these critical cases were scattered among a large set of Active Subject experiencers in Greek and Italian. This Active group thus served as our control baseline, because cross-linguistic differences in the ratings of this group of experiencers could be ascribed to non-grammatical factors, most likely cultural inclinations in conceptualization. All verb patterns were tested repeatedly in various forms i.e. with different subjects and objects including animates and inanimates, males and females, etc.

Our statistical analysis compared the experimental and control group ratings, by focusing only on certain cases from the control group, i.e. mental experiencers because that is precisely what the experimental group involves. These involved, for the Italian-English comparison, the verbs respect, believe, love, want, suspect, envy, need, and for the Greek-English comparison, the verbs believe, admire, love, want, envy, hate.

3. Results

Experiencer-control verb scores were computed for each verb within each subject by subtracting, as noted above, the Stimulus control rating from the Experiencer control rating. When these Experiencer-Stimulus scores were averaged across subjects within each language group, results for the individual verbs are as shown in Tables 1 and 2.
3.1 The Italian-English comparison

Table 1. Experiencer-agency scores for English and Italian speakers

<table>
<thead>
<tr>
<th></th>
<th>English</th>
<th>Italian</th>
<th>English-Italian</th>
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</thead>
<tbody>
<tr>
<td><strong>Active baseline verbs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respect</td>
<td>.48</td>
<td>-.16</td>
<td>.64</td>
</tr>
<tr>
<td>Believe</td>
<td>.64</td>
<td>-.02</td>
<td>.62</td>
</tr>
<tr>
<td>Love</td>
<td>.20</td>
<td>-.73</td>
<td>.93</td>
</tr>
<tr>
<td>Want</td>
<td>.60</td>
<td>-.96</td>
<td>1.56</td>
</tr>
<tr>
<td>Suspect</td>
<td>2.13</td>
<td>.42</td>
<td>1.71</td>
</tr>
<tr>
<td>Envy</td>
<td>.23</td>
<td>-1.74</td>
<td>1.97</td>
</tr>
<tr>
<td>Need</td>
<td>-.25</td>
<td>-2.42</td>
<td>2.17</td>
</tr>
<tr>
<td><strong>Italian oblique objects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Like</td>
<td>.67</td>
<td>-.67</td>
<td>1.34</td>
</tr>
<tr>
<td>Miss</td>
<td>-.11</td>
<td>-1.75</td>
<td>1.66</td>
</tr>
</tbody>
</table>

The results do not support any particular experiencer agency effects. While it is true that the English speakers rated the agency of the critical *like-miss* verbs 1.50 higher than the Italian speakers, they did at the same time rate higher a good many verbs which have a basically identical grammatical structure across the two languages (mainly *envy, suspect, need* and *want*). For the whole set of baseline verbs, English speakers' ratings were 1.37 higher than the Italian ones. This conclusion holds even if we exclude from our analyses the *need* verb, for which we had second thoughts as to its appropriateness given that it corresponds to an "X has need of Y" structure in Italian. Therefore, the average experiencer agency difference for missers and likers, compared to the baseline difference, was just .13. Though this modest difference is in the direction predicted by Whorfian hypotheses, it is statistically quite unreliable, *t*(65) = .66, *p*>.20.

Further comparisons of the two groups of speakers show some other cross-language effects, both differences and similarities. On the one hand, when all verbs are combined, the average control ratings of the English speakers were +1.40 higher for each verb than those of the Italian speakers. When an overall experiencer agency verb score (averaging all experiencer verbs) is computed separately for each subject, and the group means are compared statistically for the two language groups, this difference is indicated to be statistically highly reliable, *t*(65) =3.71, *p*<.01. The possibility that this difference may be due to the lack of educational match between the two samples is not supported by further analysis. Even when the Italian college graduates (*N*=13) alone are compared to the 40

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1 A.L. Margheri. contributed to the collection of data in this experiment.
English speaking college enrollees, the relevant experiencer agency differences remain statistically robust, \( t(51) = 3.53, p<.01 \), despite the low statistical power of the comparison. On the other hand, other aspects of the two samples are very similar. The same verbs tend to be low or high in agency within each language sample (e.g. suspect is high, need is low). The correlation between the two languages in rated experiencer agency for different verbs is high, \( r = .81, z = 2.45, p < .02 \).

Overall, Italians rated experiencer agency lower than English speakers. Unless this reflects a particular difference in response to rating forms, it seems to reflect a general cultural difference in beliefs about how much control experiencers have over emotions, relative to stimuli. In fact, this difference reflects common cultural stereotypes about feelings of control over emotion; these stereotypes may have some validity, at least as far as speakers' conscious ratings are concerned. On the other hand, the comparison shows a very stable within-language profile of how much relative control experiencers have over different emotional experiences, reflecting some considerable generality in emotional-cognitive structures across the two languages.

These strong results (both the overall difference in experiencer agency and the strong correlation in between-verb comparisons) shows that the rating task results were capable of uncovering clear, stable tendencies. Nevertheless, the low number of subjects decreases the statistical power for the Whorfian comparisons in particular, and the lack of good educational matching is generally somewhat troublesome. Both of these problems are mitigated in the second study, comparing Greek and English speakers, where the two samples are both larger and well-matched in terms of education and sex.
3.2  The Greek-English comparison

Table 2. Experiencer-agency scores for English and Greek speakers

<table>
<thead>
<tr>
<th></th>
<th>English</th>
<th>Greek</th>
<th>English-Greek</th>
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<tr>
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<td>.34</td>
<td>.14</td>
<td>+.20</td>
</tr>
<tr>
<td>Admire</td>
<td>.49</td>
<td>.26</td>
<td>+.23</td>
</tr>
<tr>
<td>Love</td>
<td>.54</td>
<td>.64</td>
<td>-.10</td>
</tr>
<tr>
<td>Want</td>
<td>.57</td>
<td>.86</td>
<td>-.29</td>
</tr>
<tr>
<td>Envy</td>
<td>.22</td>
<td>1.08</td>
<td>-.86</td>
</tr>
<tr>
<td>Hate</td>
<td>+2.54</td>
<td>1.92</td>
<td>+.62</td>
</tr>
<tr>
<td><strong>Greek oblique objects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Like</td>
<td>.68</td>
<td>.84</td>
<td>-.18</td>
</tr>
<tr>
<td>Miss</td>
<td>.24</td>
<td>.38</td>
<td>-.14</td>
</tr>
<tr>
<td><strong>Greek passives</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suspect</td>
<td>1.92</td>
<td>2.55</td>
<td>-.63</td>
</tr>
<tr>
<td>Need</td>
<td>-.68</td>
<td>-.11</td>
<td>-.57</td>
</tr>
<tr>
<td>Trust</td>
<td>-.06</td>
<td>-.03</td>
<td>+.03</td>
</tr>
</tbody>
</table>

Results indicate, for one, that English speakers did not rate likers and missers as more agentive than Greek speakers, compared to other experiencer verbs. On the contrary, Greek speakers rated experiencer agency for the baseline verbs about .03 higher than the English speakers, and experiencer agency for the miss-like verbs about .13 higher than the English speakers. So, the net result is that Greek speakers rated likers and missers about .10 higher in experiencer agency, a result in the wrong direction of a Whorfian hypothesis, but the difference is very small and statistically quite unreliable (t(125) = .80, p>.20). The results of the English-Italian comparison are thus replicated, i.e. Oblique Object experiencers are not treated any differently from the baseline Active ones.

Secondly, Greek speakers did not rate Passive verb experiencers as less agentive relative to the baseline verbs and to English speakers. In fact, they rated them notably higher in agency than did English speakers (+.36 relative to the baseline verb comparison), but again the difference is not statistically reliable (t(125) =1.19, p>.20). Though we took out of our statistical analysis the verb fear (having second thoughts as to whether Greek fovame is imight correspond better to English be afraid), the results on this particular verb did not in any significant way deviate from the overall pattern.

The results do not finally support a final possibility, that the common presence of Passive form verbs in Greek (as these include reflexives, deponents, etc.) might indicate a
cultural inclination to see experiencers as, overall, less agentive than English speakers. Though the Greek speakers tended to rate experiencers overall as having more relative control than English speakers, the difference was not again statistically significant (t(125) =1.10, p>.10).

In the end, speakers of both languages agreed very closely in their ratings of which verbs had higher vs. lower experiencer agency. For instance, hate and suspect were highest in experiencer agency and need and fear were lowest. The overall correlation between the ratings of the two language groups was .90, a statistically highly robust similarity (z=3.33, p<.001). Essentially, the Greek and English samples could have been drawn from the same population of speakers, despite the language differences, in contrast to the indications of the Italian-English comparison where an overall cultural difference was suggested.

3.3 Regularities in cross-linguistic differences and similarities

A final result is worth noting. Tables 1 and 2 indicate that some experiencer concepts look more susceptible to cultural differences than others. For example, experiencer agency ratings for the verb envy differ on average by 1.97 in the English-Italian comparison, which is a high difference for those two samples; for the Greek-English comparison the difference in experiencer agency is .92, again a relatively high one for those two samples. In contrast, cross-linguistic differences in ratings for the verb believe are relatively low in both comparisons. Is there anything that explains these differences?

In fact, it looks as though more unpleasant verbs are more likely to show cross-cultural differences. A sample of 7 randomly encountered English speakers were asked to rate the pleasantness, on a scale of 1 (low pleasantness) to 7 (high pleasantness) of the characteristic experiential relations. (For example, they were asked to rate the pleasantness of "X loves Y" where X and Y are of the same sex). This produced the following average pleasantness ratings: love 6.71, respect 6.00, admire 5.57, trust 5.57, believe 5.42, like: 5.42. want: 4.86, need 4.42, miss 3.28, suspect 2.71, envy 2.42, hate 1.71. Not surprisingly, people seem to think love, respect, and trust are pleasant, while suspect, envy and hate are unpleasant.

These unpleasantness ratings are highly correlated with the relative magnitude of cross-group differences. Pleasantness is negatively correlated with magnitude of experiencer agency difference (or, unpleasantness is positively correlated). The correlation of pleasantness with English-Italian experiencer agency differences is -.76 for the nine compared verbs (z=2.28, p<.05); the correlation of pleasantness with English-Greek experiencer agency differences for the 11 compared verbs is -.75, z=2.49, p<.02. In other words, relatively pleasant experiences (at least as rated by English speakers) are likely to be rated relatively similarly for experiencer agency across these language groups; relatively unpleasant experiences are likely to be rated relatively less similarly.
4. Discussion and conclusion

The results of both studies seem to indicate no support for grammatical coloring effects. They are indeed particularly weak for the clearest of our predictions, that likers and missers would be more agentive for English speakers. Can these negative results be taken as a challenge to the linguistic relativity principle?

It must, first of all, be kept in mind that we have studied two isolated grammatical phenomena. It seems indeed possible that these phenomena are at least slightly what Whorf called covert grammatical categories, i.e. categories which are not obvious as they do not involve systematic lexical marking. Roland (1994) claims, for instance, that the Oblique Object pattern of Greek is part of a larger array of inverse constructions which seem to indicate the presence of an Inverse Voice category. In addition, the strikingly irregular Passive-Active morphological contrast of Greek may turn out to hide motivated patterns of meaning, such as the contrast between experiencers who are distanced from their experience and experiencers who are non-distanced or emotionally involved, as suggested by Manney's (1993) work. It is precisely such less obvious categories which Whorf supposed to be interesting for the relativity principle. But important differences in conceptualization are supposed by him to be related only to highly covert categories, involving large-scale configurations of meaning. Within this context, the study of isolated phenomena, which are only lowly covert, can only accomplish some ground-clearing, without being able to refute or confirm in any strong manner the relativity principle.

What might this ground clearing be? We can conclude that grammatical encoding of experiencers as Subjects of Active verbs, Subjects of Passive verbs and Indirect Objects does not effect the conceptualization of experiencer agency. We have, instead, seen how agency ratings are dependent on the particular lexical semantics of each verb (a claim independently made by Antonopoulou 1987 as well in a study of Greek verbs of motion). In fact, within each of the three languages we studied the same verbs tend to be high or low in agency. Second, there are indications of cultural-but not linguistically colored-differences in agency conceptualization, if we take into account the results of the Italian-English comparison but also the fact that the greatest cross-linguistic differences in agency concerned the unpleasant verbs hate and envy.

These strong results can not, however, exclude the possibility of grammatical coloring effects upon conceptualization of experiencers more generally. It remains possible, for instance, that experiencers are conceptualized in manners other than their degree of control over the involved experience and that we may find differences if we investigate these other construals, such as the degree of involvement with the experience suggested by Manney (1993). Finally, the results do not exclude the possibility of grammatical coloring effects in other linguistic domains. They do, however, indicate that we can not always expect such differences and that the interrelationships between grammar and conceptualization may be more intricate than is expected by those who suspect Whorfian effects everywhere on the one hand and those who totally reject them on the other hand.
References


