PSYCHOLINGUISTIC STUDIES OF THE SAME
INFORMATION IN DIFFERENT TYPES OF DISCOURSE

Tony M. Dubitsky and Richard J. Harris

Kansas State University

Introduction

Although there has been a wealth of recent research on discourse
processing in psycholinguistics, most of it has focussed on the psy-
chological reality of "story grammars". These grammars ostensibly
describe the structural knowledge needed to parse simple narratives.
Many studies have attempted to determine the psychological reality
of these grammars by testing predictions concerning comprehension
and recall (e.g.,Mandler & Johnson, 1977). However, these studies
have been limited to the processing of stories. While some other
types of discourse, such as conversations, have been studied by
sociolinguists and ethnomethodologists generally interested in the
organization of everyday activities, there have been few, if any,
systematic comparative investigations of different types of dis-
course (e.g., Freedle & Hale, 1979).

Thus, the present group of studies was conducted to examine
this issue. We presented subjects with the same information in
one of several types of discourse. With the information thus held
constant, any differences in memory and comprehension tasks should
be attributable to the type of discourse. Experiments 1 and 2 used
passages about specific places in Great Britain, while experiments
3 and 4 used an episode from a radio detective melodrama. Experiment 5
of our current work in progress, which will be reported here only
briefly, used fables, folktales, and parables as materials.

The "Britain" Studies

In the first few experiments we examined the effects of dis-
course type and presentation modality on subjects' responses to
various memory tests and rating scales. The materials consisted
of 12 sets of 4 passages each about different places in England,
Scotland, or Wales. Each set told about a different place in Great
Britain, but within a set, the four passages told the same informa-
tion in a different type of discourse. One sample set of four such
passages is shown in Table 1 on the next page. Here the same infor-
mation about the same place has been realized in four different
types of discourse: description, narration, advertisement, and con-
versation.

Table 1

Stimulus Materials: Sample Set of "Britain" passages

1. Description
    Penmachno is a small village of 100-200 people in North Wales,
located two miles off Highway A5. Except for the presence of cars,
the town does not appear to have changed much for over a century.
It is the epitome of a lovely country village--a beautiful natural
setting in a lush green valley, narrow winding little streets, and
a generally sleepy atmosphere. It is largely Welsh-speaking, as
a visitor to the town's one all-purpose store can tell. Similarly,
the epitaphs on the tombstones in the churchyard cemetery are all
in Welsh, though some of the words are covered by the two-foot-high
grass that has grown up there. The town has largely been inhabited
by a few families for generations; a glance at the surnames in the
cemetery reveals a few names occurring repeatedly with few others--
lots of Roberts, Hughes, Davies, Richards, Williams, and Owens.

2. Narration
    Upon approaching it, I could see immediately that Penmachno
itself was an unassuming little village of perhaps 100-200 people
in the lush green valley in North Wales. Except for the presence
of cars it looked about the way it must have looked when my Roberts
ancestors left there for America in 1846. Basically, it looked
about the way I always picture my ancestral village--beautiful nat-
ural setting, neither very rich nor very poor, narrow winding little
streets, and a generally sleepy atmosphere. It was a Welsh-speaking
area, judging from the store I stopped at (the town's one little
all-purpose store) and the epitaphs in the churchyard cemetery. The
graveyard in this little old church was badly overgrown, but I troup-
ed around some through the two-foot-high grass. Although I didn't
find any graves of known ancestors, as I returned the two miles back
to Highway A5, I still felt as though I had recovered a small part
of my past that morning.

3. Advertisement
    When in lovely North Wales, be sure to include a visit to the
idyllic and unspoiled village of Penmachno. Except for the presence
of cars, this village of 100-200 sturdy Welsh men and women looks
about the same way it did over a century ago. It is the sort of
magic place you have probably pictured your European ancestors as
arising from--a beautiful natural setting in a lush green valley,
hardy citizens, quaint little narrow winding streets, and a gener-
ally completely peaceful air about it. Penmachno is largely a

Welsh-speaking area, but don't worry; its friendly inhabitants have all studied English as well. You might want to wander its narrow lanes or visit its single all-purpose store. You can even visit the old Welsh cemetery in the churchyard and do some rubbings of historic tombstones. Penmachno is conveniently located just two miles off Highway A5; it is sure to hold a very special place in your heart.

4. Conversation

B: I want to hear about your visit to the village where your great-grandfather was born.

A: Oh, that was one of the most exciting parts of my trip to north Wales. Even as I approached it, I could see that Penmachno was an unassuming little village of maybe 100-200 people in a lush green valley, even though it's only about two miles off Highway A5.

B: It sounds just like we tend to picture some ancestral village.

A: You know, that's exactly how it struck me--a beautiful natural setting, narrow winding little streets, neither very rich nor very poor, and generally kind of sleepy-looking. Except for a few cars, it must have looked about the same when my Roberts ancestors left there for America in 1846.

B: Did you talk to anybody there?

A: It was a Welsh-speaking area. I could tell that from the tombstone epitaphs and listening to the people in the town's one little all-purpose store.

B: So you found some graves of your ancestors?

A: Not that I recognized, but I did tromp around and look for awhile through the tall grass in the old churchyard cemetery.

B: You must have felt like Alex Haley returning to Africa.

A: Oh, I don't know about that, but I felt like I got a little more in touch with my past this morning.

In general, all descriptions were written as third-person expository prose, similar to encyclopedia entries. The narrations were first-person stories told informally from one particular traveller's point of view. The conversations were between two people who were talking about a recent trip one of them had made, while the advertisements were written as travel brochure excerpts highlighting only favorable aspects of the places. All four passages in each set contained the same basic core information though wording, style, and minor details differed. Within a set, each of the discourse types was the same length, except for conversations, which were a bit longer.

In Experiment 1, each of the 91 subjects heard the 12 passages in one of the four discourse types. Subjects then rated the passage on 7-point scales measuring interest in the passage, its perceived difficulty, and the subject's desire to visit the place in the passage. The "visit" scale was intended to be an unobtrusive measure of the persuasiveness of the passage. After all the passages had been heard and rated, subjects indicated the input discourse type, i.e., whether the particular place in the passage had originally appeared as a description, narration, ad, or conversation. Next, subjects completed a test of memory for factual information. This factual test consisted of 12 multiple-choice questions, one for each of the 12 sets. Each question for each set tapped information common to each of the four passages having different discourse types.

Experiment 2 was similar to Experiment 1, except that subjects read the materials instead of listening to them. Because of this change in presentation modality, the conversation discourse type was not used. We felt that written conversations would not be as natural as spoken conversations. Twenty-four subjects read 12 passages from one of the three sets, with each passage containing information about a different place in a different discourse type.

One of the most interesting results from these two experiments was that spoken advertisements in Experiment 1 were rated as more persuasive than the same ads read by subjects in Experiment 2, as in the first row of Table 2 found on the next page. This was shown by a marginal main effect in Experiment 1 of discourse type on the "visit" ratings, with ads receiving the highest ratings. In contrast, in Experiment 2, descriptions but not ads read by the subjects received the highest "visit" ratings.

Table 2

Mean Ratings and Content Memory Scores

Experiment 1: Auditory

	Description	Narration	Ad	Conversation
Interest[a]	3.66	3.90	3.96	3.86
Difficulty[a]	2.21	2.00	1.89	1.95
Visit[a]	3.86	3.91	4.18	3.79
Factual Test[b]	1.71	1.88	1.63	2.01

Experiment 2: Written

	Description	Narration	Ad
Interest[a]	4.08	3.04	2.18
Difficulty[a]	2.04	1.38	2.23
Visit[a]	4.14	2.97	2.68
Factual Test[b]	3.04	3.80	2.58

[a] 1=low, 7=high

[b] total number correct (out of 3 in Experiment 1, out of 4 in Experiment 2)

The effects of presentation modality can be seen by comparing Tables 3 and 4 on the next page. With auditory presentation, parallel one-way chi-square analyses of the data in Table 3 showed that all four discourse types were correctly remembered at greater than chance levels. In contrast, parallel one-way chi-squares of the data in Table 4 (in which subjects read the materials) showed that, while narrations and ads were remembered correctly at greater than chance levels, descriptions were not. Tables 3 and 4 are on the next page.

Table 3

Experiment 1:   Discourse Type Memory Response Totals (Auditory)

	Remembered As			
	Description	Narration	Advertisement	Conversation
Description	96	74	73	29
Narration	68	148	34	22
Advertisement	92	57	106	18
Conversation	30	49	30	163
Total	286	328	243	232

Table 4

Experiment 2:   Discourse Type Memory Response Totals (Written)

	Remembered As		
	Description	Narration	Advertisement
Description	33	35	28
Narration	23	59	14
Advertisement	28	17	51
Total	84	111	93

In both experiments, results of the factual test (in the bottom row of Table 2) showed that ads, which received lower content memory scores than the other discourse types, were harder than narrations or descriptions. In terms of the direct "difficulty" ratings (the means are in the second row of Table 2), ads were rated as the least difficult under auditory presentation, while narrations were rated least difficult in Experiment 2.

To summarize the results, spoken ads were most persuasive while written ads were least persuasive. This may be explained in terms of intonation. While the text of the typical ad did not differ substantially from that of the description, under auditory presentation the person who spoke the ad used a higher-pitched, faster, more rhythmic, hyped-up intonation than when recording the other discourse types. This intonation factor did not have much effect on the factual test, (the ad was hardest for both presentation modes) suggesting that the effectiveness of an ad does not depend solely on its text but also on its mode of delivery. Finally, while conversations were the easiest form to identify and narrations were next easiest, there were relatively few differences in discourse types on results of the factual test, although both tests used information from long-term memory.

It is not clear why there was a differential persistence of some so-called "surface structure" information (i.e., the discourse type) without substantial effects on the factual test. This finding is inconsistent with one result from the psycholinguistic sentence memory literature: that under most conditions the surface structure of a sentence decays more rapidly than its underlying structure or propositional content. However, recent research has shown that even surface structure information can be maintained in long-term memory, such as when it is emotionally charged, as in a lecturer's joke (Kintsch & Bates, 1977), or a statement about a speaker's intentions, beliefs, and attitudes toward a hearer (Keenan, MacWhinney, & Mayhew, 1977).

Nevertheless, this differential persistence of some surface structure information is probably explainable by the fact that narrations are intuitively intermediate between conversations on the one hand and descriptions and ads on the other, and that descriptions have fewer distinguishing words or expressions than the other three types (e.g., first-person pronouns and anecdotes in narrations, two voices in conversations, and code words like "treasured memories" or "charming village" in ads).

The "Shadow" Studies

The next two experiments used a different set of materials to maximize stylistic differences between conversation and narration discourse types. We turned to one genre consisting entirely of conversations or dialogues which we thought subjects might be interested in hearing—the detective radio melodrama. We varied such factors as whether subjects heard the drama in conversation or narration forms and whether subjects received a recall memory or truth-value-judgment test. A sample of the materials for Experiment 3 appears in sections 1 and 2 in Table 5 below. Subjects heard a complete episode of The Final Hour (McGill, 1977), a radio detective melo-drama about the adventures of Lamont Cranston. In this episode Cranston (the Shadow) fights to save the life of an innocent man named Jim Roselli who is about to be executed after having been framed by Sam Walker. The excerpt in Table 5 describes a final con-frontation between Sam Walker and Marty Barton, the real killer.

Table 5

Stimulus Materials: Sample Set of "Shadow" Materials

1.   Conversation

> (Sound: Hall door kicked open violently)
>
> BARTON: (Quiet and deadly) Put down that phone!
>
> WALKER: (Gasps) Marty!
>
> BARTON: Yeah! Hang up or I'll give you what I gave that welch-
>   ing bookie! Right between the eyes! Hang up!
>   (Sound: Phone on cradle)
>
> WALKER: Don't Marty. I wasn't. . .
>
> BARTON: You were calling the cops! I shoulda fixed you right
>   after the trial!
>
> WALKER: Don't Marty! I've written it all down . . . how you
>   shot the bookie for welching on you and framed the Roselli
>   kid! The police will find it if you kill me!

BARTON: No!   Because you're going to find it for me before you
          die!

WALKER: (Terrified) No!

BARTON: I'll give you ten to find it.   (Counts) One ... Two ...
          Three ...

SHADOW: (Cold-mocking laughter)

BARTON: (Startled) What the . . .

SHADOW: (Hits) Four!

BARTON: (Gasps and sags) Who . . .

          (Sound: Crash of heavy body)

SHADOW: Take this gun, Walker!

          (Sound: Clatter of gun tossed on desk or table)

SHADOW: Hold Barton here!   The police are coming!   Phone the
          Governor!   Tell him the truth!   Hurry, Sam Walker!   (Draws
          back)   The final hour is at hand!   (Laughter fades off)

2. Narration
    Just then the hall door kicks open violently and Barton walks
    in.   He orders Sam to put down the phone or he'll give him the
    same treatment he gave the welching bookie--right between the
    eyes.   Walker obeys and starts to plead with Barton, who says
    Sam was calling the cops and that he   should have fixed him
    right after the trial.   Sam tells Barton that he's written a
    confession all down about how Barton killed the bookie and
    framed the Roselli kid; surely the police would find it if
    Barton killed him.   Barton starts to count to ten for Sam to
    find the confession for him before he dies.   After the count
    of three the Shadow hits Barton and sends him crashing to the
    floor.   He yells for Sam to take the gun and hold Barton until
    the police come.   He also tells him to call the Governor before
    it's too late and tell him the truth.

3.   Memory Test Items (Experiment 3)

   Barton sneaked quietly in the back door of Sam's house.   (FALSE)

   Sam put down the phone after Barton entered.   (TRUE)

   Barton started to count to ten.   (TRUE)

   Barton bullied Sam until he got the confession from him. (FALSE)

   Barton carried his gun in a shoulder holster.   (INDETERMINATE)

   Sam got Barton's gun after the Shadow knocked Barton down. (IM-
     PLICATION)

   Sam had made two copies of his confession. (INDETERMINATE)

   The Shadow arranged for the police to come to the Walker house.
     (IMPLICATION)

   In order to manipulate discourse type independently of semantic
content, the melodrama was rewritten as narration.   Sections 1 and
2 from Table 5 show this discourse type manipulation for one segment.
One script was the original radio drama, while the other contained
the entire story as a narration.   The drama script was performed by
amateur actors, complete with sound effects and background music,
in a simulation of a radio melodrama.   Two audio tape-recordings
were made, one for the drama and one for the narration script.

   First, 20 subjects heard only the Narration (the Narration Only
subjects) while 17 other subjects heard the original radio drama
(the Conversation Only subjects).   Next, subjects received a truth-
value-judgment test containing equal numbers of true, false, implica-
tion, and indeterminate statements based on information common to
the narration and conversation versions.   Sample memory test items
are shown at the bottom of Table 5.   Each statement was rated on a
5-point scale ranging from $\underline{1}$ (false) to $\underline{5}$ (true).

   The results of an analysis of variance on the truth-value judg-
ments showed that there was a significant effect of discourse type
on responses to the true items.   Conversation-only subjects rated
true items as truer than narration-only subjects, even though sub-
jects in both groups heard the same information.   In addition, con-
versation-only subjects rated false statements as falser than nar-
ration-only subjects, although this difference was not statistically
significant.   In summary, conversation-only subjects were more ac-
curate than narration-only subjects in their truth-value judgments

of true and false statements. To further evaluate these results,
Experiment 4 examined recall memory and memory for input discourse
type.

    Experiment 4 was the same as Experiment 3 except for the fol-
lowing changes. First, both discourse types were heard by two groups
of subjects. Second, memory was assessed by a recall test and a test
of memory for discourse type similar to the one used in Experiments
1 and 2. To manipulate discourse type independently of semantic
content, the script was divided into conversation segments of approx-
imately equal length, each one the length of a scene. Each conversa-
tion segment corresponded to a narrative sequence from the Narration
script which was essentially a synopsis of the scene's action. Each
tape consisted of half narration segments and half conversation seg-
ments. One tape was made up of alternating conversation-narration
segments while the other was made up of alternating narration-conver-
sation segments yet the impression conveyed was of a continuous story.
Thus, the semantic content in any given taped segment was in a nar-
ration in one tape and a conversation in the other. Fifty-one sub-
jects heard one of the two tapes each with half narrations and half
conversations.

    Next, subjects received the memory test, which required them to
write down as much as they could remember about each of the segments.
A recall cue was given for each segment; this was a topic sentence
about the entire segment and a paraphrase of the first sentence from
the narration segment. For example, the recall cue for the segments
in Table 5 was Suddenly Marty Barton bursts into the Walker home.
Finally, subjects indicated the input discourse type of the recalled
information for each segment. Recall protocols were scored for
amount of information by comparing each segment to an ideal protocol.
This ideal protocol was made of all potentially recallable idea-units
common to narration and conversation types for a given segment. An
analysis of variance of subjects' total number of idea units recall-
ed showed no significant effect of discourse type, although recall
was ordinally greater for conversation than narration segments,
with means equal to 14.23 and 11.20, respectively.

    To examine memory for input discourse type, two parallel one-
way chi-square analyses were performed on the data shown in Table 6
on the next page. Results showed that while the conversation seg-
ments were remembered correctly at greater than chance levels, re-
sponses for narrations were essentially randomly distributed across
categories. This finding is also consistent with the results from
Experiment 1, which showed more accurate memory of discourse type

for conversations than the other types. Nevertheless, interpreta-
tions of these results should be tempered by the fact that the nar-
rations used in the Britain studies were qualitatively different
from those used in the Shadow studies. In fact, the narrations
of the Shadow studies were in many ways like the descriptions of
the Britain studies.

Table 6

Experiment 4: Discourse Type Memory Response Totals
for "Shadow" Drama

		Remembered As	
	Narration	Conversation	Don't Know
Narration	93	83	29
Conversation	35	163	14
Total	128	246	43

The "Discourse Force" Study

Our current work in progress is examining another attribute
of discourse that Brewer (1980) has called "discourse force", which
is analogous to the speech act force of a sentence. Just as a sen-
tence can have an illocutionary force so can, in this case, a fable.
Just as a sentence can be used to promise, marry, warn, or request,
a fable can be used to persuade, inform, or entertain. Our major
goal was to manipulate discourse force while holding the text of the
entire fable constant. To do this, we selected as materials fables,
parables, and folktales, i.e., texts we thought could be interpreted
as possessing multiple discourse forces. One particular fable we
used is shown in Table 7 on the following page. We manipulated the
salience of a given discourse force by having the subject approach
the text under a certain mental set. To induce a particular set,
subjects read one of the context force paragraphs in Table 7 before
reading the fable. We are now collecting data on a variety of mea-
sures similar to those used in the previously reported experiments.

Table 7

Sample Stimulus Materials for Discourse Force Study

Story: The Dog and His Shadow
     It happened that a dog had got a piece of meat and was carrying
it home in his mouth. Now on his way home he had to cross a plank
lying across a stream. As he crossed he looked down and saw his
own shadow reflected in the water beneath. Thinking it was another
dog with another piece of meat, he made up his mind to have that al-
so. So he made a snap at the shadow, but as he opened his mouth the
piece of meat fell out, dropped into the water, and was never seen
again.

Informative-force set
     An ancient form of oral and written literature is the fable.
These are short, simple stories, often containing animals as human-
like characters. They are concrete and simple to understand and thus
appeal even to a very young child, yet their "moral," the lesson of
the story, is typically a timeless teaching that makes a powerful
statement to adults. The following story, "The Dog and His Shadow",
is a simple example of such a story, (passed down over the years by
word-of-mouth).

Entertaining-force set
     Over the centuries few kinds of stories have been more enter-
taining to all ages than the fable. In these simple stories, people
and people-like animals romp through adventures sure to make us
laugh and cry. The following fable, "The Dog and His Shadow," is
an example of such an amusing story. As you read it, imagine the
silly situation the dog is in as he foolishly loses his meat in a
moment of greed.

Persuasive-force set
     One of the most persistent and destructive faults of humankind
throughout the centuries has been the problem of greed. People al-
ways seem to want more, no matter how much or how little they have
at the moment. The following fable, "The Dog and His Shadow", gives
a simple yet poignant description of how, when we are greedy, we
often lose not only that which we seek but much of what we already
have. Thus greed can lead to our own self-destruction. Read the
following story and think about times you have acted as the dog does.

Conclusions

Several major findings emerge from this research. Of particular interest were the differential effects of discourse type on the various dependent measures, suggesting the wisdom of looking at multiple measures, rather than only the typical measures of memory for content. In addition, presentation modality affected advertisements more so than the other discourse types. Further work along the lines of Coleman (in press) might well examine the subtle persuasive characteristics of intonation in ads.

As far as memory for type of discourse goes, it was easier to remember that information occurred as a narration or conversation than if it had occurred as a description or advertisement. Furthermore, as shown by the results of Experiments 1 and 4, memory for discourse type was more accurate for conversations than narrations. Narrations were more often remembered as conversations than vice-versa in Experiment 4. In conclusion, we believe that we have found a promising way to study discourse processing by holding the semantic content constant and varying either the discourse type or discourse force.

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