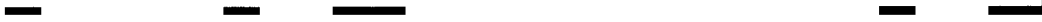


**The Influence of Feedback on Two
Versions of a Related Text: II**

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Abstract

Subjects read, sentence-by sentence, one of two versions of a text describing a small town. The route version described the town as a driver might encounter it, while the survey version represented the town in spatial terms. Three feedback conditions were used. One group of readers had limited access to a map. The second group could reread a limited number of sentences. The third group read the entire version in paragraph form. There were no differences between conditions in semantic memory, defined as order and number of propositions recalled, or surface memory defined as recognition of old/new sentences. However, the sentence feedback proved superior for the route version in inferential (situation) memory, while text feedback was superior for the survey text. This suggests that feedback type which is congruent with the text version is more effective with regard to more complex memorial processes.

Introduction

Within the field of instructional psychology, the belief that any assistance in the learning process is better than no assistance at all, approaches the level of an axiomatic truth (Berliner and Rosenshine, 1977). Aid has been introduced previously in such forms as learning objectives (Rothkopf & Kaplan, 1972), text cueing (Lorch & Chen, 1986), and especially feedback (Barringer & Gholson, 1979). While the outcomes of these studies have not been systematically positive and uniform, the basic assumption has not been modified. The reasons for this consistently axiomatic viewpoint regarding the efficacy of instructional assistance are varied and complex. In general they seem primarily to reflect basic principles underlying the associationist view of learning, with its emphasis on outcome assessment rather than process analysis. Within this model assistance becomes part of a general systems approach to instructional management (Langer & Keenan, 1984).

This study is another one in a series of experiments begun in 1984 to explore the effects of feedback on text processing. Feedback is a common form of instructional assistance, defined as some type of help provided subsequent to a response (Langer & Keenan, 1984). Whether the effects of feedback can be viewed in terms of controlling consequences or providing information is still a moot point (Getsie, Langer & Glass, 1985; Barringer & Gholson, 1979; Anderson & Faust, 1973). Our project was initially conceived as a search for parameters in instructional assistance rather than discourse processing, per se. The outcomes have been less than uniform, however, requiring us now to consider in a general way the interaction between mechanisms of text processing and assistance (Langer, Keenan, & Culler, 1987). Our data would suggest that there are indeed limitations regarding impact of instructional assistance, especially in terms of the processes underlying the synthesizing of meaning from text.

In addition to the conclusions we have drawn from our project data, other researchers have also argued that assistance might not necessarily have positive effects. Quite early Battig (1966) insisted that learning which was initially facilitated might not be the most desirable instructional outcome. Gallagher (1981) showed that feedback could hinder subsequent learning, while Sternberg & Ketron (1982) argued that student-generated strategies might prove superior to instruction-derived strategies. Indeed, Kulhavy (1977) stated that the more complicated feedback programs may become learning tasks in themselves.

Previously our research program utilized a paradigm based on the reconstruction of scrambled text. Assistance has been provided in the form of feedback, which either confirmed or disconfirmed the appropriateness of the sentence order developed during the reconstruction task. The passages were selected from regular texts, and not especially constructed for the experiment (see e.g., Bransford & Franks, 1971). Comprehension was indexed by comparing the order of the reconstructed text to the original, as well as the more common retrieval

measures of idea recall and sentence recognition. Our choice of this paradigm was based on the premise that the reconstruction of scrambled text is a process and therefore supposedly more amenable to the contributions of some form of instructional assistance. While scrambled text has been used extensively in the past as a variable, comparatively little has been done recently (Langer & Keenan, 1984).

As noted, interpretation of data obtained from the reconstruction paradigm led us to consider closely the nature of text processing itself. Interestingly, our more recent analysis fit in with a model developed by Kintsch (1974; 1988; van Dijk and Kintsch, 1983). Kintsch (1988) argued that the initial text propositions are formed directly from the text itself, but are then elaborated and integrated into a coherent text base representation, guided by the prior knowledge available. Comprehension is an iterative construction-integration process, and obviously both knowledge and text base change as a result of the processing. The model suggests that several layers of knowledge interact simultaneously with the task of understanding discourse. Evidence for the model may show a surface representation of verbatim text, a propositional representation of semantic meanings, and a situation representation of pragmatic interpretations. Kintsch (1990) went on to elaborate the model in terms of sentence memory. Linguistic elements and syntactic chunks (surface representation features) interact with propositions (semantic representations) and situation elements. These interact concomitantly, and do not represent distinct phases as the term is commonly used (Shuell, 1991).

The situation representation was tested in a series of experiments by Perrig and Kintsch (1985). In that investigation there were two descriptions of a mythical town called Baldwin. One was composed in terms of a sequential set of instructions for driving through the town, and the other in the context of a spatial or geographic layout. Surface representation was detected by recognition of verbatim sentences; text based representation was detected by propositional recall; while situation representation was assessed by inferences.

This argument for distinct levels of knowledge leads to questions about thought processes in reading that are of vital concern to educational researchers and practitioners. In terms of our own feedback research, it is urgent that we know what kinds of intervention are most facilitative for the discrete kinds of memorial representation postulated in this model. In turn, these are dictated by the instructional outcome specifically sought. This study, the third in a series, differs from previous work in that we do not use a reconstruction paradigm. We do however make a more exhaustive analysis of comprehension outcomes.

In the first study we used a slightly modified version of the Perrig & Kintsch description of their mythical town (Langer, Keenan, & Nelson, 1991). To acknowledge the changes, the town was renamed Mapleton. Each version was 25 sentences long; again: one was a spatial or survey description, the other was a route version which guided the driver through town. The stories were typed one

sentence to a card, and subjects read each sentence aloud as the card was turned over. Both sets of decks were presented in scrambled order. Subjects ordered the card placements using a slotted board.

One group of subjects reconstructed the scrambled passages, with assistance provided in the form of limited confirmation requests as to the correct order of sentence placement. A second group reconstructed the scrambled text without feedback. A third group simply read the scrambled passages twice. We assessed comprehension by comparing the order of the reconstructed text sentences to the original, as well as the more visual measures of recall and recognition.

Recall scores, defined as the proportion of atomic propositions correctly remembered, were statistically greater for the route version across conditions, paralleling the Perrig & Kintsch findings. Recognition scores, defined as the correct identification of old sentences from paraphrases, were not different across conditions. It may just be that using college students we have subjects who when called upon to read an unknown text, have developed to an art form memorial strategies to generate a valid surface representation. There was no feedback by text interaction which we assumed might be present. Because of the absence of any interaction effects, we decided to strengthen the feedback provided in terms of appropriateness, by using a map. This permitted us to compare one type of feedback (map) against another (token).

In the second experiment we used the same two descriptions of Mapleton. Subjects were asked to rearrange the cards so the reconstructed order made sense to them. They were randomly assigned to the four treatment cells created by the two passages (route/survey) and two forms of assistance (tokens/map).

In the reconstruct-token confirmation condition subjects were given 25 tokens. While arranging the cards the subject could use one token, up to a total of 25, to affirm the appropriateness of their order of reconstruction. In the reconstruct-map assistance condition the subjects who reconstructed the text sequence had access to a map which could be used to modify their sentence order. They were given 5 tokens, and could use a token to look at the map for up to 10 seconds.

As in the previous research, the major measures of comprehension were propositional recall, sentence recognition, and concordance (τ) of sentence order with the original passages. For recall there were main effects for both version and feedback. The mean number of propositions recalled for the route version was significantly greater than for the survey. This paralleled the Perrig and Kintsch findings, even given the significantly different task of reconstructing scrambled text. The mean for map feedback was significantly greater than for token assistance. There was no statistically significant interaction between version and feedback. There were no differences for recognition between old and new sentences. Additionally, recall was significantly related to τ (concordance), but recognition was not. These findings are not dissimilar to what we have observed in the past.

Interestingly, concordance was not significantly related to feedback, confirming our previous argument that the developing text structure, at least in terms of a plausible level of individual semantic representation, need not necessarily duplicate the original. Our subjects were able to achieve a satisfactory level of recall and recognition without duplication (Langer, Keenan, and Nelson, 1991). Again, our results paralleled the Kintsch and Perrig findings, even with the critical difference of reconstruction.

In this third study we decided to continue our use of varied feedback conditions, but present the text in its original sentence order. This we believed would enable us to analyze comprehension outcomes in more detail. There were again two versions. The route version (See Appendix A) and survey version (See Appendix B) consisted of 25 sentences, with the last sentence in each version identical. The route version consisted of 487 words, yielding 214 atomic propositions (See Appendix C). The survey version consisted of 495 words and 224 atomic propositions. (See Appendix D). In terms of key variables the two versions are quite similar

Method

Our subjects were 69 General Psychology students. As in the past the sentences were printed one to a card, and the subjects read each card aloud. Unlike previous studies the sentences were in appropriate order. Three feedback conditions were provided as follows: (1) In the map condition, subjects after reading a sentence were allowed to see a map of Mapleton for up to 10 seconds. They could make five such requests, totalling 50 seconds. (See Appendix E for copy of map). (2) In the sentence condition, subjects after reading a sentence could study the sentence on the card they just read an additional 10 seconds. They could make five such requests, totalling 50 seconds. (3) In the text condition, after reading the 25 cards, subjects had the complete text made available which they could study for 50 seconds. This gave us a six-group comparison, based on a 2 (route/survey) X 3 (map/sentence/text) design.

To assess semantic representation after reading the cards the subjects were first asked to write down what they remembered. This recall protocol was scored for both number of propositions and order. Upon completion of the protocol, the subject was presented with a 32-card deck, consisting of either old or new sentences covering both text versions.

Situation memory was determined as follows: the subjects read each sentence aloud, and determined whether the sentence was "true" or "false." True and false cards were placed in separate piles. Inferential reasoning is generally considered a valid index of situation memory.

To assess surface representation the subjects then went through the "true" pile and indicated which were "old" sentences. This recognition measure

constituted our index of surface memory. Sentences in the deck consisted of either original sentences, from both versions ("old"), plus sentences written in either route or survey style ("new").

Results

Again, following Perrig and Kintsch's previous work we measured three dimensions of memory: semantic, surface, and situation. Semantic memory was assessed by total number of propositions recalled, as well as the order of recall with original (concordance). Discrimination between old and new sentences measured surface memory, while situation memory was assessed by inferential reasoning. The d-prime statistic was used throughout our analyses of memory functioning

In terms of semantic memory there were no statistically significant differences between groups. ANOVA for number of propositions recalled and tau (concordance with original order) shows only a marginally superior performance for the route version. Again, surface memory was determined by recognition based on the "true" pile. As indicated previously, after the subjects had separated the sentences into "true" and "false" piles, they then went back to the "true" pile and indicated which sentences were old and new. A "hit" was correctly identifying an "old" sentence as part of the original text read, while a "false alarm" was identifying as old a new sentence. The route version subjects were only marginally superior.

For situation memory we utilized again the "true" pile to arrive at our d-prime analysis. The analysis for either versions was the same. Hence, for those reading the route version a "hit" was based on having assigned a sentence from either the original route version or the original survey version to the "true" pile. A "false alarm" resulted from assigning a sentence written in either route or survey language, but which was not part of the original text (i.e., "new") to the "true" pile. By definition, an original route or survey sentence is a true appropriate inference. Likewise, for the survey version subjects, a "hit" was defined as assigning either an old route or survey sentence to the "true" pile. A "false alarm" occurred by categorizing as "true" a new sentence written in route or survey language. Again, by definition, an original route or survey sentence is a true inference for this group also.

There were no main effects for version or feedback, although the route version was marginally superior. However, there was a statistically significant interaction between version and feedback ($F_{(2,63)} = 3.44, p < .05$). For the route version sentence feedback (.90) was clearly superior to map (.44) and text (-.24). For the survey version text (.37) was much more effective than either sentence (-.22) or map (-.02).

INSERT TABLE I ABOUT HERE

Conclusions

Some of the results parallel both the Perrig and Kintsch study as well as our previous work. The absence of differences in surface and semantic memory was not entirely unexpected; what was more gratifying was to find an interaction between version and feedback with respect to situation memory. One might assume that interential reasoning would be more demanding in terms of appropriate assistance, as compares to other memorial representations. For the route version the superiority of the sentence condition seems logical, with map assistance secondary. The evidence for text feedback superiority for the survey condition seems more difficult to explain. One would expect the map to be more helpful, but it may be that the map provided, which is basically a schematic, was inadequate for the more dependent survey text. In our next experiment we intend to make the map more explicit, by labelling critical locations such as the churches, etc. Nonetheless a finding for differential feedback effects is crucial to our arguments.

There is some evidence now from both Kintsch's work and our own, that the analysis of memorial representation in text processing is vital to any consideration of assisting. For example, the assumption that processing in depth requires assistance which is congruent with the memorial demands makes the task of the instructional developer quite complex. We believe that those directly involved in instructional design must begin to recognize the difficulty of the problem. Basically there must be an expansion beyond the limited assumptions of assistance based on management principles derived from an associationist model.

It is simply indefensible any longer for educators to attempt to manipulate the outcomes of text processing without a more precise characterization of the memorial representations under which outcomes are subsumed. Process and outcome are interactive events, with all the ramifications of that assumption.

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Table 1: D-Prime Analysis for Inference

Source	SS	DF	MS	F	Sig.
Main Effects	2.76	3	.92	.73	.54
Feedback	.85	2	.43	.34	.72
Version	1.81	1	1.81	1.43	.24
2-way Interactions	8.73	2	4.37	3.44	.04
Feedback X Version	8.73	2	4.37	3.44	.04
Explained	11.49	5	2.30	1.81	.12
Residual	79.90	63	1.27		
Total	91.39	68	1.34		

APPENDIX A

MAPLETON ROUTE VERSION

1. Let me tell you about a town called Mapleton where I spent a week on vacation last year. 2. As you drive toward Biggcity you cross Deer Creek and that is where you will find this little town. 3. The highway runs along the base of the hills before you get to the creek with pasture on the uphill side of the road. 4. On the right side are flat fields of corn and beans, and white barns with red roofs. 5. As the road swings left to go up the valley Mapleton can be seen on the other side of the creek, with wooded hills behind it. 6. Before you get to the bridge there are some small homes along the roadside and then you pass the highschool on your right. 7. Just past the highschool on the same side is a small gas station with the shop in the back. 8. Across the highway from the station, at the bridge is an old general store where the young people hang out after school. 9. If you look north upstream from the bridge to where the creek runs out of the hills, the Mapleton Inn is just visible on the far side. 10. I could fish up the stream from the Inn or hike in the woods behind it, or just lie around the pool and turn brown. 11. The Inn is old but kept in top condition, and the meals were superb. 12. Crossing the bridge you will see the Canyon Road that goes up to the Inn and disappears behind a bluff. 13. On the town side of the bridge the highway turns back down the creek with the town on your left. 14. There is a light at Main Street where you make a turn left to go into town. 15. A small business section extends about four blocks along both sides of the street with the newer shops farther from the creek. 16. Mapleton Park is on the left side of the street in the second block and on nice days oldtimers sit on benches watching the traffic. 17. Behind the park and farm the gray stone building on Main Street is Town Hall with the library upstairs and Police Department in back. 18. The tallest building in town is Holy Savior Lutheran Church which shows its steeple between Town Hall and the creek. 19. Just across from Holy Savior is St. Catherine's Church, a small but solid red brick building. 20. On the hill behind Town Hall are the older homes, white frame houses shaded by big old silver maples. 21. Newer homes are across town and down toward the highway where it leaves the creek. 22. Main Street turns into a country road out of town and meets the highway again after a few miles. 23. I drove that way to the end of town once but there is nothing to see except corn fields. 24. If you just stay on the highway it goes down the valley past the town and turns away from the creek. 25. It is too bad that so many drivers pass through town without enjoying the leisure Mapleton offers.

APPENDIX B

MAPLETON SURVEY VERSION

1. Let me tell you about a town called Mapleton where I spent a week on vacation last year. 2. As you drive toward Biggcity you cross Deer Creek and that is where you will find this little town. 3. The highway runs along the south side of the hills west of the creek, with pasture on the hills to the north. 4. On the south side are flat fields of corn and beans, and white barns with red roofs. 5. At the creek the road swings north to go up the valley where Mapleton can be seen on the east side of the creek, with wooded hills behind it. 6. At the west end of town are some small homes along the roadside and closer to the creek is the school. 7. Just past the highschool is a small gas station with the shop in the back. 8. At the bridge is an old general store where the young people hang out after school. 9. If you look upstream from the bridge to where the creek runs south out of the hills, the Mapleton Inn is just visible on the east side. 10. I could finish up the stream from the Inn or hike in the woods behind it, or just lie around the pool and turn brown. 11. The Inn is old but kept in top condition, and the meals were superb. 12. East of the bridge is the Canyon Road that goes north to the Inn and disappears behind a bluff. 13. On the east side of the bridge the highway turns back south along the creek with the town further east. 14. There is a light at Main Street where you turn east to go into town. 15. A small business section extends east about four blocks along both sides of the street with the newer shops farther from the creek. 16. Mapleton Park is on the north side of the street in the second block east and on nice days oldtimers sit on benches watching the traffic. 17. The gray stone building on Main Street is Town Hall with the library upstairs and Police Department in back. 18. The tallest building in town is Holy Savior Lutheran Church which shows its steeple west of Town Hall toward the creek. 19. Just south across from Holy Savior is St. Catherine's Church, a small but solid red brick building. 20. On the hill north of Town Hall are the older homes, white frame houses shaded by big old silver maples. 21. Newer homes are south of Main down toward the highway where it turns east from the creek. 22. Main Street turns into a country road east of town and then goes south to meet the highway again. 23. I drove out east once but there is nothing to see except corn fields. 24. The highway turns south to go back down the valley past the town and turns away from the creek toward the city to the east. 25. It is too bad that so many drivers pass through town without enjoying the leisure Mapleton offers.

APPENDIX C

MAPLETON ROUTE PROPOSITION LIST

Propositions (numbered in first column)

1. Use original text words and order as much as is possible.
2. "Molecular", as short as possible for unambiguous recall decision.
3. Numbered within sentences e.g. 0210 = proposition 10, sentence 2.

Predicates (second column)

1. Verbs, modifiers, connectives, and some prepositions.
2. Some are two-word, hyphenated, e.g. verb-conjunction.
3. Brackets indicate [implicit predicate].

Arguments (third column)

1. Arguments are nouns, pronouns, other propositions, etc., separated by commas, e.g. "(loves) George, bananas".
2. Brackets indicate [implicit argument] from within the same sentence.
3. Slash indicates proposition, usually by /predicate/ only.

0101	tell-about	me, you, town
0102	called	[town], Mapleton
0103	spend	I, week
0104	where	/spend/, [Mapleton]
0105	on	/spend/, vacation
0106	[when]	/spend/, /last/
0107	last	year
0201	as	/drive/, /cross/
0202	drive	you,
0203	toward	/drive/, Biggcity
0204	cross	you, Creek
0205	Deer	[Creek]
0206	and	/cross/, /find/
0207	find	you, town
0208	little	[town]
0209	this	[town]
0301	runs-along	highway, base
0302	of	[base], hills
0303	on	/runs-along/, side
0304	this	[side]
0305	of	[side], creek
0306	with	/runs-along/, pasture
0307	on	[pasture], side
0308	uphill	[side]
0309	of	[side], road
0401	on	side
0402	right	[side]
0403	are	fields, /on/
0404	flat	[fields]
0405	of	[fields], /and/
0406	and	corn, beans
0407	and	[fields], barns
0408	white	[barns]

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1. Use original text words and order as much as is possible.
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2. Brackets indicate [implicit argument] from within the same sentence.
3. Slash indicates proposition, usually by /predicate/ only.

0101	tell-about	me, you, town
0102	called	[town], Mapleton
0103	spend	I, week
0104	where	/spend/, [Mapleton]
0105	on	/spend/, vacation
0106	[when]	/spend/, /last/
0107	last	year
0201	as	/drive/, /cross/
0202	drive	you,
0203	toward	/drive/, Biggcity
0204	cross	you, Creek
0205	Deer	[Creek]
0206	and	/cross/, /find/
0207	find	you, town
0208	little	[town]
0209	this	[town]
0301	runs-along	highway, base
0302	of	[base], hills
0303	on	/runs-along/, side
0304	this	[side]
0305	of	[side], creek
0306	with	/runs-along/, pasture
0307	on	[pasture], side
0308	uphill	[side]
0309	of	[side], road
0401	on	side
0402	right	[side]
0403	are	fields, /on/
0404	flat	[fields]
0405	of	[fields], /and/
0406	and	corn, beans
0407	and	[fields], barns
0408	white	[barns]

0409	with	[barns], roofs
0410	red	[roofs]
0501	as	/swings/, /can-be-seen/
0502	swings	road, left
0503	to-go-up	/swings/, valley
0504	can-be-seen	Mapleton
0505	on	/can-be-seen/, side
0506	other	[side]
0507	of	[side], creek
0508	with	[Mapleton], hills
0509	wooded	[hills]
0510	behind	[hills], it [Mapleton]
0601	before	/get/
0602	get	you, /to/
0603	to	bridge
0604	are	homes
0605	some	[homes]
0606	small	[homes]
0607	along	/are/, roadside
0608	and	/get/, /pass/
0609	pass	you, highschool
0610	then	/pass/
0611	on-right	[highschool]
0701	is	station
0702	small	[station]
0703	gas	[station]
0704	just-past	/is/, highschool
0705	with	/is station/, shop
0706	in-back	[shop]
0801	at	bridge
0802	is	store, /at/
0803	old	/store/
0804	general	/store/
0805	where	/is/, /hang out/
0806	hang-out	people
0807	young	[people]
0808	after	/hang out/, school
0901	if	/look/, /is/
0902	look	you
0903	up	/look/, stream
0904	from	/up/, bridge
0905	to	/look/, /where/
0906	where	/runs/
0907	runs-out-of	creek, hills
0908	is	Mapleton Inn, visible
0909	on	/is/, side
0910	far	side
1001	could-fish	I
1002	up	/could fish/, stream
1003	from	/up/, Inn
1004	or	/could-fish/, /(could)-hike/
1005	[could] hike	[I]
1006	in	/hike/, woods
1007	behind	[woods], it [Inn]
1008	or	/or/, /lie-around/
1009	lie-around	[I], pool
1010	and	/lie-around/, /turn/
1011	turn	brown

1101	is	Inn, old
1102	but	/is/, /[is]-kept/
1103	[is]-kept	[Inn]
1104	in	/[is]-kept/, condition
1105	top	[condition]
1106	and	/[is]-kept/, /were/
1107	were	meals, superb
1201	crossing	you, bridge
1202	will-see	[you], Canyon Road
1203	goes	[Canyon Road], /up-to/
1204	up-to	/goes/, Inn
1205	and	/goes/, /disappears/
1206	disappears	[Canyon Road]
1207	behind	/disappears/, bluff
1301	turns-back	highway
1302	on	/turns-back/, side
1303	town	side
1304	of	[side], bridge
1305	down	/turns-back/, creek
1306	with	[/turns-back/, /on-left/]
1307	on-left	town
1401	is	light
1402	at	/is/, Main Street
1403	where	/is/, /turn/
1404	turn	you, left
1405	to (purpose)	/turn/, /go-into/
1406	go-into	[you], town
1501	extends	business section
1502	small	[business section]
1503	about-four	/extends/, blocks
1504	along	sides
1505	both	[sides]
1506	of	/both/, street
1507	with	[business section], shops
1508	newer	[shops]
1509	farther-from	/newer shops/, creek
1601	is	Mapleton Park, /on/
1602	on	side
1603	left	[side]
1604	of	/left/, street
1605	in	/is/, second block
1606	and	/is/, /sit/
1607	sit	oldtimers
1608	on (when)	/sit/, days
1609	nice	[days]
1610	on	/sit/, benches
1611	watching	[oldtimers], traffic
1701	is	building, Town Hall
1702	stone	building
1703	gray	/stone/
1704	on	/is/, Main Street
1705	with	[Town Hall], /and/
1706	upstairs	library
1707	and	/upstairs/, /in-back/
1708	in-back	Police Department

1801	are	homes
1802	older	[homes]
1803	On	/are/, hill
1804	behind	[hill], Town Hall
1805	white	/are/, houses
1806	frame	[houses]
1807	shaded	[houses]
1808	by	/shaded/, maples
1809	big	[maples]
1810	old	[maples]
1901	are	homes
1902	newer	homes
1903	across	/are/, town
1904	and	/across town/, /toward highway/
1905	toward	/are/, highway
1906	down	/toward highway/
1907	where	/are/, /leaves/
1908	leaves	it [highway] , creek
2001	turns-into	Main Street, country road
2002	out-of	/turns-into/, town
2003	and	/turns-into/, /meets/
2004	meets	[Main Street], highway
2005	again	/meets/
2006	after	/meets/, miles
2007	few	[miles]
2101	drove-out	I
2102	once	/drove out/
2103	that	/drove out/, way
2104	but	/drove-out/, /is/
2105	is	nothing
2106	to-see	[nothing]
2107	except	[nothing], cornfields
2201	is	/tallest/, Church
2202	tallest	building
2203	in-town	/tallest/
2205	Holy Savior	[Church]
2206	Lutheran	[Church]
2207	which	[Church]
2208	shows	[Church], steeple
2209	between	/shows/, /and/
2210	and	Town Hall, creek
2301	is	Church
2302	St. Catherine's	[Church]
2303	across-from	/St. Catherine's/, Holy Savior
2304	just	/across-from/
2305	[is]	/St. Catherine's/, building
2306	small	[building]
2307	but	/small/, /solid/
2308	solid	[building]
2309	red	[building]
2310	brick	[building]
2401	stay-on	you, highway
2402	goes	it [highway]
2403	down	/goes/, valley
2404	past	/goes/, town
2405	and	/goes/, /turns/
2406	turns	[highway]
2407	away-from	/turns/, creek

2501 don't-stop drivers
2502 many /don't-stop/
2503 so /many/
2504* is /so many/, bad
2505 too bad
2506 on /don't-stop/, way
2507 their [way]
2508 through [way/, town
2509 and /don't-stop/, /don't-enjoy/
2510 [don't]-enjoy [drivers], leisure
2511 offers Mapleton, [leisure]

APPENDIX D

MAPLETON SURVEY PROPOSITION LIST

0101	tell-about	me, you, town
0102	called	[town], Mapleton
0103	spend	I, week
0104	where	/spend/, [Mapleton]
0105	on	/spend/, vacation
0106	[when]	/spend/, /last/
0107	last	year
0201	Going	highway
0202	east	/Going/
0203	toward	/Going/, Biggcity
0304	from	/Going/, here
0205	crosses	[highway], Creek
0206	Deer	[Creek]
0207	at	/crosses/, town
0208	this	[town]
0209	little	[town]
0301	runs along	highway, side
0302	south	[side]
0303	of	[side], hills
0304	on	/runs along/, side
0305	west	side
0306	of	[side], creek
0307	with	/runs along/, pasture
0308	on	[pasture], hills
0309	to	[hills], north
0401	on	side
0402	south	(side)
0403	are	/on/, fields
0404	flat	(fields)
0405	of	/and/
0406	and	corn, beans
0407	and 2	/are/, (fields), barns
0408	white	(barns)
0409	with	(barns), roofs
0410	red	roofs
0501	At	creek
0502	swings	/At/, road
0503	north	/swings/
0504	to go u	/north/, valley
0505	where	(valley), /can be seen/
0506	can be seen	Mapleton, /on/
0507	on	side
0508	east	(side)
0509	of	(side), creek
0510	with	/can be seen/, hills
0511	wooded	hills
0512	behind	(hills), it(Mapleton)

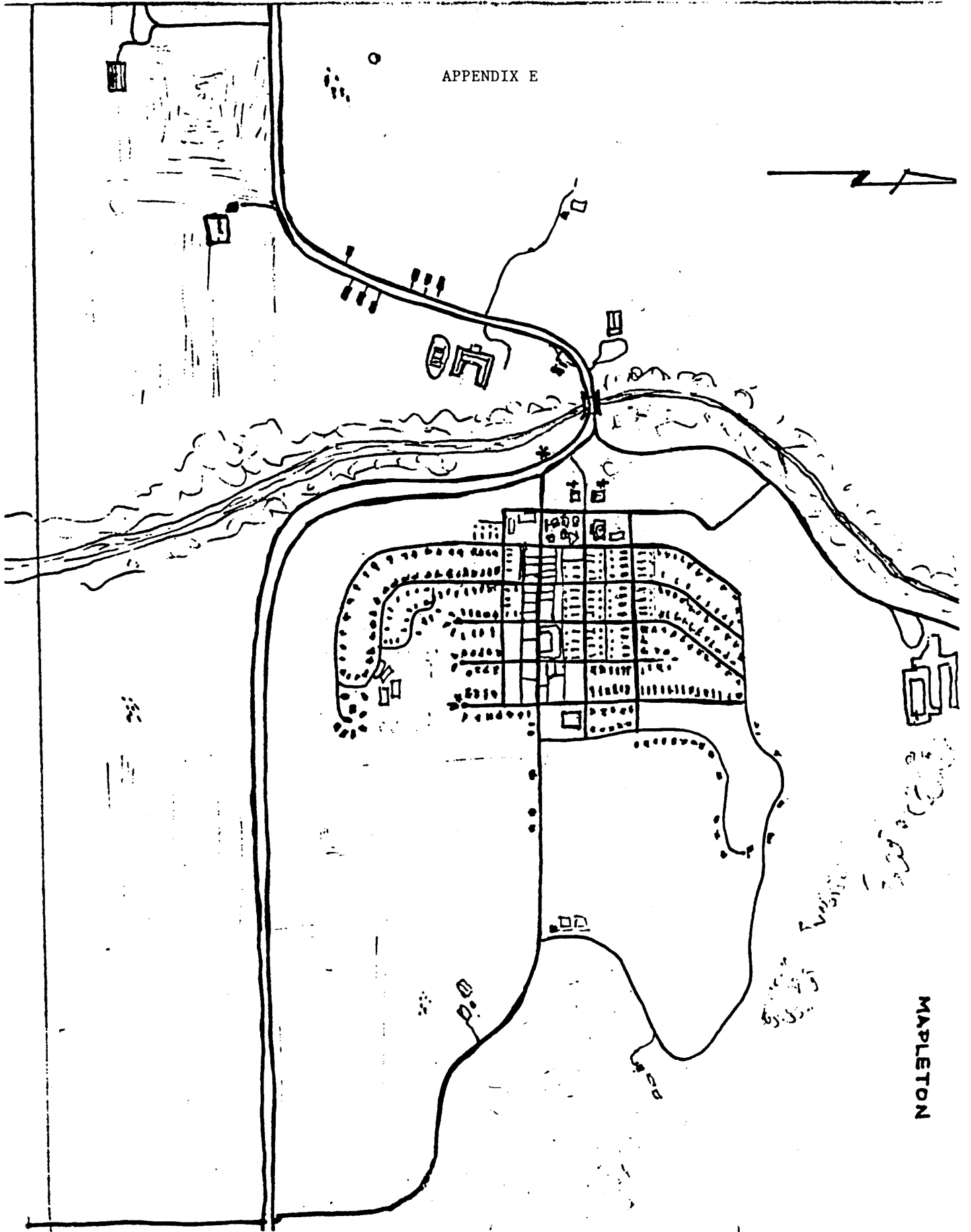
0601	At	/are/, end
0602	west	(end)
0603	of	/west/, town
0604	are	homes
0605	small	(homes)
0606	along	/are/, roadside
0607	and	/are/, /is/
0608	is	school
0609	closer to	/is/, creek
0701	is	station
0702	gas	(station)
0703	west of	/is/, bridge
0704	and	/west of/, /east of/
0705	east of	highschool
0706	with	(station), .shop
0707	in back	shop
0801	north of	/is/, highway
0802	across from	/is/, station
0803	is	store
0804	general	(store)
0805	old	(store)
0806	where	(store), /hangout/
0807	hang out	people
0808	young	(people)
0809	after	/hang out/, school
0901	if	/look/
0902	look	you
0903	upstream	/look/
0904	from	/look/, bridge
0905	to	/look/, /where/
0906	where	/to/, /runs/
0907	runs	creek
0908	south	/runs/, /out of/
0909	out of	hills
0910	is	Mapleton Inn
0911	visible	/is/
0912	just	/visible/
0913	on	/is/, side
0914	east	[side]
1001	could fish	I
1002	up stream	/could fish/
1003	from	/up stream/, Inn
1004	or1	/could fish/, /[could] hike/
1005	[could] hike	[I]
1006	in	/[could] hike/, woods
1007	behind	[woods], it [Inn]
1008	or2	/or1/, /lie around/
1009	lie around	[I], pool
1010	and	/lie around/, /turn/
1011	turn	brown
1101	is	Inn, old
1102	but	/is/, /[is] kept/
1103	[is] kept	[Inn]
1104	in	/is kept/, condition
1105	top	[condition]
1106	and	/is/, /were/
1107	were	meals, superb

1201	East of	bridge
1202	is	Canyon Road, /East of/
1203	goes	[Canyon Road], north
1204	to	/goes/, Inn
1205	and	/goes/, /disappears/
1206	disappears	[Canyon Road]
1207	behind	/disappears/, bluff
1301	On	side
1302	east	[side]
1303	of	/east/, bridge
1304	turns	highway
1305	back	/turns/, south
1306	along	/turns/, creek
1307	with	[highway], town
1308	on	/with/, left
1401	is	light
1402	at	/is/, Main Street
1403	where	/is/, /make/
1404	make	you, turn
1405	east	[turn]
1406	to go	/east/
1407	into	/to go/, town
1501	extends	business section
1502	small	[business section]
1503	east	/extends/
1504	four	/extends/, blocks
1505	about	/four/
1506	along	/extends/, sides
1507	both	sides
1508	of	/both/, street
1509	with	[street], shops
1510	newer	[shops]
1511	farther-form	/newer/, creek
1601	is	Park
1602	Mapleton	[Park]
1603	on	/is/, side
1604	north	[side]
1605	of	[side] street
1606	3in	/is/, block
1607	second	[block]
1608	east	/second/
1609	and	/is/, /sit/
1610	sit	oldtimers
1611	on	/sit/, days
1612	nice	[days]
1613	on	/sit/, benches
1614	watching	[oldtimer], traffic
1701	north-of	/is/, park
1702	facing	/is/, south
1703	toward	/facing/, Main Street

1704	is	Town Hall
1705	with	/is/, library
1706	upstairs	[library]
1707	and	/upstairs/, /in-back/
1708	in-back	Police Department
1801	are	homes
1802	older	[homes]
1803	on	/are/, hill
1804	north-of	[hill], town
1805	[are]	[homes], houses
1806	frame	[houses]
1807	white	[houses]
1808	shaded	[houses]
1808	by	/shaded/, maples
1809	old	[maples]
1810	silver	[maples]
1901	are	homes
1902	newer	[homes]
1903	south-of	/are/, Main
1904	down-toward	/are/, highway
1905	where	[highway], /turns/
1906	turns	it [highway]
1906	east	/turns/
1907	from	/east/, creek
2001	turns-into	Main Street, road
2002	country	[road]
2003	east-of	/turns-into/, town
2004	and	/east-of/, /south/
2005	[turns]	south
2006	to-meet	/[turns]/, highway
2007	again	/to-meet/
2101	drove-out	I
2102	once	/drove out/
2103	that	/drove out/, way
2104	but	/drove-out/, /is/
2105	is	nothing
2106	to-see	[nothing]
2107	except	[nothing], cornfields
2201	is	Church, building
2202	Lutheran	[Church]
2203	Holy Savior	/Lutheran/
2204	tallest	[building]
2205	in-town	/tallest/
2206	shows	which [Church], steeple
2207	west-of	/shows/, Town Hall
2208	toward	/shows/, creek
2301	across-from	/is/, Holy Savior
2302	south	/across-from/
2303	just	/south/

2304	is	Church
2305	St.Catherine's	[Church]
2306	small	/is/, building
2307	solid	[building]
2308	but	/small/, /solid/
2309	brick	[building]
2310	red	/brick/
2401	turns	highway, south
2402	to go	/turns/, down
2403	back	[down]
2404	down	/to-go/, valley
2405	past	/to-go/, town
2406	and	/turns/, /turns-away]
2407	turns-away	[highway]
2408	from	/turns-away/, creek
2409	toward	/turns-away/, city
2410	east	[city]
2501	don't-stop	drivers
2502	many	/don't-stop/
2503	so	/many/
2504	is	/so many/, bad
2505	too	bad
2506	on	/don't-stop/, way
2507	their	way
2508	through	/their way/, town
2509	and	/don't-stop/, /don't-enjoy/
2510	(don't)-enjoy	(drivers), leisure
2511	offers	Mapleton, leisure

APPENDIX E



MAPLETON