29. All Discourse Tasks Are Not Created Equal

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Although Kimbarow (1989) and others have argued convincingly that pragmatic research in aphasia must pay closer attention to accessing the dynamic aspects of communication in real-life situations, it is probable that constrained narrative and procedural discourse tasks will continue to be major workhorses of pragmatic assessment and intervention. With respect to these procedures, Ulatowska and Chapman (1989, p. 299) state: "The distinct structural organization and content of each discourse type places different cognitive and linguistic demands on the communicator."

Recognition of these potentially distinctive differences has led to a proliferation of research concerning the effects of stimulus and task variables on spontaneous language performance in aphasic individuals (cf. Bottenberg & Lemme, 1991; Bottenberg, Lemme, & Hedberg, 1987; Brenneise-Sarshad, Brookshire, & Nicholas, 1991; Correia, Brookshire, & Nicholas, 1989; Easterbrook, Brown, & Perera, 1982; Glosser, Wiener, & Kaplan, 1988; Potechin, Nicholas, & Brookshire, 1987; Roberts & Wertz, 1989). Surprisingly, there have been fewer studies designed to focus on normative discourse performance differences in non-brain-damaged adults—a gap in our knowledge base that was highlighted in 1989 during discussion of a paper by Roberts and Wertz. Without a better understanding of the influence of task demands and constraints upon linguistic and pragmatic productions, effective selection and use of these activities in aphasia management is sharply limited.

The purpose of this paper is twofold. First, data are presented from an investigation in which non-brain-damaged older women completed five somewhat constrained discourse tasks in order to investigate the hypothesis that all discourse tasks do not elicit comparable types or levels of performance. The discussion highlights task attributes and processing/production constraints that potentially contribute to observed patterns of

discourse similarity and difference. Second, the clinical implications of these findings are illustrated through two case studies of aphasic adults who fall within the age, educational, and gender parameters of the normative sample.

METHOD—DISCOURSE COMPARISON STUDY

Subjects were 21 low- to middle-income older women between the ages of 60 and 85 years (M = 69.2 years). Mean educational level was 12.1 years (range = 6 to 16 years). The majority of subjects were drawn from service users or volunteers at a local senior citizen center.

The primary experiment involved five discourse tasks. In the first task, the subject was asked to describe as completely as possible the Cookie Theft picture from the *Boston Diagnostic Aphasia Examination* (*BDAE*) (Goodglass & Kaplan, 1983). The two narrative storytelling tasks involved telling the Cat Story based on five cartoon-like sequenced pictures and retelling the Rooster Story after it was read by the examiner (Ulatowska, Freedman-Stern, Doyle, Macaluso-Haynes, & North, 1983). The two procedural discourse tasks involved describing how to make scrambled eggs and describing (to a foreigner) how to go shopping in an American grocery store (Ulatowska, Doyel, Freedman-Stern, & Macaluso-Haynes, 1983).

Subjects were tested at the University of Arkansas Speech and Hearing Clinic during one session. All three authors participated in testing following a scripted protocol identifying sequence of procedures and verbal instructions. Subjects were randomly assigned to one of two task orderings. All verbal responses were audio tape-recorded, timed, and transcribed.

Tasks were subjected to standard *T*-unit analyses (Hunt, 1965), including counts of *T* units and other language units and calculations of linguistic unit length, words per minute, clause structure and type, and syntactic complexity or embeddedness. Each *T* unit was rated for syntactic well-formedness and semantic accuracy, following procedures adapted from Roberts and Wertz (1989). Discourse samples were also subjected to analysis of verbal disruptions (Glosser, Wiener, & Kaplan, 1988), yielding a percentage of disruption for each sample and percentages of each of six types of disruption within the sample. In addition, analysis of the percentage of cohesive ties (unweighted) and of cohesive attempts within each discourse sample was completed (Hedberg & Stoel-Gammon, 1985). As can be seen, most measures reflect commonly used analyses that cross all tasks and represent some of the linguistic building blocks upon which discourse communication is elaborated.

Finally, groups of 10 college undergraduates were asked to sort randomized written transcripts of all subjects for a given task into one of three categories: 1 = too much information, 2 = an appropriate amount of information, and 3 = insufficient information. Training was provided using exemplars from pilot data for which the rating code had been agreed upon by two speech-language pathologists certified by the American Speech-Language-Hearing Association. Each subject's response was assigned to one of the three categories based on agreement of at least 7 out of 10 coders. This level of agreement was reached in all instances.

Point-to-point intra- and interjudge transcription reliability was above .95, based on randomly selected transcripts from four subjects. Point-to-point reliability measures for linguistic analyses were all calculated to be above .84, using samples for four different subjects.

RESULTS AND DISCUSSION—DISCOURSE COMPARISON STUDY

Mean data and primary results of single-factor repeated-measures analysis-of-variance procedures are shown in Table 29.1. The results of post hoc Scheffe *F* tests of pairwise differences (.95 confidence level) are summarized in Table 29.2. Anticipated differences in total numbers of all language units, as well as in total talking time, were observed, although only the Store task consistently emerged as significantly longer than others.

The results can be summarized by stating that *only* clause length, words per minute, proportions of 2-clause *T* units, and proportions of syntactically well-formed *T* units *failed* to discriminate one or more tasks. In addition, it was clear that procedural discourse (particularly the Store task) differed significantly from narrative discourse or picture description on virtually all parameters. Each analysis domain will be highlighted briefly.

Syntactic Parameters

Longer *T* units differentiated both procedural tasks from the picture description task and differentiated the Store task from the Cat task. Syntactic complexity is better reflected in proportions of subordinate to total clauses or in clauses per *T* unit. In both cases, post hoc analysis revealed the Store procedural discourse to be more complex than virtually all other tasks. In fact, with predictable regularity, a pattern emerged of greatest syntactic complexity associated with the Store task, followed by

TABLE 29.1. DISCOURSE LINGUISTIC ANALYSES ACROSS FIVE TASKS (MEAN OR PROPORTIONAL DATA)

Measure	*Cookie Theft*	*Cat*	*Egg*	*Store*	*Rooster*	F (df + *4,20*)	p
Time (s)	62.42	46.41	56.33	149.11	36.23	3.507	.0109
Words	128.91	129.81	128.24	364	87.95	4.479	.0026
T Units	14.24	14.91	10.62	29.91	7.810	3.902	.006
Clauses	19.29	19.33	15.95	48.38	10.95		
Subordinate Clauses	5.24	4.43	5.10	17.81	3.14		
Words/Clause	6.72	6.69	8.34	7.42	7.97	2.149*	.0823
Words/*T* Unit	9.11	8.69	12.26	12.57	11.06	6.095	.0002
Infinitives	2.24	3.24	1.29	5.81	.38		
Infinitives/*T* Unit	.169	.274	.101	.153	.032	8.988	.0001
Words per Minute	128.47	147.64	143.78	149.94	143.59	.666*	.6176
Clauses/*T* Unit	1.35	1.3	1.50	1.68	1.41	8.727	.0001
Sub/Total Clauses	.253	.224	.303	.409	.285	9.712	.0001
Proportion of Adverbial Clauses	.260	.577	.721	.451	.307	5.542	.0005
Proportion of Adjectival Clauses	.260	.115	.183	.217	.529	9.437	.0001
Proportion of Noun Clauses	.480	.242	.056	.315	.155	4.647	.002
Proportion of 1-Clause *T* Units	.705	.750	.661	.530	.645	5.329	.0007
Proportion of 2-Clause *T* Units	.231	.219	.242	.311	.319	1.225*	.1878
Proportion of >2-Clause *T* Units	.064	.031	.097	.159	.036	8.276	.0001

Proportion of Verbal Disruptions	.018	.020	.029	.024	.041	3.785	.0072
Maze	.392	.325	.310	.391	.266	.736*	.5701
Repetition	.112	.210	.128	.123	.114	.737*	.5694
Omission	.241	.032	.029	.106	.007	3.981	.0054
Filler	.092	.314	.352	.327	.495	5.902	.0003
Proportion Semantically Accurate *T* Units	.935	.919	.962	.848	.891	5.486	.0006
Proportion Syntactically Well Formed *T* Units	.798	.873	.875	.793	.822	1.579*	.1878
Proportion of Cohesive Ties	.144	.179	.163	.160	.185	20.87	.0001
Proportion of Cohesive Attempts	.031	.052	.030	.059	.045	15.436	.0001
Information Ratings (proportion of total subjects)							
1 (insufficient)	.24	.05	.24	.33	.33		
2 (appropriate)	.53	.81	.57	.19	.57		
3 (too much)	.24	.14	.19	.48	.10		

*$p < .05$.

TABLE 29.2. SUMMARY OF SIGNIFICANT SCHEFFE POST HOC ANALYSES FOR DISCOURSE MEASURES

Measure	*Significant Pair-Wise Differences*
Talking Time	Store > Rooster
Total Words	Store > Rooster, Cookie Theft, Cat, Egg
T Units	Store > Rooster, Egg
Words/*T* Unit	Store > Cookie Theft, Cat Egg > Cookie Theft
Infinitives/*T* Unit	Cat > Rooster, Egg Cookie Theft > Rooster
Clause/*T* Unit	Store > Rooster, Cookie Theft, Cat
Sub/Total Clauses	Store > Rooster, Cookie Theft, Cat, Egg
Proportion of Adverbial Clauses	Egg > Cookie Theft Cat > Cookie Theft
Proportion of Adjectival Clauses	Rooster > Cat, Store, Cookie Theft, Egg
Proportion of Noun Clauses	Cookie Theft > Egg, Rooster, Cat
Proportion of 1-Clause *T* Units	Cat > Store
Proportion of >2-Clause *T* Units	Store > Cat, Rooster, Cookie Theft
Proportions of Verbal Disruptions Omission Filler	Rooster > Cat, Cookie Theft Cookie Theft > Rooster Rooster > Cookie Theft
Proportion of Semantic Accuracy	Cookie Theft > Store Egg > Store
Proportion of Cohesive Ties	Rooster > Store, Egg, Cookie Theft Cat > Cookie Theft, Egg, Store Egg > Cookie Theft
Proportion of Cohesive Attempts	Store > Egg, Cookie Theft Cat > Cookie Theft, Egg Rooster > Egg

the Egg, Cookie Theft, and Cat tasks, as can be seen in examining proportions of 1-clause and > 2-clause *T* units. Only infinitive/*T*-unit usage failed to follow this pattern.

Syntactic complexity values for the Rooster story retelling task tended to fall less predictably in the middle of the continuum. It is probable that the presence of an auditory linguistic model sets up very different task constraints from any of the other procedures, since it markedly reduces the degree of self-generation of material.

Our findings of increased syntactic embedding in procedural discourse tasks contrast with Ulatowska and Chapman's (1989) report that narrative discourse evidences more complex syntax and more varied syntactic forms. Although our tasks were similar to those used by Ulatowska and

colleagues in the past, it is clear that the particular narrative or procedural discourse task is as important as the narrative/procedural contrast. For example, the Rooster and Cat narrative tasks in this study are highly constrained in terms of model. A request to tell a story from one's own recollection might have elicited a different pattern of data. The Store (and to a lesser extent, Egg) tasks might also be considered more personally relevant to our group of older women than, for example, to a group of older men. In addition, it is important to remember that subjects were instructed to describe store usage to a *foreigner,* potentially influencing detail of response.

It was apparent that each task had its own distinctive pattern of subordinate clause distribution. For example, adjectival clause usage dominated on the Rooster task and noun clause usage dominated on the Cookie Theft task. Adverbial clause usage, described by Hunt as the least sophisticated of subordinate frames, was most common in the Cat and Egg tasks. However, both the latter tasks are heavily action oriented, setting up the communicator for the use of action-qualifying adverbial clauses. In contrast, the Rooster Story contains several adjectival clauses in the auditory model. Thus, both stimulus model *and* information content will tend to dictate the type of subordinate clause usage.

Syntactic Well-Formedness and Semantic Accuracy

The proportions of syntactically well-formed *T* units did not differentiate tasks, although syntactic well-formedness was negatively correlated with measures of syntactic complexity on both procedural tasks. For example, on the Egg task, Cl/*T* unit and proportions of >2-clause *T* units correlated negatively with syntactic well-formedness, while proportions of 1-clause *T* units correlated positively with the same measure (respectively, $r = -.436, -.486, +.436$; $p < .05$ in all instances). On the Store task, measures of Cl/*T* unit, Sub/Tot clause, and proportion of >2-clause *T* units correlated negatively with syntactic well-formedness, while proportions of 1-clause *T* units correlated positively with this measure (respectively, $r = -.564$, $p < .01$; $r = -.551$, $p < .01$; $r = -.542$, $p < .05$; $r = +.573$, $p < .01$). These findings suggest possible tradeoffs between complexity and accuracy.

Both Cookie Theft and Egg tasks elicited a significantly greater proportion of semantically accurate *T* units than the Store task. The first two tasks are relatively restricted in possible content and are cognitively simple, as compared with the amount of information that can be provided and the number of potential substeps and action variations available in the Store task. Multiple options may reduce semantic accuracy, particularly with respect to reference. Proportions of semantically accurate *T* units on the Cat task correlated negatively with measures of syntactic embedding

on the same task (Cl/*T* unit, $r = -.551$, $p < .01$; Sub/Tot Cl, $r = -.524$, $p < .05$), suggesting a similar accuracy/complexity tradeoff.

Cohesion and Verbal Disruption

Cohesive tie usage was greatest in the Rooster task, followed by the Cat, Egg, Store, and Cookie Theft tasks. The proportion of ties was significantly higher in both narrative tasks (where true storytelling is required) than in any other task. Failed cohesive attempts were uncommon, with the proportion of such attempts greatest in the Store task, followed by the Cat, Rooster, Cookie Theft, and Egg tasks. Statistically significant post hoc differences are shown in Table 29.3.

With respect to verbal disruptions, the Rooster task showed a higher disruption rate than the Cat and Cookie Theft tasks and significantly more filler disruptions and fewer omission disruptions when compared with the Cookie Theft task. It is probable that speakers exercise greater care in attempting to replicate the auditory model, leading to more verbal disruption with increased reliance on filler utterances to maintain flow. In contrast, the visual elements of a picture stimulus readily suggest the next topic without any need to search memory for either an auditory model or a procedural sequence of steps. Proportionately greater omission disruptions with the Cookie Theft picture might be explained by the continued shared speaker/listener referent in the form of the visual stimulus.

Information Content

The final domain involved ratings of the appropriateness of the level of information provided. The modal rating was 2 (adequate) for all but the Store task, with 81% of the subjects on the Cat task rated as producing discourse with adequate information, as compared with slightly over half on the Cookie Theft, Rooster, and Egg tasks. Chi-square statistical analyses indicated significant rating distribution differences among tasks ($X^2 = 20.63$, $df = 8$, $p = .008$), associated with significant differences in distribution between the Store task and all other tasks except picture description. The more open-ended Store task appears to allow for greater individual variability in response strategy.

Task Variable Summary

These findings illustrate the importance of a variety of task variables. Key variables can be identified as (a) stimulus attributes (modality, specificity,

TABLE 29.3. SELECTED DISCOURSE MEASURES FOR SUBJECT J. M. ON FIVE DISCOURSE TASKS

Measure	*Cookie Theft*	*Cat*	*Egg*	*Store*	*Rooster*
Words per Minute					
Time 1	81	76	73	71	80
Time 2	87	95	72	75	94
Difference (2 – 1)	+6	+19	–1	+4	+14
T Units					
Time 1	6	6	4	7	5
Time 2	8	9	6	10	7
Difference (2 – 1)	2	3	2	3	2
Clause/*T* Unit					
Time 1	1	1	1	1	1
Time 2	1.22	1.25	1.05	1.10	1.28
Difference (2 – 1)	0.22	0.25	0.05	0.10	0.28
Proportion of 1-Clause *T* Units					
Time 1	1	1	1	1	1
Time 2	0.78	0.75	1	0.90	0.71
Difference (2 – 1)	–.22	–.25	0	–.10	–.29
Proportion of 2-Clause *T* Units					
Time 1	0	0	0	0	0
Time 2	0.22	0.25	0	0.10	0.29
Difference (2 – 1)	+.22	+.25	0	+.10	+.29
Proportion of Syntactically Well-Formed *T* Units					
Time 1	0	.17	.25	.14	.20
Time 2	.67	.63	.84	.80	.50
Difference (2 – 1)	+.67	+.46	+.59	+.66	+.30
Proportion of Semantically Accurate *T* Units					
Time 1	.49	.56	.48	.46	.53
Time 2	.61	.63	.67	.69	.72
Difference (2 – 1)	+.12	+.07	+.19	+.23	+.19
Proportion of Cohesive Ties					
Time 1	.13	.12	.10	.11	.08
Time 2	.17	.12	.12	.12	.16
Difference (2 – 1)	+.04	0	+.02	+.01	+.08
Proportion of Cohesive Attempts					
Time 1	0	.06	0	.05	0
Time 2	.09	.12	.08	.11	.12
Difference (2 – 1)	+.09	+.06	+.08	+.06	+.12
Proportion of Verbal Disruptions					
Time 1	.47	.51	.69	.74	.43
Time 2	.42	.45	.43	.49	.36
Difference (2 – 1)	–.05	–.06	–.26	–.25	–.07
Mean Information Rating (1–5)					
Time 1	1.3	1.5	1.0	1.2	1.4
Time 2	2.3	2.3	2.0	1.8	2.4
Difference (2 – 1)	+1.0	+.8	+1.0	+.6	+1.0

complexity, and shared references), (b) personal relevance, (c) instructions, (d) narrative versus procedural task demands, (e) overall cognitive complexity (memory and sequencing demands, micro- and macro-organizational structure), (f) general task constraint versus open-endedness, (g) dependency of syntactic structure on task and content, and (h) individual subject accuracy/complexity tradeoff strategies. It is possible to develop descriptive protocols for summarizing salient task attributes. Comparisons of three tasks on a proposed protocol are given in Appendix 29.A.

CASE STUDY EXAMPLES

Some of the complexities of using these discourse tasks in aphasia assessment and progress monitoring can be illustrated in two case examples of a fluent aphasic client N. C. and a nonfluent aphasic client J. M., tested by the first author at approximately 1 month and 6 months post-cerebrovascular accident (CVA). Subject J. M. was a 67-year-old female with 12 years of schooling who suffered a left CVA that left her with an initial diagnosis based upon *BDAE* results of nonfluent aphasia. She was administered all discourse procedures at 3½ weeks and 30 weeks post-CVA. Subject N. C., a 63-year-old female with 12 years of schooling, suffered a left CVA that left her with a *BDAE*-diagnosed fluent aphasia. She was administered all five discourse procedures at 4 weeks and 27 weeks post-CVA. In both cases, therapy was conducted by a clinician who was uninvolved in the study.

All analyses previously discussed were completed at Time 1 and Time 2. Selected discourse measures are provided in Tables 29.3 and 29.4 to illustrate the manner in which different tasks reveal varying levels of progress and/or residual deficit. For many measures, both subjects evidenced greater initial difficulty and/or least improvement on the procedural task compared with the narrative task—particularly the Store task. This pattern was consistent with normative sample hypotheses that these tasks are least constrained and yield greatest individual variability and complexity. Not surprisingly, the more severely aphasic subject N. C. demonstrated this pattern in a more pronounced manner.

Both subjects made desirable changes in speaking rate (J. M. had an increased rate and N. C. a decreased rate), but the less structured and less stimulus-bound procedural tasks were least affected. With respect to total number of *T* units, the nonfluent subject J. M. showed an increase across all tasks. However, subject N. C. showed slight decreases on the narrative and picture description tasks, with little change on procedural tasks. These patterns together are quite consistent with the modified ratings of information content used with aphasic subjects. We chose to address the

TABLE 29.4. SELECTED DISCOURSE MEASURES FOR SUBJECT N. C. ON FIVE DISCOURSE TASKS

Measure	*Cookie Theft*	*Cat*	*Egg*	*Store*	*Rooster*
Words per Minute					
Time 1	150	168	165	175	159
Time 2	135	151	160	173	139
Difference (2 – 1)	–15	–17	–5	–2	–20
T Units					
Time 1	18	17	12	32	11
Time 2	15	13	11	33	8
Difference (2 – 1)	–3	–4	–1	+1	–3
Clause/*T* Unit					
Time 1	1.54	1.44	1.57	1.75	1.63
Time 2	1.34	1.31	1.61	1.71	1.50
Difference (2 – 1)	–.20	–.13	+.04	–.04	–.13
Proportion of 1-Clause *T* Units					
Time 1	.67	.65	.58	.47	.55
Time 2	.73	.77	.64	.45	.63
Difference (2 – 1)	+.06	+.12	+.06	–.02	+.08
Proportion of 2-Clause *T* Units					
Time 1	.28	.29	.25	.34	.36
Time 2	.20	.15	.18	.36	.25
Difference (2 – 1)	–.08	–.14	–.07	+.02	–.11
Proportion of Syntactically Well-Formed *T* Units					
Time 1	.63	.72	.75	.69	.67
Time 2	.80	.76	.69	.67	.75
Difference (2 – 1)	+.17	+.04	–.06	–.02	+.08
Proportion of Semantically Accurate *T* Units					
Time 1	.25	.34	.28	.23	.31
Time 2	.71	.75	.58	.54	.77
Difference (2 – 1)	+.46	+.41	+.30	+.31	+.46
Proportion of Cohesive Ties					
Time 1	.09	.08	.10	.10	.08
Time 2	.16	.16	.09	.10	.16
Difference (2 – 1)	+.07	+.08	–.01	0	+.08
Proportion of Cohesive Attempts					
Time 1	.10	.09	.11	.15	.08
Time 2	.15	.14	.12	.15	.12
Difference (2 – 1)	+.05	+.05	+.01	0	+.04
Proportion of Verbal Disruptions					
Time 1	.29	.28	.22	.25	.28
Time 2	.34	.36	.23	.25	.38
Difference (2 – 1)	+.05	+.08	+.01	0	+.10
Mean Information Rating (1–5)					
Time 1	4.6	4.5	4.5	4.7	4.3
Time 2	4.0	3.8	4.3	4.5	3.8
Difference (2 – 1)	–.6	–.7	–.2	–.2	–.5

issue of amount of information communicated *in relation to* verbal flow by using a modified 5-point scale (1 = extremely limited information and limited verbal flow; 5 = extremely limited information and excessive verbal flow). A rating of 3 would be considered optimal. From Time 1 to Time 2, subject J. M.'s improved information content and increased verbal flow paralleled N. C.'s improved information content and decreased verbal flow. The greatest difficulties occurred with procedural discourse, although J. M.'s gains on these tasks were comparable to those on other tasks.

One reasonable assumption may be that the constraints of the picture and auditory stimuli on the Cat, Cookie Theft, and Rooster tasks allowed these subjects to control verbal output better by focusing emerging or returning language skills in structured communication environments. Support for this hypothesis can be derived from the verbal disruption and cohesion data.

Subject J. M. showed the greatest initial disruption and greatest decrease in disruption over time in the two procedural discourse tasks. Since syntactic skills improved most in narrative and picture description tasks, it is possible that the attention paid to syntactic performance in these more structured environments resulted in greater disruption in flow *in comparison to* the less model-dependent procedural tasks. Subject N. C. showed an increase in verbal disruptions from Time 1 to Time 2 in those discourse events that were more stimulus-bound or had greater structure and constraint—in other words, in tasks where the fluent but impaired nature of the initial aphasia could come under N. C.'s increasing control.

Similarly, with respect to cohesion, the nonfluent subject J. M. showed slight increases in cohesive ties across all tasks, with changes most pronounced for the Cat and Rooster tasks, which provide a cohesion-enhancing model. Increases in cohesive attempts were viewed as positive outcomes of efforts to interlink communication units. The greatest increase in J. M.'s attempts was noted for the Rooster task, where auditory input closely modeled cohesion behaviors. The fluent subject N. C.'s cohesive tie usage also increased in all but the two procedural tasks, and cohesive attempts increased in all but the most taxing Store task. Increases in cohesive attempts on the Rooster task may reflect N. C.'s improved auditory comprehension and use of the model provided.

Changes in syntactic complexity, syntactic well-formedness, and semantic accuracy further demonstrate the dependency of progress determination upon task selection. Subject J. M. showed increases in complexity (clause/*T* unit) on all tasks, associated fairly consistently with a reduction in the dominant 1-clause *T*-unit structure and an increase in 2-clause *T* units. Changes were greatest on Cat, Rooster, and Cookie Theft tasks. In contrast, increased proportions of syntactically well-formed *T* units

occurred across tasks, but were greater for the Store and Cookie Theft tasks. Similar marked increases in semantically accurate utterances occurred on Store, Egg, and Rooster tasks. Tradeoffs of complexity and accuracy or well-formedness probably reflect the subject's enhanced focus on syntactic production during more constrained tasks. Experimentation with more varied structures might very well lead to an increased likelihood of error.

For fluent subject N. C., decreased syntactic complexity was viewed as evidence of improved self-monitoring of expressive communication. The greatest decreases in syntactic complexity (clauses/*T* unit) occurred on the Rooster task, with the least change on the Egg task. Decreased complexity was associated primarily with a reduction in 2-clause *T* units and an increase in 1-clause *T* units. One exception was the Store task, in which a slight drop in overall complexity was associated solely with a reduction in *T* units with more than two clauses. Overall improvement in N. C.'s functioning can be seen in the increase in semantically accurate *T* units across all tasks. However, shifts in the proportion of syntactically well-formed *T* units were variable and unpredictable. Because primary deficits in this fluent client were not syntactic in nature, recovery of other functions over time may have affected syntactic measures inconsistently, depending on the degree to which other linguistic capacities were being taxed.

CONCLUSIONS

Examination of discourse changes over time in our aphasic subjects illustrates the importance of task selection in initial assessment and monitoring of progress. It is apparent, for example, that use of *only* narrative discourse tasks or *only* procedural discourse tasks would have respectively over- or underrepresented changes over time for these two individuals and might have obscured desirable directions for future treatment. The data and case examples together support the experimental hypothesis that all discourse tasks are not created equal. Some insight into the nature of task differences has been provided, although we are well aware of tasks (e.g., conversation, spontaneous storytelling) and measures (e.g., propositional content, story elements) that were not addressed.

Given the complexity of hypothesized task variables, two major recommendations can be made with respect to future use of discourse in aphasia management. First, it is clear that more normative data are needed in order to improve identification of salient discourse features, so that baseline and treatment tasks can be selected to increase or decrease syntactic, semantic, cohesive, cognitive, and fluency demands based on

individual client deficits, underlying disorder, and treatment goals. The type of protocol shown in Appendix 29.A could be used for research and clinical applications. Both male and female subjects from a wide age and educational range should be sampled.

Second, individual practitioners should identify a core group of tasks and measures that will be used consistently to systematize clinical data gathering (cf. Terrell & Ripich's 1989 recommendation of one narrative, one procedural, and one spontaneous task). Cross-institutional data are needed in order to develop a fuller knowledge of the parameters influencing performance on these procedures.

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APPENDIX 29.A SAMPLE TASK COMPARISONS BASED ON A PROPOSED PROTOCOL

	Rooster Story	*Cat Story*	*Store Task*
Stimulus			
Modality	Auditory	Visual	None
Linguistic specificity	High	Limited	N/A
Complexity	High	Low	N/A
Shared reference	High (in memory)	Always present	None, except through personal experience
Cognitive Complexity			
Memory demands	Major memory constraints	No memory constraints	Low memory constraints
Sequencing and organizational demands	Requires recognition and use of storytelling principles, high level of cohesion, little inference	Requires recognition and use of storytelling principles, moderate inference and cohesion	Requires memory and organization of procedural steps with multiple options, potential cohesion
Level of Task Constraint	High	Moderate	Low
Instructions	Constraining only due to request to duplicate model	Constraining only due to request to tell story	Suggest formulating message with no presuppositions
Personal Relevance	Low	Variable	Variable
Syntax			
Complexity	Moderate (due to model)	Low	High
Clause structure	Adjectival clause usage high	Adverbial clause usage high	Fairly even clause distribution
Anticipated Disruption	May be high due to attempt to replicate model	May be low due to ease of following visual model	Variable to high due to memory and organizational demands