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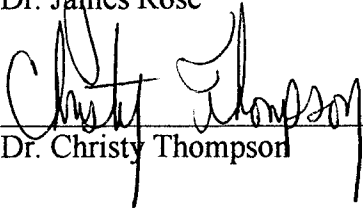
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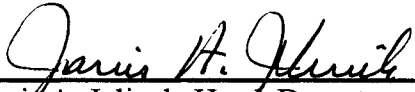


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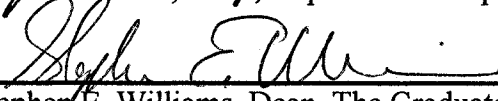


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The present study investigated the nature of conversational discourse data at the point of breakdown in specific neurologically compromised patients. Data were obtained during the observation and video recording of informal conversational situations (i.e., clinical settings or the patient's natural environment). Three adult patients who had suffered neurological damage, at the site of the basal ganglia were assessed. Due to the inappropriateness of two of the patients, a case study was conducted on the remaining patient. In lieu of formal assessment via standardized instruments and test batteries, conversational discourse, in natural, non-artificial settings, were descriptively analyzed at the point of communication breakdown (e.g., decreased topic maintenance, lack of referents, etc.). Analysis of the patient's conversational language abilities and deficits revealed short-term memory, referent, and coherence difficulties. The use of this descriptive conversational analysis of the patient's language abilities and deficits sought to provide a more detailed and complete assessment of the patient's communicative abilities for future remediation and treatment strategies.

SUBCORTICAL LESIONS AND LANGUAGE: A CONVERSATIONAL DISCOURSE
ANALYSIS

By
Catherine A. Off

A thesis submitted to the Department of Speech-Language Pathology and Audiology
and The Graduate School of the University of Wyoming
in partial fulfillment of the requirements
for the degree of

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In
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DEDICATION

This thesis is dedicated to my family. It is dedicated to my mother, Diane Off for providing me with a sense of pursuit for those things oceans away. It is dedicated to my father, Doug Off for his support in all my endeavors, his encouragement to achieve, and above all his enthusiasm for life which he has passed on to me with a smile. I also dedicate this paper to my brother, Ryan, who accepts each one of my follies unconditionally and inspires me to overcome all my fears of the technological chaos that exists between my keyboard and the terminal. Finally, I dedicate this paper to a friend who has become a sister to me over the years. Together we grew, and into life we plunged from our blissful utopia of college. Thank you Kit for helping me learn to find myself.

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I would also like to thank both Dr. Janis Jelinek and Dr. James Rose for their time and energy spent contributing to this thesis. Dr. Rose's neurological knowledge and input shaped this qualitative study with a quantitative bent. Dr. Jelinek's continuing support and encouragement over the last three years has made the experience with a good department, great. Thank you all for your efforts in this pursuit of higher education.

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CHAPTER 1

INTRODUCTION

In the past, most neural research regarding language has focused upon the cortical regions located in the left hemisphere such as Broca's and Wernicke's areas. Currently, however, with technological advancements including computerized tomography (CT) scans, magnetic resonance imaging (MRI), and positron emission tomography (PET) procedures, researchers are enabled to examine subcortical structures not previously thought to have linguistic functions such as the basal ganglia and thalamus. Patients who have suffered damage exclusively to these subcortical sites offer investigators the opportunity to observe the resulting linguistic effects. Unfortunately, researchers encounter a vast array of subsequent language deficits from an extremely heterogeneous population (Aglioti, Beltramello, Girardi, & Fabbro, 1996; Mega & Alexander, 1994). Therefore, additional investigations need to be performed in order to provide a definition of the aphasic characteristics of a subcortically-damaged individual. Naturalistic observation, descriptive assessment at the points of communicative breakdown, and detailed analysis of results are essential for the establishment of this definition.

CHAPTER 2
REVIEW OF THE LITERATURE

The Basal Ganglia

Structures, Functions, and Connections

The basal ganglia are a group of subcortical structures functioning primarily for control of movement, although they do not make direct input or receive direct output from the spinal cord. Instead, they receive input from the cerebral cortex and send information to the prefrontal, frontal and motor cortices via the thalamus (Cote & Crutcher, 1991). Various authors have also recognized an uncontroversial role of the basal ganglia in cognitive function, as demonstrated in Parkinson's patients (Riklan & Levita, 1969; Crosson 1992).

This conglomeration of subcortical nuclei is composed of minimally three and maximally five structures; dependant upon the literature reviewed (Crosson, 1992; Cote & Crutcher, 1991). For the present study, the basal ganglia is defined to include the *caudate nucleus*, *putamen*, *globus pallidus*, *subthalamic nucleus*, and *substantia nigra*. The caudate and the putamen (having both developed from the telencephalon) are known as the *neostriatum*, and act as the input nuclei for the basal ganglia. The neostriatum receives input from both the cerebral cortex (including motor, sensory, association, and limbic areas) via the *corticostriate projection* and from nuclei of the thalamus. Information from the cortex is topographically organized in that specific regions of the cortex send information regarding behavioral functions to different

regions of the neostriatum. Hence, the putamen functions primarily for motor control, the caudate controls eye movements and some cognitive functions, and the ventral striatum regulates some limbic functioning (Cote & Crutcher, 1991).

The globus pallidus, generated from the diencephalon, lies between the putamen and the internal capsule. The subthalamic nucleus is found below the thalamus, as its name suggests. Finally, the substantia nigra (having received its name from its dark pigment in the dorsal region known as the *pars compacta*), is situated below the subthalamic nuclei. The ventral region of the substantia nigra, the *pars reticulata*, together with the globus pallidus, are grouped to form the major output nuclei of the basal ganglia.

In addition to receiving messages from and sending messages to areas outside of the basal ganglia, internuclear, topographic connections exist between these subcortical nuclei (Cote & Crutcher, 1991). The neostriatum projects to both the globus pallidus (via the *striatopallidal pathway*) and to the substantia nigra (via the *striatonigral pathway*). The external region of the globus pallidus sends output to the subthalamic nucleus, which also receives information from the pre-motor and motor cortices. The subthalamic nuclei in return, send output to the entire globus pallidus and *pars reticulata* segment of the substantia nigra. Lastly, the *pars compacta* region of the substantia nigra projects dopamine to the neostriatum.

The basal ganglia, as a unit, send projections to the cortex via the thalamus (Cote & Crutcher, 1991). Both the internal region of globus pallidus and the *pars reticulata* of the substantia nigra project directly to the ventral lateral, ventral anterior and mediodorsal nuclei of

the thalamus. In addition, the globus pallidus projects to the centromedial nucleus. These inputs are then projected to the prefrontal cortex, premotor cortex, supplementary motor area and motor cortex for movements of the body and limbs. Additionally, the substantia nigra (pars reticulata) projects to the superior colliculus of the midbrain to influence eye movements.

Behavioral Functions

Although the primary function of the basal ganglia appears to be involvement in motor planning and sequencing, Cote and Crutcher (1991) describe three other circuits that connect the basal ganglia to the thalamus and cortex: (1) **The Oculomotor Circuit** - the frontal eye fields project to the caudate which then projects to the superior colliculus and back to the frontal eye fields via the thalamus for the control of rapid eye movement; (2) **The Dorsolateral Prefrontal Circuit** - the dorsolateral prefrontal cortex and other association areas project to the dorsolateral head of the caudate which then projects back to the dorsolateral prefrontal cortex via the thalamus for memory of orientation in space; and (3) **The Lateral Orbitofrontal Circuit** - the lateral orbitofrontal cortex projects to the ventromedial caudate and back via the thalamus possibly for the facilitation of change of behavior. Thus, the basal ganglia are connected to the cortex by a multitude of projections mediated by the thalamus, which results in the excitation of cortical areas for various behavioral and cognitive functions, including memory.

Language Functions

While the above information is indeed undisputed and has been documented by a vast number of researchers and anatomists (Cote & Crutcher, 1991; Crosson, 1992; McGeer, McGeer,

Itagaki, & Mizukawa, 1987; Giaccio, 1982), only in the past few decades have investigators begun seriously discussing the possibility of language function and pathology related to subcortical structures including the basal ganglia (Brunner, Kornhuber, Seemuller, Suger & Wallesch, 1982; Wallesch et al., 1983; Ramsberger & Hillman, 1985; Metter et. al., 1988; Damasio & Damasio, 1989; Robin & Schienberg, 1990; Mega & Alexander, 1995; D'Esposito & Alexander, 1995). Published studies as early as 1959 (Penfield & Roberts) suggested some functioning of subcortical structures in regards to language use, but without means to document this discovery, the topic was put aside (Riklan & Levita, 1969). Only since the 1970's, with the advent of neural technology, have researchers expanded their lesion analysis regarding language disorders from the perisylvian area of the cortex (including the well documented studies on Broca's and Wernicke's areas) to regions deep below the surface, including the basal ganglia and the anterolateral nuclei of the thalamus (Damasio & Damasio, 1989).

Localized structure damage and diffuse connection disruptions. In these last few decades, much progress has been made regarding the understanding of subcortical structures.

Investigators (e.g. Damasio, Eslinger, & Adams, 1984; Kennedy & Crosson, 1989; Weiller et. al., 1993) concur with the vast amount of evidence that has proposed the existence of speech and language dysfunction due to subcortical lesions. What has been found to be controversial, however, is the debate as to whether language impairment is due to damage to the subcortical structures themselves (i.e. basal ganglia, thalamus), or because of damage to diffuse projections to cortical areas and/or white matter pathways (e.g. the internal capsule) that are situated adjacent

to the basal ganglia and other subcortical grey matter structures (Brunner et. al., 1982; Robin & Schienberg, 1990). Another possibility is that the basal ganglia accesses language functions via other cognitive modalities such as attention and memory (Robin & Schienberg, 1990).

With the advent of computed tomographic (CT) scans in the 1970's and more recently magnetic resonance imaging (MRI), researchers claim to have greater clarity of the subcortical regions damaged through enhancement of the distinction between grey and white matter (Metter, et al., 1988; Murdoch, Kennedy, McCallum, & Siddle, 1991). Murdoch et al. (1991) claim that magnetic resonance imaging indicates that subcortical language dysfunction is indeed due to “damage to the subcortical structures in the left cerebral hemisphere” (p.185). Metter et al. (1988) claim that subcortical language dysfunction can result from both direct damage of the subcortical structures and indirect damage via white matter pathways. Neuroimaging technology, although capable of displaying detailed lesion sites, cannot illuminate the mechanisms of the neural pathways or indicate what exactly is going on in between the cortex and subcortical areas during language functioning. Thus, CT and MRI procedures have not sufficiently resolved the debate regarding the role of the basal ganglia or other subcortical structures in language functioning.

Cerebral blood flow and metabolism. Currently, medical technology is once again brought into the limelight regarding this controversy. Researchers are now observing cerebral blood flow and metabolism, as well as the tonic activity between subcortical structures and the cortex (via single photon emission tomography [SPECT] and positron emission tomography

[PET] procedures) in order to gain additional confidence as to whether or not the connections between the subcortical structures and the cortex are in fact responsible for the language pathology which appears to have resulted from a subcortical structure lesion (Robin & Schienberg, 1990; Murdoch et al., 1991; Weinrich, Ricaurte, Kowall, Weinstein, & Lane, 1987). Despite these alternative neural procedures, a definitive answer has yet to be found.

Subcortical Aphasia

Definitions, Etiology

In addition to the above controversy regarding the reason for impaired language functioning as it relates to the basal ganglia, another debate is ongoing regarding the categorization of “subcortical aphasia”. Can language disorders resulting from neurological damage to subcortical structures be categorized as “subcortical aphasia” which is separate and distinct from the traditional cortical aphasia (e.g. Broca’s aphasia)? And if so, what are the attributes that characterize subcortical aphasia?

Today, the terminology, “subcortical aphasia” is not contested inasmuch that the term is used to identify the region of the lesion; however, many researchers contest the notion that subcortical lesions result in a distinct and identifiable aphasia from classic cases of cortical aphasia (Mega & Alexander, 1994; Robin & Schienberg, 1990). The strongest argument for a separate non-cortical aphasia rests in the fact that the majority of patients with subcortical lesions cannot be classified as having Broca’s, Wernicke’s, global, or any other variety of aphasia

because of conflicting and unusual impairments (Murdoch et al., 1991). Assessment procedures such as the Boston Diagnostic Examination of Aphasia (Goodglass & Kaplan, 1983) are not able to place subcortical aphasia into one of the established categories (Damasio et al., 1984).

Assuming, then, that subcortical aphasia is distinct from the traditional aphasia classification, a definition is required. D'Esposito and Alexander (1995) describe subcortical aphasia as “aphasia due to subcortical vascular events” (p.38) which occur “after ischemic infarction or hemorrhage of the striatocapsular region, thalamus, or paraventricular white matter (PVWM)” (p.38). Gleische (1997) defines subcortical aphasia as “aphasia resulting from subcortical damage in the vicinity of the left basal ganglia or left thalamus” (p.3). Additionally, Gleische proposes two syndromes according to the site of the lesion. The *Anterior Syndrome* is defined as “capsular-putaminal damage extending into anterior white matter” (p.3) and characterized by hemiplegia, slow dysarthric speech, poor oral reading and writing, and poor naming. The *Posterior Syndrome* is defined as “capsular-putaminal damage extending into posterior white matter” (p.3) and is characterized by hemiplegia, poor comprehension, poor sentence repetition, impaired reading and writing, and poor naming. Murdoch (1997) concurs with Gleische in regards to this categorization of subcortical lesion characteristics. Moreover, he describes the language resulting from anterior lesions as “atypical, non-fluent Broca’s-type aphasia, or transcortical aphasia” and posterior lesions as “fluent, Wernicke’s-type aphasia and right hemiplegia” (Murdoch, 1997). Murdoch (1997) describes the resulting language of both anterior and posterior lesions as “global-type aphasia”. In general, however, Murdoch (1997)

purports that “the majority of lesions confined to the basal ganglia do not result in aphasia” and “most lesions involving the basal ganglia also involve the subcortical white matter”. For the purposes of this paper, the term subcortical aphasia will be used to describe a language dysfunction after damage to subcortical structures, including the basal ganglia.

Speech and Language Characteristics

Similar to other CVA patients, the population of subcortical aphasics is extremely heterogeneous. Despite this heterogeneity, the following are some characteristics used by researchers to describe the language impairments of patients with lesions to subcortical structures, with particular emphasis on the basal ganglia. Through assessment via the Aachen Aphasia Test (Luzzatti, Williams, & DeBleser, 1991) and a brief spontaneous speech sample, Aglioti, Beltramello, Girardi, and Fabbro (1996), describe lesions of the basal ganglia as resulting in reduction of spontaneous speech, paraphasic errors (both verbal and semantic), the presence of neologisms, perseverations and echolalia, and mildly impaired comprehension and repetition. A bilingual subject studied in their research exhibited slow nonfluent speech, and complete loss of her native language. This retention of the subject’s second language indicated that damage to the basal ganglia impaired her automated motor and cognitive performance.

Robin and Schienberg (1990) claim that “through the connectivity with cortical language areas...the basal ganglia support language functioning” (p.91). In order to support this notion, the authors studied three patients with damage to the thalamus, and ten patients with damage at the site of the basal ganglia. Use of the Boston Diagnostic Aphasia Examination (Goodglass &

Kaplan, 1983), Token Test (DeRenzi & Vignolo, 1962), a reading comprehension battery, a motor speech examination, and pragmatic behavior observation (according to Searle's [lecture notes, Spring 1996] speech acts) on each of the investigators' ten subjects with damage to the basal ganglia, indicated both fluent and nonfluent aphasia as well as word-finding pauses, literal and verbal paraphasias and neologisms, stereotypical phrases, naming impairment, writing impairment, oral reading impairment, impairment of repetition, and occasional pragmatic difficulties in some subjects but not others. The subjects additionally demonstrated hypophonia, slurred speech, impaired prosody, excessive speech rate, and occasional dysarthria.

Mega and Alexander (1994) cite the "core of the subcortical aphasia profile" (p.1827) as an impairment in generative language in addition to a "lexical selection anomia of varying severity"(p.1827). Thus, subjects with subcortical aphasia demonstrate impaired verbal fluency, perseverations, echolalia, and "bizarre content despite a generally grammatical and fluent conversational or responsive language output" (Mega & Alexander, 1994, p.1827). Furthermore, most patients have varying degrees of speech production problems such as rate of speech and voice intensity. Generally, phonemic paraphasias are not exhibited, and word repetition, oral reading and word comprehension skills are retained.

Conversational Discourse Analysis

From Standardized Assessment to Descriptive Assessment

As seen above, a myriad of authors cite different language difficulties characterizing

subcortical aphasia. In general, authors state that the results of assessment do not classify the language deficiencies of subcortical aphasia into any one of the usual aphasia categories; for instance categories identified via use of the Boston Diagnostic Examination of Aphasia (Goodglass & Kaplan, 1983). Consequently, aphasia resulting from damage to subcortical structures appears to lack any homogeneity or defining qualities. This phenomenon, however frustrating, is typical for most facets of speech-language pathology due to an inconsistency of assessment instruments used between researchers, in addition to the naturally occurring heterogeneity of subjects investigated within each study. For example, D'Esposito and Alexander (1995) used the Western Aphasia Battery (Ketesz, 1980), Mega and Alexander (1994) used a series of instruments including the Western Aphasia Battery (Ketesz, 1980), the Boston Naming Test (Kaplan, Goodglass, & Weintraub, 1984), and the Token Test (DeRenzi & Vignolo, 1962), and Damasio et al. (1984) assessed language abilities with Benton's Multilingual Aphasia Examination (Benton, 1976). With so little consistency in assessment, it is no wonder that researchers are unable to provide an adequate description of the aphasia present in basal ganglia-damaged patients. Each study describes a different battery of linguistic instruments used in the investigation, resulting in dissimilar inventories of language abilities and/or deficits. In addition to the variation of assessment instruments used between studies, each battery is comprised of formal, standardized procedures, which often do not provide functional results. The only notable exception is a brief, five minute language sample frequently taken based on the requested description of Goodglass and Kaplan's *Cookie Theft Picture* (1972).

The field of speech-language pathology, as we know it today, has evolved through many eras. According to Oller and Damico (1991), therapists in the 1960's assessed and treated patients from a discrete point perspective. Language was broken down into components (e.g., listening, reading, syntax, and semantics) and treated separately. With the 1970's emerged an integrative/holistic approach in which language was not decomposed at all. It was during this time that concepts for instruments such as the Test of Problem Solving (Zachman, Jorgenson, Huisingh, & Barrett, 1984) and the Preschool Language Assessment Instrument (Blank, Rose, & Berline, 1978) were introduced. During the 1980's, pragmatic language testing was leading the discipline's theoretical roster. Assessment addressed meaning-based, contextually embedded language. At this time, an attempt to combine the components of language into a totality was made. Functional assessment and treatment began to come forth, and informal measures including language samples were viewed as valid indices of a client's language capabilities. Finally, with the advent of the 1990's, researchers turned their attention to the authenticity of assessment procedures and began to approach communicative abilities from a more anthropologic and naturalistic view than was seen in the past. Drawing from other fields including linguistics and sociology, researchers and clinicians have begun to incorporate notions of ethnography or what each patient, in totality, brings to each communicative setting (Oller & Damico, 1991).

According to Damico, Secord, and Wiig (1992), change in the field of speech-language pathology includes the "renewed interest in a more descriptive approach to language assessment"

(p.1). Although formal assessment tools may provide numbers to qualify patients for therapy, researchers suggest a shift to informal assessment measures in natural communicative settings which may prove more useful for functional therapy planning purposes (Damico et al., 1992; Psathas, 1995; Tannen, 1994; Goodwin & Duranti, 1991). Formal assessments, according to Acimovic, Keately, and Lemmon (1993), “may be ignorant about the patient’s capacity to take care of himself and be productive in the real world” (p.10). As a final plug for informal assessment, we can turn to the advent of managed care, which now requires functional outcome measurements and stringent billing and documentation guidelines.

If functional outcomes are indeed a requisite for HMOs and government-sponsored insurance programs, we, as speech-language pathologists need a method of assessing our patients from a functional perspective. Our understanding of a client’s communicative competency is lost when we break language down into components (e.g. syntax, semantics, morphology) during formal assessment; thus we need to wean ourselves from the quick and easy administration of artifacts from the past and instead focus upon alternative techniques of assessment including descriptive assessment and the effects of contextual cues (Damico et al., 1992). One such method is conversational discourse analysis. Goodwin and Heritage (1990) describe a similar phenomenon in sociology which has placed “a new emphasis on participants’ orientation to indigenous social and cultural constructs” (p.283). Therefore, this trend toward anthropologic analysis is not restricted to the field of speech-language pathology, but applicable in many disciplines.

Emergence of Discourse Analysis: Etiologies, Levels of Analysis

Discourse analysis, with applications demonstrated in a multitude of fields, emerged from the discipline of sociolinguistics in the late 1960's and early 1970's as "an intersection of language and social phenomena" (Tannen, 1994, p.5). Tannen (1994) defines discourse analysis as focusing "on connected language beyond the sentence" (p.5). Dennis and Lovett (1990) describe this study of discourse as "the study of communicative language in context, in contrast to other types of language analysis at the level of closed, formal, linguistic systems" (p. 1). Dennis and Barnes (1990) add, "what is characteristic about discourse is that it involves pragmatic communication in social contexts" (p. 429-430). Having this connectedness of discourse assumes certain prior world knowledge and textual information, which is not necessarily addressed in formal measures. Frederiksen, Bracewell, Breuleux and Renaud (1990) summarize the above ideas with the following: "discourse reflects knowledge, purpose in communication" and "meaning through language" (p.69).

Within this wide discipline of discourse analysis stands a variety of types (Cherney, 1998). *Descriptive discourse* involves a listing of static concepts, attributes, and relations without an obligatory temporal sequence. *Narrative discourse* can be described as a story told in chronological order with specific temporal expectations. Typically it is told in the first or third person and can contain factual or fictional events/characters, etc. *Procedural discourse* is generally viewed as a verbal demonstration. It requires the author to explain how something is done. Due to the how-to nature of this type of discourse, a great need for explicitness and clarity is required. *Persuasive discourse*, at its most simplistic level, involves opinion and debate.

Expository discourse is essentially a report on a particular topic. General characteristics of such discourse include compare/contrast, cause/effect, and generalization of the particular topic to other world experiences and/or events. The final category within the theory of discourse analysis is *conversational discourse*, which will be commented upon extensively below.

In addition to the aforementioned varieties of discourse, theory has defined several levels to approach discourse, which may guide a clinician to an appropriate analysis. The most frequently documented levels of analysis include microstructure, macrostructure, and superstructure (Cherney, 1998). *Microstructure* approaches analysis at the level of the word or the sentence, while *macrostructure* applies analysis to the level of the entire text. Macrostructure analysis, according to Dennis and Lovett (1990), can include the theme or topic of the text, the text grammar, and the cohesion and/or coherence of the text. Finally, the use of *superstructure* analysis allows for the examination of the overlay of the text (e.g. story grammar).

Conversational Discourse

Conversation. Conversation, as an intrinsically functional aspect of communication, is secondary, in regards to functional communication, only to the expression of basic needs. After a stroke, a patient's first communicative necessity is to be able to get his/her needs known. Secondly, they want to be able to talk socially with their families and friends. Rehak and Kaplan (1992) state, "conversation is perhaps the most important and most natural form of human communication" (p.203). Coelho, Liles, and Duffy (1994) support the above authors' statement with a comment describing the appropriateness of conversational discourse. "Conversational discourse closely approximates the social-interactive nature of communication" (p.102).

Hence, not only is conversation a primary desire on the part of the patient, but in the eyes of a speech-language pathologist, it is a diagnostic device for both cognitive and communicative abilities. Due to the functional and natural nature of conversation, researchers in the fields of linguistics, sociology, and speech-language pathology (in the past five years) have turned their attention to the analysis of conversational speech samples longer than ten minutes.

Conversational Analysis. Goodwin and Heritage (1990) define conversational analysis (CA) as “casual talk in everyday settings” (p.286), and describe the emergence of CA “as a fusion of the interactive and phenomenological/ethnomethodological traditions” (p.286). The term ethnomethodology was coined by Garfinkle (1967), and was later applied to conversation by Harvey Sacks, Emanuel Schegloff and Gail Jefferson (Schriffen, 1994). Essentially, the goal of ethnomethodology is to derive a description of the social phenomenon in question from the observation (or participant observation) of it in its naturally occurring context. The resulting theories about the phenomenon “evolve out of the data, rather than preconceived ideas” (Simmons, 1993, p. 33). This approach, when applied to language analysis, focuses on the authenticity of the language sample and context from which the sample was obtained.

Goodwin and Heritage (1990) further claim that CA “goes beyond previous approaches...by integrating the details of language structure and the social constitution of meaning and action within an analytic framework capable of yielding cumulative and interlocking research findings” (p.301). Lesser (1989) concurs, explaining that this type of analysis can aid in the assessment of portions of conversation, including turn-taking abilities, proficiency at conversation repair, adherence to cooperative principles, topic maintenance and

coherence, and finally the cohesion of the utterance(s). Atkinson and Heritage (1984) explain that “the central goal of conversation analytic research is the description and explication of the competencies that ordinary speakers use and rely on in participation in intelligible, socially organized interaction” (p.1). Although these authors discuss CA in terms of persons lacking a disorder, we can apply the methodology to our domain secondary to our “desire to analyze pathologic language in a more naturalistic context or beyond the word or sentence level” (Kahn, Joannette, Ska, & Goulet, 1990, p. 454). As a final substantiation for CA, Doyle, et al. (1996), state that “samples of connected discourse provide one of the most informative and ecologically valid sources of data from which to study the language production skills of adults with aphasia” (p. 53).

Conversational analysis, as was discussed above, can be approached in a number of different ways. In order to understand how conversational discourse can be analyzed, we must lay out some basic assumptions. Schriften (1994) explains that CA assumes three ideas: (1) “interaction [conversational] is structurally organized”, (2) “contributions to interaction are contextually organized” and (3) “no detail can be dismissed as a priori” (p. 236). Atkinson and Heritage (1984) add to these assumptions of Sacks’, which states that “its [CA] analysis should be based upon naturally occurring data” (p. 17). Thus, the primary goal of CA, keeping the above assumptions in mind, is to “search for recurrent patterns distributions, and forms of organization in a large corpus of talk” (Schriften, 1994, p. 236). This large corpus of talk is typically put to writing via transcription, which can later be used as both the data for the analysis and the evidence for hypotheses and conclusions.

With the knowledge of conversational foundations, we are able to begin discussing the salient characteristics or phenomena that arise from CA. As was aforementioned, the primary emerging themes from CA tend to include topic maintenance, turn-taking, and appropriateness of the utterance, structural organization, topic initiation, relevance, reference, and conversational repair. Although not common to speech-language pathology, coherence will be addressed as another emerging theme in this paper. In order to discuss these phenomena, some explication of terminology is warranted. Table 1 provides definitions for some of the concepts used below.

Table 1.

Conversational Analysis Terminology

Term	Definition
Advancers	“Move the conversation toward a cooperatively reached topic” (Rehak & Kaplan, 1992, pg. 204)
Blockers	Used “to turn the conversation away from another participant’s goal” (Rehak & Kaplan, 1992, pg. 204)
Coherence	How the entire language sample flows. The general impression of how well put together the conversation is.
Cohesion	How well the surface structure is organized to show relationships within the text.
Conversational Act	The smallest pragmatic unit (from a word to a long, complex sentence)
Conversational Episodes	Two or more conversational sequences of conversational acts.
Conversational Sequence	“When two or more consecutive conversational acts exhibit contingencies in topic, form or function” (Crow, 1983, pg. 136)
Reintroduction	Bringing up a prior conversational topic
Topic	“What conversations are about” (Coelho, Liles, & Duffy, 1994)
Topic Drift	“Each segment coheres with the preceding and following segments, but conversation ends up far from where it started” (Hobbs, 1990, pg. 3)
Topic Maintenance	Keeping a conversation on topic – both participants are involved in this
Topic Organization	Sequencing propositional content across turn
Topic Shift	More abrupt than topic drift – rapid change in topic
Topical Constraint	“The requirement that a subsequent turn of talk refer to the same thing as either the immediately prior turn or a turn indicated either explicitly or implicitly” (Boggs, 1990, pg. 103)

When approaching a conversational sample, researchers typically address the above

concepts. Conversation begins with topic initiation by one of the conversational partners. Although conversational initiation may appear to carry little weight for the patient, it is of interest to point out that many brain-injured adults simply have difficulty being the aggressor. Thus, we may find patients who avoid new topics, and leave the initiation to his/her partner. Once the topic has been initiated, topic maintenance comes into play.

From the outset, Hobbs (1990) explains that “topic is not a static feature of conversation, but rather the outcome of an ongoing negotiation” (p. 2). This negotiation includes proper turn-taking behavior from both partners. Herve Varenne (1990), explains one of the basic “rules” of this phenomena followed by conversational partners. “Speakers can be accountable to follow each other in turns” (p.243). Without proper turn-taking, conversation can appear disjointed and include unnecessary silent periods. Topic maintenance, or topic management as Mentis and Prutting (1991) label it, is also necessary for a fluid conversation to take place. If the conversational partners are continuously jumping from topic to topic or if one partner ignores the topic initiated by the other, conversation is generally not successful. Successful conversation is not defined as one continuous topic, but is gradually shaped into a variety of topics by both partners. This is the idea behind topic drift, as opposed to topic shift. Schriffen (1994) explains that there are a variety of ways in which partners can organize topics without abrupt changes. Some of these include repetition, metalingual links (such as “that reminds me of”), and inferred category relationships (Shriffen, 1994). These processes often ease the flow of the conversation so that the partners don’t even realize a topic change has occurred.

The two previous features of a conversation play into the overall flow, or coherence of

the conversation. Coherence is not to be confused with cohesion, which focuses on the structural fluidity of the conversation. Cohesion is typically defined by structural/syntactic events including reference, conjunction, ellipsis, or substitution (Coelho, Liles, & Duffy, 1994). Instead, coherence “is promoted through the formation of thematic, act or illocutionary, and lexico-syntactic bonds holding between and across a series of locutions” (Craig & Tracy, 1983, p.27). Essentially, coherence is that which makes the conversation understandable and successful.

Phenomena discussed above (turn-taking, topic maintenance, etc.) contribute to this coherence. Stubbs (1983), points out that intonation, tempo, rhythm, and voice quality are suprasegmental features also essential for conversational coherence. This organization of the conversation, however, is not a pre-existing or previously set up occurrence. Instead, it is evolving and negotiated throughout the conversation. A last theme contributing to conversational coherence is reference. “Reference depends on mutual knowledge or assumption of mutual knowledge” (Murphy, 1990, p. 38). Correct use of reference is necessary for the listener in order to follow the conversational direction, and to contribute his/her next turn. Hence, “speakers use an expression to pick out objects or events in the world so that the listener can also pick them out” (Murphy, 1990, p.38). Craig and Tracy (1983) further discuss coherence in terms of its overall effect on conversation. They state that at its most important level, coherence is necessary for “the production of well-formed discourse” (p.25).

Goodwin and Heritage (1990), and Damico (1992) both mention an additional essential component of conversational analysis: a description of the participants’ adherence to Grice’s

conversational maxims including *quantity*, *quality*, *manner*, and *relation*. For quantity, the successful cooperation between the speaker and the listener is based upon the amount of information that is needed to get one's point across. The speaker should provide all necessary information, however he or she should not be verbose. For quality, the cooperation between the participants is maintained if the speaker reports only true and accurate information; quality is not maintained if one or more of the speakers reports information without sufficient evidence. Relation is preserved if the participants use information appropriate for the specific conversation. Finally, manner concerns how the utterances are spoken in terms of order, clarity, etcetera. Together, these categories can be used for "...the organization of verbal problematic behaviors according to deeper level conditions that govern conversation" (Damico, 1992, p.135).

Methodologies

Methodological approaches to conversational analysis have been proposed and developed by a number of researchers since the 1960's (Damico, 1995; Goodwin & Heritage, 1990; Goodwin & Duranti, 1991). From a general perspective, Goodwin and Duranti suggest describing the procedures used by the participants in conversation in order to understand the behavior (1991). Psathas (1995) encourages "unmotivated looking" (p.47); the researcher should describe the phenomenon, not attempt to explain them during the course of observation. Atkinson and Heritage (1984) elaborate, "such a research process is possible only if by virtue of the fact that the data-collection procedure is not constrained by a specific research design or by reference to some particular hypothesis" (pg. 4). Therefore, as Sacks (1984) states, "when we

start out with a piece of data, the question of what we are going to end up with, what kind of findings it will give, should not be a consideration” (p. 27). With this direction in mind, the researcher’s observation skills become astute, and note taking becomes precise. Data analysis becomes inseparable from data collection, and both lead to conclusions.

As an example of specific instructions for conversational analysis, Simmons-Mackie and Damico (1996) propose that, “a number of interactions and a variety of contexts should be studied in order to fairly represent the speaker’s repertoire and fully understand the level of competence in natural social communication” (p.42). Context, according to Dennis and Barnes (1990) “involves the social background within which language operates” (p. 430). Moreover, context involves the setting in which the transmission of language takes place (e.g., home, school, doctor’s office), the participants who are contributing to the conversation, the speaker’s state of mind, and the type of conversation taking place. Simmons (1993) explains that decontextualization (typically due to experimental controls or standardization procedures) “eliminates many of the important variables” of conversational language (p.33). Thus, it is essential for contextual and dynamic language assessment if it is to have components of authenticity and functionality necessary for the ethical and efficacious treatment of aphasia patients. In summary, Damico et al. (1991) proclaim that assessment should be “meaning-based, contextually embedded, and temporally constrained” (p.84). Thus, the assessment needs to have relevance to the speakers; it should be performed within a natural context; and it should take place in a variety of settings.

Due to the descriptive nature of this study, various methods of data collection were not employed. On a general level, no specific categories of errors or preconceived notions of what types of conversational breakdowns were set up. More quantitative measures such as discourse markers, cohesive ties, and conversational information units (CIUs) were also avoided because the ethnographic/descriptive approach calls for “unmotivated looking”.

Descriptive Assessment. Descriptive assessment, a general theory of how to assess a patient’s language skills, as developed by Damico et al. (1992), is composed of several characteristics including *authenticity, functionality, and descriptiveness*. Communicative authenticity refers to the notion that assessment should be real, as opposed to the artificiality of standardized tests. Assessment must focus on linguistic realism, ecological validity, and psychometric validity. Therefore, this so-called thick description during assessment views language as a complex phenomenon and analyzes it holistically. Additionally, the assessment must occur in “naturally occurring situations where it is influenced by numerous contextual variables” (p.2) and it must be a “true and effective” (p. 2) measurement of the subjects’ language abilities (Damico, 1992).

Functionality during assessment involves three methods by which the investigator evaluates the subjects’ language competence: effectiveness of meaning transmission, fluency of meaning transmission, and appropriateness/proficiency of meaning transmission. Thus, the investigator seeks to find whether the subject can get meaning across to the listener, how fluent the subject is while doing so, and whether or not the subject is communicating appropriately

according to the social, temporal, and cultural context (Damico, 1992).

The final characteristic of Damico's assessment is descriptiveness (1992). At this point, the observer must comment on the subject's communicative competency using a two part analysis. The first stage, *descriptive analysis*, is applied in order to determine whether or not a problem behavior exists. If there is a problem exemplified from this descriptive analysis, the observer must then move on to *explanatory analysis* in which he/she attempts to explain the problem behavior as extrinsic or intrinsic to the individual. If the problem is due to external factors (i.e., culture, language barrier, assessment situation, etc.) then the analysis is complete and the individual is not qualified for placement in speech-language therapy. If the problem is due to intrinsic factors (i.e., a genuine language disorder), then the individual is referred for therapy. If this is the case, the descriptive assessment will provide all the necessary information needed for remediation (Damico, 1992).

Specific Guidelines. Damico et al. (1995), further supply five specific guidelines for discourse analysis of the aphasic population: (1) Focus attention on actual behaviors in real-life settings, (2) describe and strive to understand the complexity of the context within which the data are embedded, (3) embrace systematic data collection procedures that ensure authenticity of data, (4) use systematic qualitative analysis, and (5) ensure that formulated conclusions achieve coherence with what happens in the real world. Under each of these five guidelines, Damico et al. further specify their methodology and additional details (1995).

Support of Methodologies According to Shadden (1998), conversational language is the

“least organized and least cognitively strained of discourse tasks” (p. 11) despite the “clear rules” (p.11), including turn taking, topic maintenance, initiation, and repair, which define its etiology. Conversational analysis is thus a functional and appropriate assessment tool at any stage of recovery. Coelho, Liles, and Duffy (1994) substantiate the qualitative validity of the above conversational rules, stating that “turn-taking, topic initiation and maintenance, and conversational repair determine both the quality and success of a conversation” and that “executive functions [of the patient] are obviously critical to successful conversational performances” (p.108). These statements, when addressed concurrently, paint the image of conversational analysis as both an indicator of the patient’s cognitive and linguistic status, and as a functional or appropriate assessment instrument. Doyle, Tsirona, Goda, and Kalinyak (1996) concur with the utilization of connected discourse, and explain conversational samples are “valid indicators of the success with which speakers with aphasia communicate in daily life” (p.53). Further reports (Schegloff, 1991; Duranti & Goodwin, 1991; Simmons-Mackie & Damico, 1996; Damico, et al., 1995; Psathas, 1995; Goodwin & Heritage, 1990; Lesser, 1989) concur with this anthropologic type of approach, citing the importance of the assessment data collection within contextual constraints. Additionally, Psathas (1995) strongly emphasizes the need for video-recording, as the investigator cannot be expected to catch all of the linguistic phenomena during the initial observation. Finally, Bloom, Obler, DeSanti, and Ehrlich (1994) express the need for this method of assessment since “different patient groups...may eventually be differentiated neurolinguistically by patterns of disruptions...” (p.43). Thus, although the past has offered

various disciplines (including speech-language pathology), straight-forward and quick assessment instruments, the present trend draws from sociology, anthropology and sociolinguistics to provide a theory of assessment which includes the notion of informal, naturalistic observation techniques in order to expose these patterns.

Summary

With the advent of recent technology (MRI, etc), investigations of the brain below the cortex have come to the forefront. Additionally, as surgeons and medical staff are saving the lives of more brain-traumatized patients, further research into the nature of the injury is possible. As a result of research compiled over the past decade, proof of basal ganglia participation in language function has surfaced. Despite the controversy of the role that the basal ganglia play in language (i.e., direct versus indirect), investigators have turned their attention to the resulting language functions and dysfunctions.

Unfortunately, concurrence between investigations regarding the nature of the language skills is currently unobtainable. Aphasia resulting from subcortical lesions cannot be classified according to any existing categories of aphasia, nor can it be defined completely as a category of its own based on discrete characteristics. Thus, a more efficient and consistent method of language assessment is necessary if researchers are to discover the pattern(s) of subcortical aphasia. Conversational discourse analysis and a general understanding of language as it occurs naturally, as proposed in this paper, is one such technique.

The present study was aimed at the investigation of the nature of conversational discourse data obtained during the observation and video recording of informal conversational situations with patients who suffered subcortical neurological damage at the site of the basal ganglia. Specifically, the question addressed was: What is the nature of conversational discourse in patients with damage at the site of the basal ganglia? An additional goal of this project was to determine whether conversational discourse data, as opposed to the administration of traditional, formal, standardized assessment instruments, can provide useful information in regards to the diagnosis and remediation of language disorders resulting from damage to subcortical structures.

CHAPTER 3

METHODOLOGY

Subjects

Three adult subjects who had undergone neurological assessment for subcortical lesions, in the region of the basal ganglia, were selected on the basis of availability and willingness to participate. Results from procedures including MRI and CT scans and medical reports were obtained from the patients' medical records in order to confirm the existence of a lesion at the site of the basal ganglia. Although three patients were initially observed and videotaped for this project, the third patient was selected individually as a case study. The other two patients were omitted from the study due to uncontrolled variables existing between them. These differences included: (1) site of lesion, (2) time post stroke, and (3) linguistic sequelae of the patients (See Table 2 for a complete comparison of patient characteristics.). The three patients will be described below.

Patient #1 R.C., a thirty-two-year-old female, was diagnosed with a lesion in the dorsal pons as well as at the site of the basal ganglia. At the time of the conversational sample, R.C. was one month post-stroke. She demonstrated dysarthric speech difficulties involving decreased respiratory coordination, increased nasality, and moderately severe difficulties with phonation as a result of right-sided facial weakness. No language-based deficits were observed during her video session. As a result of the concomitant lesion at the site of the dorsal pons and its influence on speech via the seventh cranial nerve, R.C. was omitted from the study.

Table 2.

Neurological Description of Subjects

Patients	"R.C." (32 years old)	"J.S." (79 years old)	"M.S." (69 years old)
Date of neurological accident	5/19/97	TIA – 12/93 2/5/98	12/26/97
Etiology of accident	CVA	CVA – small vessel infarction	CVA – hemorrhagic stroke
Neurological assessments & dates	1) 5/19/97: non-contrast CT scan 2) 5/21/97: MRI	1) 12/93: CT scan 2) 4/15/98: MRI	9/1/98: CT scan
Site(s) of lesion	1) brain stem hemorrhage 2) dorsal pons 3) left basal ganglia (with edema)	1) right basal ganglia infarct 2) some white matter ischemic change	1) left basal ganglia 2) lacuna infarct
Language sequelae	None	None	Aphasia: 1) fluent 2) lacks topic maintenance and clear organization of thought 3) blockage of thought
Other sequelae	1) dysphagia 2) altered mobility 3) left weakness 4) dysarthria 5) ataxia 6) dysmetria 7) right facial nerve palsy	1) slurring of speech for a few hours post-stroke	1) right sided weakness 2) right neglect 3) right visual field deficit 4) short term memory 5) problem solving 6) anxiety
Date(s) video-recorded	6/97	5/13/98; 11/12/98	10/30/98; 11/23/98
Medical history	Hypertension	Hypertension; Hypothyroidism	Hypertension, non-insulin dependent diabetes mellitus

Patient #2 J.S., a seventy-nine-year-old male, was characterized by a single well-demarcated right basal ganglia infarction with visible methemoglobin. He was admitted to the hospital, via the emergency room, in February of 1998, with slurred speech and right-sided

weakness. He was released from the hospital two days later without significant deficits. Two conversational samples were obtained at three months and nine months post-stroke. These conversational language samples were elicited from J.S. in his home. Subsequent conversational analysis of these samples indicated that this patient did not exhibit significant language deficits. J.S. was able to initiate, maintain, and respond to conversational exchanges without any difficulty. In addition to the language samples obtained, the investigator assessed J.S. with the Boston Diagnostic Aphasia Examination (Goodglass & Kaplan, 1983). The patient scored within functional limits on this instrument. As a result of this patient's level of functioning, he was omitted from the study.

Patient #3: Case Study M.S. was a sixty-nine-year-old female born and raised in Laramie, Wyoming. She has been a widow for the past five years, living functionally borderline independent. M.S. incurred a 1.5/2.5centimeter hemorrhagic, left basal ganglia stroke with onset of right-sided weakness, right neglect, and aphasia. She has a medical history of hypertension, non-insulin-dependent diabetes mellitus (MIDDM), cardiomyopathy, congestive heart failure (CHF), hypothyroidism, and hypercholesterolemia. Speech therapy (as well as rehabilitative physical therapy) was initiated during the patient's hospitalization from January 9, 1998 and to February 3, 1998. M.S. was subsequently seen by home health care therapists, from February 10, 1998 until May 14, 1998. Finally, M.S. was seen as an outpatient at a local hospital after she experienced increased blood pressure with concomitant complaints of slurred speech and increased recall difficulties. As per her therapist, the patient reported that she had problems

“losing her thought in the middle of her conversation”. It was at this outpatient site that the patient was administered the speech and language evaluation, by her attending therapist, referred to in the report below. The patient’s conversational samples for this project were obtained ten months and eleven months post-stroke, respectively.

Formal assessment of M.S.’s speech, language and cognition resulted in the following observations: (1) the patient’s oral-motor repetitive speech and intelligibility were judged to be within functional limits, (2) cognitive screening indicated that M.S. demonstrated moderate to moderate-severe difficulty with multi-step directions and recalling more than three words presented to her verbally in a string of stimuli, (3) the Scales of Cognitive Abilities of Traumatic Brain Injury (SCATBI) revealed a depressed working memory.

Overall assessment of this patient at the outpatient facility revealed principal deficits in delayed recall, working memory, organizing what she hears and says, and complex problem solving. Continuation of therapy was recommended at this time for cognitive and linguistic deficits.

Procedures

Materials. Materials included a video camera and VHS cassettes, a Sony Wireless Microphone System (Sony WCS-990) which includes a clip-on receiver and a FM transmitter, dubbing machinery for dubbing video to audio, and transcription machinery including audio cassettes. The subjects wore the microphone on their shirts during conversation, and attached the FM transmitter to their waists in order to obtain clear speech samples for analysis.

Other persons in the participant's environment and familiar with the participant, speech-language pathologists and occupational therapists, were involved in the investigation in order to facilitate the elicitation of natural conversational discourse. One research assistant aided in the videotaping procedure.

Procedures. After sufficient explanation and clarification of the study's purpose and procedures, the participants signed all appropriate consent forms. This was completed prior to initiation of the research. The participants were then videotaped during spontaneous conversational speech in a comfortable and convenient setting selected by the patient or the patient's therapists. R.C. was videotaped on one occasion in a hospital activity room, in the presence of her speech-language pathologist and a research assistant, for a total of twenty minutes. The brevity of this session was due to the patient's increased fatigue and request to terminate the session. A follow-up session was not carried-out due to the patient's unavailability. J.S. was videotaped on two separate occasions in his home, with the investigator and a research assistant present, for a total of thirty-eight minutes and forty-five minutes respectively. M.S. was videotaped on two separate occasions in the outpatient clinic, with one and two other speech-language therapists present respectively. An attempt was made to observe the patient during conversation in her home, but she was unavailable for further assessment. M.S. was video taped for a total of two hours. Portions of this tape, involving speech remediation, were omitted from the study due to the non-conversational nature of the interactions. The total time transcribed and analyzed was sixty-nine minutes (thirty-two minutes

and thirty-seven minutes respectively).

The investigator observed the patients' conversations, with the investigator and/or persons from the patients' natural environment, in order to assess the nature of the individuals' functional conversational discourse ability. The investigator also interacted with the patients and recorded field notes during the video recording sessions. The participants were not obligated to converse for each session in its entirety. The participants were able to converse normally with other members of the staff, the investigator, and the research assistant during the taping sessions.

Within twenty-four hours of the data collection, field notes were elaborated upon in order to provide greater detail of the patients' language skills. Following the video recordings and completion of the field notes, the patients' discourse was transcribed verbatim in prose form. The investigator then watched the video and compared it to the transcript in order to confirm the accuracy of the transcription. The video was viewed multiple times in order to identify emerging themes as well as to document and consider underlying contextual information not apparent from the audio recording. Finally, the transcript was analyzed at the points of conversational breakdown, considering the context in which the conversation took place. The goal of these procedures was to obtain authentic, contextual conversational data, which allowed the investigator to assess the patients' discourse abilities and formulate conclusions about the individuals' language skills based on the data.

Data Analysis

As described by Simmons (1993), data collection and data analysis are not separated in

ethnographic-type investigations. Instead, analysis often occurs during collection and is elaborated upon following later viewing of the videocassettes. Thus, this dynamic analysis is ongoing throughout the data collection period. Following the completion of the data collection period, the language samples obtained from the videotapes were transcribed verbatim (with turns numbered), and analyzed descriptively at the points of conversational breakdown. Data presented in the following tables were obtained from the analysis of these conversational breakdowns. Each breakdown was identified and subsequently descriptively categorized (e.g., abrupt topic change, lack of reference, etc.). The turn number(s), where the breakdowns occurred, were recorded and put into tabular form. This was done in order to document the number of each occurrence, as well as to list each instance of breakdown by turn number with either the actual exchange of turns or a remark explaining the exchange.

Analysis of the patient's abilities and strengths was only briefly described in this paper. Instead, the focus of the analysis was at the point of conversational breakdown. The videotapes were used in conjunction with the transcribed language sample in order to "understand the complexity of the context within which the data are embedded" (Damico, et al., 1995).

Overall, this data analysis provided a detailed, qualitative, description of one patient's conversational language abilities and deficits in relation to the naturally occurring context in which they were observed. The patient's conversational skills and characteristics are described below.

CHAPTER 4

RESULTS

The case study, M.S., was seen on two separate occasions at the same location – an outpatient clinic, which the patient had been attending for several weeks. Both of these samples involved conversation that took place during the therapy session, as well as before or after a therapy session. Two speech-language clinicians, the investigator and the patient were involved in the conversation in session #1. The patient's primary speech-language clinician, the investigator and the patient participated in session #2. The turns taken by each of the participants are numbered and can be found in Appendices A and B. In total, 1131 turns took place over the course of two sessions – 605 turns in the first session, and 526 turns in session #2. M.S. contributed 269 turns (or 44% of turns) in session #1 and 255 turns (or 48% of turns) in session #2.

In general, M.S.'s turns were responsive, as opposed to assertive in nature (Fey, 1986). In session #1, only 6% of M.S.'s turns were assertive. In session #2, 8% of her turns were assertive. Additionally, many of these assertive turns she did take contained conversational breakdowns. For example, in turn 919, M.S. initiated a story about a picnic. This story topic was accepted into the conversation, by the therapist, due to its relationship to a word the patient was required to remember during a memory task. The breakdown in this story was a consequence of inadequate reference, provision of inadequate background information, and inadequate expansion of the topic by M.S.

The general lack of assertiveness demonstrated by the patient may be attributed to the underlying therapy-type context. Typically, the therapy setting requires the patient to follow directions, participate in language activities and respond appropriately to the therapist when presented with questions. The patient was not accustomed to a conversational interaction with the therapists on a regular basis; thus she may have remained passive and responsive as her role was typically defined. An additional factor contributing to the limited number of assertive responses made by M.S. may have been the presence of the video camera. The patient made several comments concerning her nervousness, hence we cannot rule out the possibility of anxiety playing a role in her conversational performance. M.S.'s assertive responses may also have contained more breakdowns due to the patient's unfamiliarity with a conversationally based interaction in this setting.

Overall, the two tapings revealed topic maintenance difficulties, lack of reference, abrupt topic changes, compensatory strategy use, memory deficits, decreased attention, inappropriate responses, and an overall inability to tie the conversation together coherently (See Table 3 for data on the type and number of breakdowns in each session.). As a result of these specific conversational, linguistic, and cognitive breakdowns, the overall coherence of the two conversations with the therapists and investigator was significantly compromised. Consequently, the therapist(s) and investigator (1) requested clarification during exchanges of information, (2) repeated information and/or questions for the patient's benefit, and (3) provided redirection for the patient when her attention was lost or during off-topic digressions.

An example demonstrating the therapist's need to request clarification is seen in turn 86. During this exchange, the patient tells the listeners about a new grandchild born recently. Confusing the therapists, M.S. adds another baby's birth into the story. In turn 86, one therapist asks M.S., "She had her baby at the same time?" in order to tie the story together. Without this clarification request, the listeners failed to comprehend the association of one child's birth with the other's. As it turns out, M.S.'s grandchild was born at the same time, on the same day, as a friend's grandchild was born. This information was not clear, without the therapist's interruption.

Table 3 provides a listing of the descriptive labels assigned to the instances of conversational breakdown during the two sessions, and the number of these breakdowns that occurred during sessions #1 and #2. Table 4 describes each of these instances of conversational breakdown by turn number. A brief explanation of the exchange is also noted.

Table 3.

Type and Frequency of Conversational Breakdowns per Session

Type of Conversational Breakdown	No. of instances Session #1	No. of instances Session # 2
Abrupt Topic Change	3	2
Topic Maintenance	3	1
Lack of Reference/Nonspecific	3	3
Relevance Issue	1	1
Decreased Awareness	2	None noted
Memory Deficiency	3	None noted
Decreased Attention	1	1
Compensatory Strategy Use	1	1
Word Finding	None noted	1
Coherence	1	2

Table 4.

Instances of Conversational Breakdown

Turn Number(s)	Type of Breakdown	Instance or Instance Summary
7 – 11	ABRUPT TOPIC CHANGES	Patient changes topic from birthday discussion to her friend's hobbies – no pragmatic softeners were used
8	POOR REFERENT	"...we take turns and we buy a small gift to remember them by" – THEM is the problem referent – listener assumes others are involved
47	POOR AWARENESS	"Oh god I've been sitting in the wrong place". Although the patient has been sitting in the same chair for several minutes; it is only at this time that she realizes that it is a different chair than she usually sits in.
80-88	TOPIC CHANGE & REFERENCE (POOR OVERALL COHERENCE)	In turn #83, the patient adds a sentence that is off the topic of the new baby and its relevance is unclear. In turn #85, the patient says, "this was just, you know, a quirk". The conversation leading to this does not clarify what was a quirk, nor did it clarify what the two babies had in common. The therapist requested clarification in turn #86.
117	MEMORY COMPENSATION	Patient states "well, I'm supposed to practice a lot of things" – this is used as a method to fill conversation appropriately without stating explicitly that she can't remember.
121	MEMORY FAILURE	Patient asks "what" when she was given directions, yet she had been engaged in the activity 2 turns prior.
143	ABRUPT TOPIC CHANGE	Patient is engaged in a review of her therapy goals when she asks about her insurance benefits. This topic change was without a preamble or excuse for the change. The therapist requested an explanation for the change in topic, "why did you ask that?"
158	REFERENCE	Turn #158 continues the digression, which began in turn #143 – but the patient fails to clue the listener in to four of what are allotted.
225/227	MEMORY FAILURE	Patient is unable to recall therapist's name - and then proceeds to reverse her name. Memory deficits appear to increase when the patient feels nervous.
266	REFERENCE	Patient describes 3 animals, and then uses the referents "him" and "he", without indication of which animal she is referring to. This lack of reference is confusing to an unfamiliar listener.
291- 299	COMPREHENSION	Patient is unable to follow the conversation of the other 2 participants or tie together information. She gets lost and appears to lose what the topic of the conversation is in turn #295.

332	POOR ATTENTION/ AWARENESS/POOR TURN- TAKING	Instead of listening to the reasons the therapists give for the current activity, the patient focuses on the TV screen and how fuzzy it is. She is not aware of the directions, which could be distractibility on her part. The patient also interjects her statement at an inappropriate moment, thus violating proper turn-taking/topic maintenance behavior.
374	MEMORY DEFICIENCY	Patient brings up a statement previously discussed in the session regarding Glenn's orbit. Indicative of memory loss.
503	AWARENESS/ COMPREHENSION	Patient begins to list the therapy goals as in the beginning of the session, even though she was not asked to. The therapist redirects her to the discussion at hand, which is reviewing the session.
539/545	INTERJECTIONS/ ABRUPT TOPIC CHANGES	In turn #539, the patient brings in Medicare issues that were not on topic. In turn #545, she then returns to the previous topic, without any softeners or cohesive ties.
620	ABRUPT TOPIC CHANGE	Patient was discussing her travel affairs when she suddenly introduces her dog to the conversation, without any prelude. To the listener it was an abrupt topic shift, not topic drift.
624	REFERENT – USE OF SPECIFIC – LITTLE BACKGROUND INFO	Patient continues the tangent about her dog, but now talks about "the chair" which was not previously introduced into the conversation. It would be more appropriate to discuss where the chair was, etc.
697	RELEVANCE	Patient interjects a comment about playing bridge "yesterday" in a conversation directed around when she began the sport. This was very abrupt and without prelude.
768	COMPENSATORY STRATEGY/FILLER	Patient uses "you know" when she is uncertain of the listeners comprehension, as in this case when she is a bit vague.
770	ABRUPT TOPIC CHANGE/ LACK OF REFERENCE	Patient suddenly asks the therapist a personal question in the midst of a conversation regarding food preferences and restaurants. There is no background from the M.S. as to what she is referring to.
807	LACK OF SPECIFICITY– QUESTIONABLE COMPENSATORY STRATEGY	This use of a vague reply, "remember what I've learned from you", may have been used to act as a filler because of the patient's poor memory skills.
821	WORD-FINDING DIFFICULTY	When trying to think of the word for a neck and back massager, the patient instead retrieves "pacifier" after some visible struggle behavior.
853	LACK OF COHEREENCE	Patient does not respond appropriately to the request in turn #852. Instead she describes how therapy has helped her. This appears to be a breakdown both of comprehension and topic coherence. The question was not WHAT is better, but HOW her speech strategies have been used at home.
857	ABRUPT TOPIC CHANGE	While on the topic of what benefits the patient has seen since coming to therapy, she changes topics to an episode that occurred in the waiting room one day. The story told was vague and not clear in meaning to the listener.

919	LACK OF COHERENCE/ REFERENCE	In this passage, the patient does not explain to the listener WHY she was upset and didn't want to cook-out anymore. In turn #920, the therapist requests clarification.
994	DECREASED ATTENTION/ COMPREHENSION	In this exchange, the therapist asks the patient if her tension level is low. Instead of responding yes or no, the patient replies "no, I'm listening to you". This is not an appropriate response and indicates that the patient did not attend to, or comprehend the question presented.
1106	COHERENCE/ APPROPRIATENESS OF RESPONSE	Although the therapist has moved on in topic, the patient returns to the previous topic. Although this can happen with normal individuals during conversation, pragmatic softeners of some sort are typically used (e.g., I'm sorry, but I want to go back to the last idea").

CHAPTER 5

DISCUSSION

Initial impressions of M.S. during the conversational interactions were not taken down in the form of field notes due to the investigator's perceived "encroachment on authenticity" as well as the effects this action may have had on the patient's attention. Due to the patient's distractibility and increased anxiety, note taking in the field was discontinued. As context is the basis for the analysis of conversation, the investigator deemed such interference as significantly counterproductive to the naturalness of the conversational sample.

During the sessions, few severe conversational breakdowns were observed. The clinician(s) participating in the session typically asked for clarification when the patient seemed to digress from successful conversation. The patient did occasionally request information when she was unclear of directions or conversational nuances. For example, in turn 343, M.S. requests added information regarding the launch of John Glenn's most recent flight. A short video clip of Glenn's recent voyage was presented to M.S., yet she was not able to comprehend the reason behind the voyage. Hence, she asked, "Why did they do it?" At this time a discussion ensued pertaining to the political reasons behind the recent launch. Through this exchange, the clinicians oriented M.S. to the video and the conversation in order to facilitate her comprehension.

M.S.'s conversational coherence deficits ranged from mild to moderate in nature, and her memory deficits were moderate to severe. Also noticeable to the investigator was M.S.'s lack of

awareness when she did change topics too abruptly, or confuse the listener with insufficient background, or reference information, and irrelevant contributions. The listeners necessarily requested clarification during these interactions. The patient did not express confusion or apology that would typically result from losing one's listeners.

Analysis of the transcribed conversations in conjunction with the actual videotapes revealed several instances of conversational breakdown (See Table 4.). The following discussion will refer to segments of the conversations by turn numbers. As a result of conversational analysis, a description of the nature of M.S.'s communicative deficiencies at the point of breakdown during conversation was obtained. Not only did the investigation afford a rich description of the patient's linguistic deficits, but a cursory profile of the patient's cognitive status (including memory, awareness, and attention deficits) was also obtained.

Memory

The patient's primary deficit appeared to be her memory, which she compensated for through the use of filler phrases and clarification requests (See turns 117, 768 and 853.). These strategies enabled the patient to slow the conversation down, hear repeated information, and stall while she attempted to retrieve information from her memory.

An example of the patient's memory deficits interfering with the conversational fluidity was seen in turns 224 through 231: K= 1st clinician M= M.S. (patient)

K: You don't have to be nervous.

M: I know I don't. [I] I'm nervous with you [and] and>

K: What's her name over there. You can't even say her name today.

M: I can too, its Marie-Jean.

K: Marie-Jean?

M: Uh huh.

K: Or Jean-Marie?

M: Oh its Jean-Marie, I knew that>

During these turns, the patient struggled to address the clinician, but could not remember the clinician's name. Because of this struggle, the other clinician involved herself and made light of the situation in order to remove unnecessary stress from the patient. The therapist was able to reduce the anxiety, yet bring the error to the patient's attention so as to increase the patient's deficit awareness. This breakdown consequently resulted in a break in the conversation from the previous topic.

Memory deficits demonstrated by the patient typically involved newly presented information, which may have been indicative of short-term memory or working memory difficulties. In turn 374 we can see that recently presented information was not absorbed or readily retrievable by the patient. Prior to this turn, the patient had been involved in a conversation relating to John Glenn's recent expedition in space. The patient asked why he went up, and the clinicians agreed that it had something to do with understanding aging effects in space. In turn 374, however, the patient stated, "and I just hope that this isn't an experiment..." This remark led the clinicians to believe that the patient did not understand or remember the previous conversational exchange during which all participants had agreed that the launch was indeed an experiment. This exchange can be viewed in two ways, (1) the patient forgot or was not able to retrieve the information from the previous conversation, or (2) the patient was unable to comprehend or interpret the information that was given to her in previous turns.

Overall, the patient's memory interfered significantly with the conversational coherence

and may have consequently contributed to some of the conversational breakdowns discussed below. Thus, memory stands as an important issue for the patient's success in functional every day talk, and should be addressed as a remediation goal.

Conversational Coherence

Secondary to M.S.'s decreased memory was her inability to comprehend or create coherence across her conversations. This lack of coherence was a direct result of: (1) abrupt topic changes, (2) poor topic maintenance, and (3) the frequent lack of appropriate reference or background information. This general lack of coherence can be seen in turns 80 through 88:

K= 1st clinician M= M.S. (patient)

K: How long, was the labor really long?

M: Yeah, from eleven, let's see she went in at [um] one-thirty in the morning and [was out] was out of labor at eleven-thirty, that morning. So it was quite lengthy.

K: That was pretty long.

M: Uh huh. But I told Jean-Marie about this is that [uh] I'm going to Karen V...you know.

K: Um hum.

M: And the girl that worked there, Erin, [uh] she went in on Friday, the same time Shelly did, and this was just, you know, [just a I just quirk] just a quirk, it was.

K: She had her baby at the same time?

M: [She] They had the baby [just] just minutes apart.

In this exchange, the interjection of a new topic "but I told Jean-Marie about this is that [uh] I'm going to Karen V...you know" threw the listeners off track. The other participants would have to have known who Karen V. was, and how she fit into the picture in regards to the discussion regarding a baby's birth. This confusion, or discontinuity, is evident, as one clinician requested a clarification (turn 86). In essence, the patient needed to provide some background information or provide a more appropriate segue to incorporate the other baby's birth into the conversation.

During session #2, the patient demonstrated additional underlying difficulties in terms of maintaining coherence across the conversation. For example, in turns 619 through 626, M.S. attempted to discuss her travel experiences during her lifetime. She began with an appropriate response in turn 610, but by turn 619 she threw in unrelated bits of information as well as information lacking reference. She began to tell the listeners of her hotel experiences, yet then initiated a new subtopic involving her dog. No prelude to a new topic or cohesive ties were offered to this conversational drift, thus the feeling becomes more of a topic shift. Listeners were put in the situation of sorting out where the dog was and what it had to do with staying at a hotel. Speakers typically bring in new information to a conversation, especially if certain associations spur new ideas. However, most competent speakers will submit the new information with an introductory phrase along the lines of, "I used to take my dog with us when we traveled, and..." As this was not evident in M.S.'s speech, the listener was required to spend additional time tying information together.

As a final example of a conversational coherence breakdown, we look at turns 853 through 858. Here, M.S. again confused the unfamiliar listener with side information and abrupt topic changes. When the patient was asked about the strategies she had been learning in therapy, and their applicability in the home environment, the patient provides an inappropriate response. Instead of providing the clinician with an example of the strategies she used, she discussed how she had improved over the sessions, "I can talk. And I can make a sentence that's decent." Following this comment, the patient stated that her friends don't know why she sees a speech

therapist. This was not the appropriate place in the conversational flow to insert this comment. Finally, In turn 857, the patient added yet another episode unrelated to the above conversation. In general, this five-turn exchange changed the course of the conversation in an unclear and confusing manner.

Attention/Awareness

In addition to memory deficits and conversational coherence difficulties, the patient also exhibited instances of attention deficits, and decreased awareness of her deficits and her surroundings (turns 47 and 503). These observations were important for two reasons: (1) the patient's decreased attention may have contributed to many of the conversational breakdowns noted above (e.g., topic maintenance, perceived memory deficits, etc.) and (2) the patient's lack of awareness (especially of her own deficits) can hinder progress in therapy. As a result of decreased awareness and attention, the patient may have difficulty learning new strategies and compensating for her deficits.

Analysis with Application of Damico's Descriptive Assessment (Damico, 1992)

The focus of this study was to descriptively analyze the language deficits observed during one patient's conversational speech. The analysis presented in this paper focused on an interpretation of the actual instances of communication breakdown and how they interacted with the coherence of the overall conversation. Additionally, the context of the conversation was taken into account in order to ascertain what factors might have contributed to the language deficits identified at the point of conversational breakdown.

Although the approach to the analysis presented in this paper provided a rich description of the patient's deficits in addition to contextual description, it is useful to employ other researcher's methods in order to provide a complete picture of what the patient "looks" like in reality. Damico's descriptive approach (1992) involves three characteristics including **authenticity, functionality, and descriptiveness**. Using Damico's model in conjunction with the data collected during the current project, we are able to provide additional insight into the assessment procedure as well as into the characteristics of M.S. described above. In terms of **authenticity**, this project avoided deficit categorization by standardized, artificial tests. The conversation was real, thus presenting itself as ecologically valid. The only factor reducing the authenticity of this study, according to Damico, was the absence of multiple natural settings within which conversation was observed.

The second characteristic of Damico's descriptive assessment is **functionality**. It is at this level of assessment that the competence of the patient's language is taken into account. First, the *effectiveness of meaning transmission* is imposed upon the conversational sample. Was the patient able to get her main ideas across? M.S. was able to get her overall meaning across to the other conversational partners the majority of the time. Subjectively it was judged that she was effective approximately 75 to 80 percent of the time. When M.S. did not effectively get her meaning across, the other conversational participants requested clarification or they commented on the inadequacy of the patient's statement. Reasons for a reduction in meaning transmission included poor topic maintenance, lack of conversational coherence, and poor reference. The

effectiveness of meaning transmission was the most significantly affected element of functionality. At this point we are not looking at how M.S. was able to convey her meaning, or how the participants may have contributed to her success.

Next, we turn to the *fluency of meaning transmission*. At this level of analysis, we can judge how smoothly the patient was able to transmit her ideas and whether the message was delivered within an appropriate timeframe. M.S. did have some difficulty in this category, as is noted by multiple repeated words and phrases during her conversation. These sentential-level difficulties marginally affected the flow of the conversational exchanges. The patient's lack of sentential or inter-sentential (cohesive) repair indicated that she might have had a reduced fluency of transmission. Another component of fluency includes provision of or asking for clarification. M.S. did not recognize this need for clarification of her statements, however she requested clarification from other speakers on occasion. This was seen as a strength for fluency of meaning transmission. Overall fluency of meaning transmission was judged to be mildly disordered.

As a final step in the analysis of the patient's meaning transmission, we can judge M.S.'s *appropriateness of meaning transmission*. M.S. demonstrated some strengths in regards to appropriate transmission of meaning. Specifically, M.S. used the following successful behaviors during conversational exchanges: (1) appropriate inflection, (2) functional turn-taking, and (3) proper type of topic initiation. Although we saw some success at this point of assessment, we also observed M.S. break down. Examples of decreased attention and awareness made it

apparent that M.S. was not able to successfully communicate according to the social and temporal context of conversation. Overall, her appropriateness of meaning transmission was mild to moderately affected.

The last part of Damico's (1992) descriptive assessment involves **descriptiveness**. This descriptiveness is the essence of this paper. Descriptive analysis was applied in order to determine that a problem or difficulty did exist in the conversational language of M.S. Secondly, explanatory analysis, or the description of what contributed to the patient's breakdown, indicated that the patient's conversational performance was characterized by both extrinsic and intrinsic difficulties. Extrinsic factors, or external explanations for poor performance, can be variables such as environmental noise, unfamiliar contexts, or the listener's opportunity to participate in the conversation. For M.S., extrinsic components, or extraneous causes, included: (1) the unfamiliar context of conversation during a therapy session, (2) the intrusion of a video camera into an otherwise comfortable setting, and (3) a new listener and conversational partner. Intrinsic factors include actual language and/or learning problems that are found to exist within the patient. In M.S.'s case, her intrinsic difficulty was caused by her neurological damage. The explanatory portion of descriptive analysis 'explains away' some of the variables that contributed to the compromise in M.S.'s conversational competence during the sessions. Although this analysis indicated that the patient's performance was somewhat affected by extrinsic factors, we must keep in mind that these same extrinsic factors would not have hindered M.S.'s conversational skills pre-morbidly. It is also obvious that her conversational breakdown cannot

be “explained” solely by the extrinsic factors. It appears that the neurological insult caused intrinsic deficits including difficulty with conversational coherence, memory, attention, and deficit awareness. For these reasons, M.S.’s language deficits, resulting from the stroke, qualify her for therapy.

Neurological Involvement: The Basal Ganglia and its Role in Language

Although the results of this study were based upon a single case study, and consequently did not allow for generalization in terms of a correlation between basal ganglia infarcts and resulting language characteristics, we can make some hypotheses about the neural mechanism(s) underlying coherent and fluid language production. Assuming a model of basal ganglia physiology for motor control, we can deduce certain roles the basal ganglia play in linguistic output. Afifi and Bergman (1986) explain that the basal ganglia “exert a modifying and coordinating effect on already initiated movement” (p.405). Cote and Crutcher (1991) substantiate this notion with functions of the basal ganglia to include “higher order, cognitive aspects of motor control” (p. 651) and “the planning and execution of complex motor strategies” (p. 651). The basal ganglia are thus typically thought to smooth, package and orchestrate already initiated movement. When this system breaks down, we see resulting movement disorders in which the patient cannot execute motor control consistently or under voluntary command.

If we assume the above theory of movement patterning to be correct, and apply it to the linguistic disturbances exhibited by M.S., we can infer that for one patient, the manner of her pathology is indicative of what is happening with the neurological mechanism. Essentially,

M.S.'s language function was intact. She was able to communicate her needs and can participate in functional conversation. There are, however, instances of breakdown in her language use. Fine-tuning of conversational competence was impaired and exemplified by a general decrease in conversational coherence. By applying the above model of basal ganglia physiology, it appears that the basal ganglia may be responsible for the organizing, smoothing, and orchestrating of linguistic output as well as motor functions.

Therapy Recommendations

Conversational analysis intrinsically provides a foundation for therapy intervention. Typically, formal assessments present the therapist with an array of disjointed language characteristics and impressions. A general understanding of the patient's current level of functioning in terms of language ability is not usually gleaned from the quantitative instrument. Moreover, due to the length of the formal assessment tool, select portions of the instruments are often utilized, thus eliminating the ability to use normative information that is typically reported in an evaluation write-up. Instead, a primary language diagnosis is captured from the overall flow of the interaction with the patient during the evaluation session, even with utilization of a standardized tool. The conversational sample, unlike the formal evaluation tool, results in a descriptive account of the patient's language strengths and weaknesses. This thick description is directly translatable into a therapy plan. Table 5 simulates an example of a hospital-based intervention plan.

Table 5.

Therapy Recommendations

<p>Patient Name: M.S. Age: 69 Medical Diagnosis: CVA – Left basal ganglia Medical History: HTN, MIDDM, CHF, cardiomyopathy, hypothyroidism, hypercholesterolemia.</p> <p>Primary Speech/Language Diagnosis: Mild to moderate cognitive and expressive and receptive language deficits.</p> <p>Long-Term Treatment Goals: Increase patient’s attention for conversational interaction, provide compensatory strategies for patient’s short-term memory loss, and increase conversational language skills (including turn-taking, topic maintenance, appropriate referencing, and overall coherence to within functional limits – minimal to normal).</p> <p>Short-Term Treatment Goals:</p> <ul style="list-style-type: none">(1) Increase patient’s attention during a TV program or conversation to 10 minutes without redirection,(2) Patient will use reauditorization or visual memory strategies three times during one session to remember 90% of new learning,(3) Patient will add one entry to her memory book every day between therapy sessions to increase recall of daily activities to 80% accuracy,(4) Patient will maintain one topic during a conversation for three to five minutes without redirection,(5) Patient will provide appropriate background information or reference markers three times during a conversation. <p>These goals will be achieved by scaffolding the patient from a structured to an unstructured conversation. The patient will gradually be weaned from the clinician’s support and/or cues. On-line feedback, analysis/summary of each session, and self-monitoring of conversational breakdowns will facilitate the patient’s progress.</p> <p>Prognosis: Good due to patient’s level of motivation and family support. The only factor hindering her progress is a lack of insight into her deficits.</p> <p>Frequency/Duration of Treatment: One-hour individual sessions one time per week for two months.</p>
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From the above analysis, M.S.’s deficits can be characterized by mild to moderate cognitive and expressive and receptive language deficits. This fluctuation of deficit abilities is dependent upon the context in which the patient is participating. The patient’s strengths are found in casual conversation during which she can request clarification when she is confused, and observe non-verbal language to aid in her understanding of the entire exchange. The patient

does poorly when her memory is taxed and/or when she must maintain attention to a specific task or presentation with the expectation of information retrieval following the presentation.

Functional every-day tasks do not compromise the patient's abilities if she uses her compensatory strategies. The patient typically breaks down when she is not able to request clarification or repeated information.

In regards to long-term expectations, therapy would strive to increase her attention for a longer duration, increase her deficit awareness, provide strategies to aid in memory, and increase her conversational language skills for every day use. Short-term goals would address each of these deficits functionally and in a measurable fashion (See Table 5 for specific examples of these goals.).

CHAPTER 6

SUMMARY/CONCLUSIONS

Despite minimal use of the authenticity recommended by Damico (1996), a clear picture of M.S.'s abilities and deficits was obtained from this study. Authenticity was compromised when a somewhat structured conversation in a fairly structured setting was accrued. Although the patient was not observed in multiple settings, deficit areas were brought to light through the analysis of conversation. Overall results indicated that conversational coherence was significantly impaired as a result of M.S.'s multiple deficits, which ranged from mild to moderate reductions in linguistic and cognitive ability. Specifically, the patient exhibited several instances of abrupt topic change, lack of reference and/or provision of background information, a decrease in short-term or working memory and reduced attention and deficit awareness. Each of these affected the patient's ability to comprehend and tie information together.

In addition to the information extracted from the transcription, the effectiveness of conversational analysis as an assessment tool was gleaned from this study. Although practicing clinicians cannot afford the time to compose the length of a conversational sample as was obtained in this study; conversational analysis proved to accurately exemplify this patient's cognitive and linguistic deficits as compared with standardized diagnostic instruments administered prior to outpatient therapy. Furthermore, conversational analysis identified cognitive deficits including attention and deficit awareness not noted in the patient's hospital report. With the acquisition of such functional assessment results, the remediation for both

cognitive and linguistic deficits is easily planned. Finally, a description of the conversation used by a patient of similar etiology after a stroke, may become a prognostic indicator for recovery.

Results of this case study cannot be used to generalize language characteristics across the population of patients with basal ganglia hemorrhages. They do, however, provide a detailed account of what language sequelae followed a stroke, at the site of the basal ganglia, in one patient. Studies discussed previously (D'Esposito & Alexander, 1995; Gleische, 1997; Murdoch, 1997; Aglioti, et al., 1996) conveyed that a wide range of cognitive and linguistic deficits result from such a neurological assault, and that most subcortical lesions result in a global-type aphasia. Essentially, these studies do not provide the clinician with any idea of what they may see across basal ganglia damaged patients. Instead, between all of the studies, nearly every language disturbance possible is listed. The results of the current study make salient the lack of coherent devices used by M.S. to tie information together and extrapolate from information gathered as a listener.

Although this study was not meant to characterize all patients with basal ganglia infarcts, it can provide therapists with a descriptive account of the patient's deficits. With additional subjects and similar data collection, consistencies across patients can be obtained. Furthermore, this study indicated what context the patient was in, and how the context affected her responses.

Also of importance for the conclusion of this study is the observation of memory and attention deficits in M.S. The studies mentioned above did not note these difficulties, despite documentation that the basal ganglia have access to language functions via other cognitive

modalities including both attention and memory (Robin & Schienberg, 1990). Moreover, no information was provided in terms of what facilitated improvement in the patients' expressive language use or memory. The observations regarding attention and memory deficits and their co-occurrence with language difficulties in M.S. are important for future studies purporting to define the role that the basal ganglia plays in language.

Future studies should include the following: (1) a variety of conversational settings with each patient, (2) a larger corpus of patients with damage exclusively to the basal ganglia and with the same amount of time post-stroke (in order to compare resulting language characteristics), (3) an ethnographic, longitudinal study of one patient's progress from onset of CVA to therapy termination, and (4) a comparison of conversational analysis of patients with basal ganglia infarcts with that of individuals with normal neurological status.

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APPENDIX A: TRANSCRIPTION OF SESSION #1

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Patient #4: M.S.

Left Basal Ganglia Hemorrhage

Taped: 10.30.98

M: M.S. (patient)

K: Karen Longstreet (clinician)

J: Jean-Marie (clinician)

C: Catherine Off (graduate student clinician)

Symbols:

> Overlap

X Unintelligible utterance

[] Repeated word/phrase

() clinician comments

Conversation Segment #1

1 K: XXX

2 M: And we had the same birthdays, in the same month, just a few days apart. And we've, so far since Mary's moved here we've gone to little America for dinner at night and had a big time and >

3 K: Oh how fun>

4 M: We do it [every] every year [on our] on our birthdays.

5 K: Oh how wonderful>

6 M: Isn't that nice>

7 K: You have a friend for your whole life <that you've kept in touch with>

8 M: Yeah, [yeah] then we take turns once a year its each one of ours turns we take turns
and we buy a [g] small gift to remember them by.

9 K: Oh how neat.

10 M: Mmm, Mary usually does this she's very (pause) she writes a lot see, [she's a] and
she writes a lot of interesting things you know.

11 K: Are we going? (question directed to C).

12 C: Uh huh.

13 J: And she likes movies too.

14 J: XXX I seem to remember a movie club or a card playing <group>.

15 M: Um hum. Now well there's card playing too. She just plays bridge.

16 J: Um hum.

17 M: Uh huh.

18 K: Why don't you take a look at your rating scale today, you've got the microphone on
here, the weather's not good>

19 M: Well>

20 J: Tell us XXX>

21 M: Well, now its going to be high because of the fact that [uh] I not only got home and I
didn't know Wayne was coming down, [he] he does this periodically and [I] I find out
he's coming down and then that put it probably up to mild, medium, then my son from
Pine Bluffs came in and he was at the house when I come home from the beauty shop that
makes it (pause) severe.

22 K: (laugh) Wow.

23 J: What happened today to bring all of your family <together>

24 M: And then Shelly came with her husband and the little girl and the new baby.

25 M: So I walk in and here's a house full of people.

26 K: Surprise>

27 M: And see I wasn't expecting this.

28 J: And you did tell them in all this you still had to come for your language therapy for today>

29 M: Right.

30 J: Right. Okay>

31 M: That's dedication.

32 J: Well then let's get you down to mild, then while we're here, because you relax when you're here.

33 M: Yeah, I do>

34 K: Okay?

35 M: I do, I do relax when I'm here and when I'm XXXX (tape problem)

36 M: Oh I know what it is.

37 J: Can you do a few things for a minute Millie? For your exercises, do you need to do those for a minute?

38 M: Yeah do you want to help me?

39 J: Now I have an awkward position right here to do this>

40 M: She's very good >

41 M: Well I'll just turn around. I will turn around.

42 M: I take advantage of this when I can.

43 C: (laugh)

44 J: Well Millie we have three of them which one do you want to start on?

45 M: Well, [I] you want me to look at the parrot?

46 K: Don't worry about looking anyplace>

47 M: Oh god I've been sitting in the wrong place.

48 M: Okay, let's do that one, that.

49 K: Look toward the TV

50 J: Oh its okay I just want her just natural.

51 M: Okay.

52 J: Which one do you want to start with?

53 M: [I'm going] I'm going to start at that one where I have to look over my shoulder.

54 J: Look over your shoulder, okay.

55 J: Then come back over toward

56 K: Show 'em the parrot, there we go

57 M: Yeah, the parrot. I always go by that poor little parrot.

58 K & J: XXXX

59 M: Yeah, uh huh.

Therapy Segment #1: Relaxation

60 J: Put your feet out forward a little bit more. Take um, right now breath in, breath out.

61 M: (breathing)

- 62 J: Look over to the parrot, breathe out on the count of five. One, two, three, four, five.
Slowly come back to midline. Good. Look over to the corner of the mirror....
(relaxation exercises continue – about five minutes)
- 63 J: Have we relieved the head and neck tension any?
- 64 M: Yes.
- 65 J: We have, good. Okay.

Conversation Segment #2

- 66 M: Yes. What else do we have to do? (referring to session goals)
- 67 J: Our usual things.
- 68 M: Okay.
- 69 M: What do I want to share with you? (after looking at white board with agenda) I have a new little baby.
- 70 K: Yeah.
- 71 M: You know about that.
- 72 K: I just heard, I don't know if it was a boy or a girl or how big or name or anything.
- 73 M: Its [its it's] a boy and weighed eight pounds I think it was seven ounces, and its really cute.
- 74 K: What's his name.
- 75 M: His name is Patrick James and they'll probably call him P.J.
- 76 K: P.J.?
- 77 M: Yeah.
- 78 K: How did Shelly do?

79 M: Good.

80 K: How long, was the labor really long?

81 M: Yeah, from eleven, let's see she went in at [um] one thirty in the morning and [was out] was out of labor at eleven thirty, that morning. So it was quite lengthy.

82 K: That was pretty long.

83 M: Uh huh. But I told Jean-Marie about this is that [uh] I'm going to Karen V... you know.

84 K: uh hum.

85 M: And uh the girl that worked there, Erin, [uh] she went in on Friday, the same time Shelly did, and this was just, you know, [just a I just quirk] just a quirk, it was.

86 K: She had her baby at the same time?

87 M: [She] They had the baby [just] just minutes a part.

88 K: Over at the base>

89 M: But she was at the hospital here and Shelly was out at the base. They had>

90 K: Did she have a boy or a girl?

91 M: She had a boy and he was eight pounds. And I can't remember how many ounces. Now isn't that strange?

92 K: That's really weird.

93 M: Yeah.

94 K: That is really weird. So is he good?

95 M: Uh hum>

96 K: Is he cute?

97 M: Sure, all babies are cute. You know.

98 M: And um, review goals at [pe] tension levels (referring to white board again).

99 K: Review your goals and your tension levels. What are our goals, for therapy, you remember?

100 M: No.

101 K: (laughing) I'll get you started.

102 M: Uh hum.

103 K: I come to language therapy to improve my ability to>

104 M: Summarize.

105 K: Uh hum. Summarize what?

106 M: Whatever is gonna to be on the agenda for the day.

107 K: What I've heard, read and done.

108 M: Uh hum.

109 K: Okay? And? To improve my ability to >

110 K: Remember more details.

111 M: Uh hum.

112 K: The things I that hear and read.

113 M: Yes, thank you.

114 K: And, to reduce my>

115 M: Tension.

116 K: You remember that one. Okay. And the last one that we really haven't been working on very much. To practice my...

117 M: Well I'm supposed to practice a lot of things.

118 K: The math.

119 M: The math and uh, there's [no] nothing for me to go by.

120 K: That's because I wanted you to remember. XXX So what were they? Go over them again.

121 M: What?

122 K: The four goals.

123 M: To summarize and to um uh [to uh and] have math, and to um god I knew these so clear and if that girl wasn't sitting over there I'd probably know 'em.

124 K: What girl?

125 C: Just pretend I'm not here.

126 J: Who's here>

127 M: It's that girl, sitting right there>

128 K: <Jean-Marie?>

129 M: No, not Jean-Marie>

130 J: Do I make a difference>

131 M: No I don't pay attention Jean-Marie.

132 K: Cathy's not really here.

133 M: Isn't she here?

134 K: No, she's really not here. Cathy's out climbing rocks somewhere.

135 M: Let's see it's to summarize, to do the math, [um oh god] tension isn't one>

136 K: Anxiety.

137 M: Anxiety and the fourth one was, [uh] what?

138 K: Remember details.

139 M: Remember details.

140 K: Okay, those are the goals that we are working on. We haven't really been working on the math much.

141 M: No we haven't.

142 K: Because we decided that a calculator was what you just really need>

143 M: Well, it (cough) excuse me, [are] are you limited to what the amount of time I spend here?

144 J: No. Why did you ask that?

145 M: Because [uh] Karen is limited and she thinks that I can still come up there because she's working on my legs and my feet, you know, to walk better?

146 J: Um hum.

147 M: And um, [she] she can wait 'til do some of 'em some of these instead of twice [uh] a week.

148 J: Um.

149 M: So that Medicare will pay for it.

150 J: Um hum.

151 K: So you're having Medicare problems.

152 M: Well we haven't yet.

153 K: On Medicare B?

154 M: Uh hum.

155 K: Now that won't change 'til the end of the year.

156 M: Right.

157 K: The Medicare B.

158 M: But how many, see, I think [its] I'm allotted four a month.

159 K: What about the railroad insurance?

160 M: They might pick it up.

170 J: Millie?

180 M: Yes?

190 K: We don't need to worry about this.

191 J: The answer for this in the hospital is that if your therapy is needed the hospital will cover it.

192 M: Uh hum>

193 J: The hospital is eating a lot of expenses even though your insurance would not cover it. As long as you're making goals in therapy and we're requesting it and the doctor orders it, we can continue your therapy program here in the hospital.

194 M: Uh hum.

195 J: Okay?

196 M: Okay.

197 K: Okay? So you don't have to worry, we're not kicking you out.

198 M: Okay. Oh I just thought I'd ask about it and see if I had to do less therapy with it.

199 K: No, everything's fine.

200 M: Okay.

201 K: Okay?

202 M: Uh hum.

203 K: And they'll work it out over at – you run over to Health and Fit right?

204 M: Not until after Christmas.

205 K: Where is Karen?

206 M: Karen is at [she's up at uh] I don't know the name of it.

207 K: Oh, okay, I thought you were going to Health and Fit. I thought she was over there.

208 M: No, Karen B>

209 J: She's in her own practice.

210 K: Oh, okay. Okay.

211 M: And that's up there at that rock pile. That's what we have always called that place.

212 K: Okay. I just assumed that she was at Health and Fit, I don't know why>

213 M: Yeah, she's in the same area with Dr. [um] R., see?

214 K: Okay. Okay.

215 K: Do you remember we've been working on those? (pointing to some pieces of paper)
To work on>

216 M: Yes.

217 K: Instead of using your listening skills to remember? To make the pictures in your
head? I want to do a couple of those to practice.

218 M: You, okay. Pick the easy ones (whispering).

219 K: Pick the easy ones?

220 M: Um hum.

221 K: Okay. Why?

222 M: Because I'm nervous.

223 K: You don't have to be nervous.

224 K: You don't have to be nervous.

225 M: I know I don't. [I] I'm never nervous with you [and] and>

226 K: What's her name over there. You can't even say her name today.

227 M: I can too, its Marie-Jean.
228 K: Marie-Jean?
229 M: Uh huh.
230 K: Or Jean-Marie?
231 M: Oh its Jean-Marie, I knew that>
232 K: Marie-Jean, Jean-Marie.
233 K: Should we make her Marie-Jean?
234 K: It's MJ.
235 K: Okay, I'll pick easy ones. In fact, I will do ones that we have done before.
236 M: Oh yeah, I oughta' do those, that's good.
237 K: Mmm. Okay. Don't worry about Cathy. Cathy's a friend.
238 C: XXXX
239 K: We were weird in class together.
240 M: Were ya?
241 K: Oh yeah, we were bad. Okay.

Therapy Segment #2 - Memory Skills

242 M: Okay.
243 K: We are going to make the pictures in our head>
244 M: Yes>
245 K: We're going to make a scene to help you remember the words.
246 M: Yes. All right.
247 K: Okay?

248 M: Yes.

249 K: I'm going to give you easy ones.

250 M: Uh huh.

251 K: How about a colt, a kitten and a chick.

252 M: Um hum.

253 K: Okay. Tell me the picture you're making in your head of those three words.

254 M: A colt, a chicken, a colt a chicken and I forgot the third one.

255 K: Kitten?

256 M: Kitten. Yes.

257 K: Okay.

258 M: The colt, the colt and the chicken the, colt the chicken [oh god].

259 K: Kitten.

260 M: And the kitten.

261 K: Okay, you're trying to remember the words, I want you to make a picture. Um I'm seeing a chicken sitting on a horse's back and a kitten chasing it.

262 M: Uh huh.

263 K: That's the picture I made in my head of those three words.

264 M: Okay. Well then I see the colt is running after the chicken>

265 K: Okay.

266 M: And the kitten is scared to death he is going to catch up with him.

267 K: Okay. What are the three words?

268 M: Colt, chicken and colt and kitten.

269 K: There you go. You made the picture in your mind>

270 M: Right.
271 K: Instead of trying to remember the words >

(therapy continues)

Conversation Segment #3: Preceding Summary Exercise

272 K: Jean-Marie has a videotape to watch today.
273 M: Of?
274 K: Do you want to discuss it (to Jean-Marie)?
275 J: No, I don't think I will.
276 K: Okay.
277 J: The other day I told you I was going to try to tape something for you?
278 M: Yes.
279 J: Remember how we were talking about intrasubjects and how we watch things on the news?
280 M: Uh huh.
281 J: Okay. We taped some things that were [uh] done yesterday on the news, which was a very historic day.
282 M: Oh with Glenn in Space? Yes.
283 J: Yes.
284 J: How much of that did you watch this weekend?
285 M: Oh, [I] I watched [uh I wa] not too much of it.
286 J: Okay.

287 M: I've had company, [I've had] its just been a busy week.

288 J: Uh huh. Did you see when they actually launched?

289 M: Yes. I did see that part. And I was so afraid for him.

290 J: Why?

291 M: Well he's aged. Well he's aged, and I was afraid that it might be too much for him.
But he's quite a man, and I think he did fine. And it wasn't a long session that he had up
in space. 'Cause he came down>

292 J: What are they going to do>

293 K: Wait, wait, wait.

294 J: What are they going to do? What are they going to do Millie?

295 M: Who?

296 J: Okay. Who are we talking about?

297 M: We're talking about [uh] Glenn.

298 J: About John Glenn.

299 M: Yes.

300 J: Yesterday when he was launched in space he and how many others were in the>

301 M: Seven.

302 J: No, there were seven I think total.

303 M: Uh, huh.

304 J: Maybe he was one of seven. Um, what was their mission do you know? I don't know
a lot about>

305 M: No I don't know, but I do know what he did, he wasn't up in space for a long period
of time.

306 J: From yesterday?

307 M: Yes. [Didn] Didn't. It looked like [on] in the paper that they just brought him back.

308 J: No. They're still orbiting.

309 M: Are they still orbiting>

310 J: They will be up there, but I don't know how many days.

311 M: Okay. Well, this was the part I didn't get.

312 J: Okay.

313 M: Because I didn't watch it that much.

314 J: Okay. I'm going to turn on and for a minute we're all going to watch this, this is new to me. I've only seen a little bit of this for a few minutes, because I had my husband taping this yesterday for us.

315 M: Okay.

316 J: After we're done, [I want] I'm going to ask you some summary questions about it.

317 M: Okay.

318 J: So, its going to be both what you remember and some specific facts that you can pull from it.

319 M: Okay.

320 J: All right.

321 M: I'll do my best.

322 J: I think it will be fun.

323 M: I think it, I'll try hard.

324 K: Don't listen to the words>

325 J: XXX

326 K: Listen to the whole story. Okay, you want to listen to the whole story and not

327 M: All right.

328 K: Like we've been practicing.

329 J: This would be as if you were sitting down at your TV, Millie and there was a news
commentary. And interviews you're interested in and you want to remember.

330 M: Um hum.

331 J: To discuss with your neighbors, to discuss with your family.

332 M: But you don't have it on the right channel (VCR created fuzzy screen).

333 K: (laugh) Well, you know Marie-Jean.

334 M: Laugh

335 J: So this, you okay, here we go...

(TV clip)

336 J: The year was nineteen sixty-two. Do you remember that?

337 M: I remember that, yes.

(TV clip)

338 M: XXX's eighty. Isn't that what he is, eighty?

339 J: Seventy-something I think.

340 M: Glenn?

341 K: Glenn was seventy-six.

342 M: Seventy-six?

(TV clip)

343 M: Why did they do it?

344 (Pause)

345 J: It's your job.

346 M: Normally, [they wouldn't pick] they wouldn't pick somebody that age, though.

347 K: Oh, he wanted to go back up.

348 M: XXX one or two.

349 K: You mean, why did he go now?

350 M: Yeah. [I] I know that he wanted to do this, but according to his age, you know, XX

351 K: Study.

352 C: XXX like aging effects in space.

353 M: Oh, that it has nothing to do with being an astronaut or anything?

354 K: Well, I think he wanted to go back up again, and I think its to honor him as being the
first man to circle the globe, they wanted to give him the opportunity to>

355 M: To do it.

356 K: To do it again.

357 M: Okay. Okay.

358 J: Okay should we go ahead, Millie?

359 M: Yes.

360 J: Okay. See if you can pull out some the details of this while you're listening.

(TV clip)

361 J: Summarize what he was just saying. What has changed?

362 M: The fact that they don't have to compete with Russia.

363 J: Right.

364 M: And that, [um uh it] it that it has lost some of its glory. To a certain extent, and that everybody feels that its just part of life.

365 K: Okay.

366 M: To do this. Is that what you wanted me, is that>

367 K: Yes. Exactly.

368 M: [That] That's the part I got out of it.

369 J: Right. We have had many space flights.

370 M: Hum. Right. And [not] most of them have been successful.

371 K: Right.

372 M: Whereas some of them have been tragic. But, [I] I don't know. I think it's very interesting that this man is able to do this.

373 K: Um hum.

374 M: And [that's] I [I] just hope that this isn't an experiment. That hopefully he will be able to do this without having any problem because of his age.

376 M: XXX just pretty great.

377 K: XXX (clapping)

378 J: Now I want to do one last story over here, Millie>

379 K: Isn't she great (referring to Millie)>

380 J: And then let's see if you can come back and we're going to summarize everything that we've looked at on tape.

381 M: Okay.

382 J: We have to fast-forward here a little bit. Okay. I am going to fast forward this, no [let's] let's do this one.

383 M: Yeah he's really young there (Referring to Glenn in early days).

384 K: Um hum.

385 J: XXX the musketeers. Aren't they wonderful?

386 M: Yeah.

(TV clip)

387 M: He had a lot of courage to do that.

388 K: I think they still have a lot of courage to do it.

389 M: I mean alone. He went up in space alone.

390 K: Do you know how long he was up? Do you remember, on that first flight, how long he was up in space?

392 M: Well it wasn't as long as it is now, [I um, I] I think he orbited the earth oh god that's been a long time>

393 K: See I just heard that it was four hours, I thought he was up a lot longer than that>

394 M: [I did I] I did, too.

(TV clip)

395 K: Would you get on top of a rocket that blew up all the time?

396 M: I wouldn't get in an airplane that would do that.

397 K: Would you go up in a shuttle if you could right now?

398 M: No.

399 K: No? I think I would.

400 M: Yes, because you're young>

401 K: XXX>

402 M: [I don't have any] I don't have any courage left; I lost it.

403 K: Where'd it go?

404 M: Where did it go? I buried it. I don't know where it went.

405 J: Millie? You two get off the track so easily don't you just 'cause Karen has to. Come back to these tapes today. There were three separate stories here. Do you remember what the three separate ones were?

406 M: Uh. Well of course the one was about John Glenn and the other one was uh oh god.

407 J: Okay. Let's think. I'm going to give you some clues here. The whole tape is about John Glenn.

408 M: Uh hum.

409 J: Because we're trying to [um] they are capturing what is going to happen, [in] in other words the launch that occurred later yesterday.

410 M: Uh hum.

411 J: And so, these were interviews that were occurring prior to the launch, yesterday. Okay?

412 M: Yes.

413 J: All right. The first one had something to do with a couple, Al Roper.

414 M: Al Roper was the commentator on that.

415 J: Okay. [And what did] he was interviewing a couple, what about?

416 M: I don't know.

417 J: Okay. A couple who had something very much in common with this senior astronaut.

418 M: With John Glenn?

419 J: Um hum. Do you recollect what they said? They held up a photograph.

420 M: Showing that he could do it in space at his age.

421 J: Okay. No.

422 M: That wasn't it.

423 J: I didn't see that.

424 M: Well I didn't either, but I thought it sounded good 'cause I can't remember what it was.

425 J: Okay. And that's fine to say you don't remember what it was. They were holding up a photograph of, yes they did see John Glenn, excuse me, but also their child. They said that their child was born on the day of John Glenn's first>

426 M: Oh I didn't hear that.

427 J: Okay. Well maybe there was some discussion going on then. How many years ago did that occur?

428 M: Well I don't know; it was in the sixties.

429 J: Give me a rough guess.

430 M: Sixty...sixty >

431 J: The first launch was in the sixties, nineteen sixty-two.

432 M: Nineteen sixty-two is when it was, you're right.

433 J: Um hum. So how many years ago was that?

434 M: Do you have a pen and pencil, and I'll tell you.

435 J: Okay. Was it twenty-six or thirty-six years ago?

436 M: Oh I think it would be thirty-six years ago.

437 J: Thirty-six years ago. Okay. Katie Corrick had an interview we just watched.

438 K: Who was she speaking to>

439 M: Scott Carpenter.

440 J: Yeah. And who was Scott Carpenter?

441 M: Let's see. Which flight did he go up in? Um...oh dear, I don't remember>

442 J: Did he join John Glenn on the same flight?

443 M: No.

444 J: What was he discussing today? On this tape?

445 M: Scott Carpenter?

446 J: Um hum.

447 M: Oh uh [they] they didn't have to worry about the Soviets. They didn't have to compete with the Soviets.

448 J: Good.

449 M: And um...

450 K: Something else had worn off. Was no longer a problem. Besides the Soviets.

451 M: [Be] Besides the Soviets?

452 K: Um hum.

453 M: I don't remember Karen, what was it?

454 K: The novelty. It wasn't new XXX>

455 M: Oh yeah. It was old stuff by then.

456 K: Yeah.

457 J: Yeah, and you had actually summarized that for us just right after we saw that little blurb on TV.

458 M: Um hum.

459 J: You had summarized that very carefully. Okay. There was a third interview, do you remember any of these people from the last interview?

460 M: No I don't.

461 J: Okay, I'm going to give you their names and you try to tell me the situation. The names were Worry Neil, and Jay Bar and>

462 M: Oh that was the guy that I thought was Chet Hutley.

463 K: XXX

464 M: Yeah.

465 J: What were they discussing?

466 M: I don't know. I don't remember.

467 J: Um, where were they discussing these things.

468 M: I think they were at Cape Canaveral.

469 J: And they were comparing John Glen's first flight, which was how many years ago?

470 M: Thirty-two.

471 J: Thirty....six.

472 M: Thirty-six. Well it was in the thirty range.

473 J: Good. Okay. All right. You got maybe fifty percent of the facts, but you were better with it when you summarized it right after you'd seen that blip and then we could stop and pause and talk about it.

474 M: Um hum.

475 J: Okay. Would you like to try some more of these at some other therapy sessions?

476 M: If you'd like.

477 J: Do you think they help you. This is the first time we've done this.

478 M: Uh, if I know the people. If I don't know the people or what they were entailed in>

479 J: Okay.

480 M: I may not.

481 J: Okay.

482 M: Um>

483 J: So in other words you want it within your experience realm.

484 M: I do.

485 J: Your interest realm>

486 M: Yeah, well my interest, but I'd like to know the people that I'm discussing.

487 J: Okay.

488 M: You know, to a certain extent.

489 J: Sure, because those are things we each tune into.

490 M: Right>

491 J: Our own preferences>

492 M: Yeah, well, it's nice to hear about other people and what they do, but if I don't know
[haven't I don't] have never met them or heard about them, I think well...[you know] I
don't think it's important to me.

493 J: I agree with you. And each of us have different things that are important to each one of
us. That's good. We'll try to do this again where we take segments because what I'm
hoping is that this is something that is much more realistic for you>

493 M: Um hum>

494 J: That as you go home you want watch programs like this>

495 M: Um hum>

496 J: You want to remember more facts and you want...so there's the memory for the facts.

497 M: Um hum.

498 J: Is that one of our goals?

499 M: Yes.

500 J: Okay, the other thing is to be able to summarize it clearly.

501 M: Right.

502 J: And these are just meaningful things not just drill things that we can do in therapy.

503 M: Let's see [uh, summar] to summarize, oh you know [I I've] I've read those things
over jillions of times. Those four little things, isn't that funny?

504 J: Um hum. The reasons you come to therapy.

505 M: Right, and I can't remember them.

506 J: How do you think you did today?

507 M: I think I could have done better.

508 J: Why do you say that?

509 M: Because I was a little bit nervous when there's [uh uh] tape, when there's [a] a red
light on me.

510 J: Sure.

511 M: And when there's [anoth] a girl I haven't seen before.

512 J: Sure.

513 M: You know?

514 J: And that's a very real situation. Anytime we're in a new situation, with new people or
you feel like you want to do your best, how does that>

515 M: [That that] that's when you really dub it.

516 C: I agree.

517 J: I think you did beautifully today>

518 M: Well>

519 J: We wanted to get an overview now um Cathy would like to come back and she would like to do this one other time. She's just in the background, she's here just for us to go ahead with our own therapy and just to tape this. So when you're here the next time you can just say Gee I'm not, she's not going to be there. We're going to do the same old stuff.

520 M: Hopefully.

521 J: Um hum.

522 M: Well. [I] I think [it] another thing too is that [I] I was worried about the storm. I was worried about coming down here.

523 J: Right.

524 M: And I was worried about what she (pointing to C) would be like [and] and you know I told you about that episode [in] in Wichita, didn't I?

525 J: I'm not sure which episode you mean.

526 M: Its when I was in [um uh in] in rehabilitation. You know and I hadn't been there very long and they had this guy, this Walderstorf, I'll never forget that name>

527 K: I know this story.

528 M: XXX had sent these girls in to [dis] discuss life with me and stuff. Only [the] she would not look at me. She would not talk to me. And it was like talking to a wall. And when I didn't know something, she would sit there and do the (putting head down) and wouldn't talk to me, wouldn't even look at me. And finally I just sat back and I thought I cannot answer her>

529 K: Um hum>

530 M: She's not being very nice to me and they charged me a thousand dollars for this interview. And I was a little perturbed. I still may turn it in to Medicare. 'Cause [I it] I got nowhere with her or with the stuff she was showing me.

531 J: Right. I think any person deserves an explanation of what>

532 M: I do too. She would not talk to me>

533 J: Every person deserves to have customer satisfaction that to know why you're doing something>

534 M: Um hum.

535 J: Okay.

536 M: And why are you asking me these things.

537 J: Okay. And maybe sometimes all the answers aren't clear at that time, but we're the ones like you said that you paid for or your insurance paid for it and you didn't feel like there was this conversational interaction>

538 M: No I don't. I didn't>

539 M: I didn't figure that it was worth it to Medicare to have this done.

540 J: Uh huh.

541 M: And this is why Medicare gets in trouble. You know.

542 K: Uh huh.

543 M: Is this extra amount of money that is spent on this.

544 J: Okay.

545 M: But uh, there was another gal in there who was doing worse than I was. And she was a teacher...

546 J: Uh hum.

547 M: And um she says when you go in there if you don't know it she says just sit down and
ignore it, and that's just what I did.

548 J: Okay.

549 M: But I don't want to do that.

550 J: That doesn't give>

551 M: It doesn't help me>

552 J: you, the customer, any input for this>

553 M: No.

554 J: Do you think we're done for the day?

555 K: Probably. Do you want to go over this real quick?

556 J: We're going to uh, well

557 M: What are we going over?

558 C: We'll wrap up with that.

559 K: What we do at the end of all the sessions. Summarize the activities that we did today.

560 M: Yes. We watched TV. That was a good thing. We watched TV.

561 K: Got caught up on the current news.

562 M: Right. And we got up on current affairs.

563 K: Um hum.

564 M: Um.

565 K: That's okay. What else did we do?

566 M: Oh, [we] we played with the names [of the] of colt, and chicken...

567 K: Um hum.

568 M: And all this.

569 K: And what were we working on with that?

570 M: [Was um um.] What were we working on?

571 K: Well, why did we do that?

572 M: Because I was supposed to put three words together and make a story in my mind.

573 K: Right, pictures in your mind.

574 M: Yes.

575 K: Okay. And....we did one other thing.

576 M: We watched John Glenn. We talked about him.

577 K: Um hum. We already talked about that one.

578 M: Yes.

579 K: What was the first thing we reviewed? When you came in.

580 M: I don't remember.

581 K: We went over your goals.

582 M: Oh god. Tell me one word.

583 K: Goals. We reviewed the goals.

584 M: Reviewed the goals.

585 K: Um hum.

586 M: Yes. Okay.

587 K: Okay?

588 M: Okay.

589 K: That's what we did today.

590 M: Um hum.

591 K: How's your tension?

592 M: Right now its fine.

593 K: Good. Would you like to lay down in the corner and take a nap?

594 M: No.

595 K: Okay.

596 M: I think I'd rather go home and go to the store.

597 K: We were going to strip.

598 M: Oh god yes. We have to get rid of them and we'll use the camera.

599 K: Just you and me?

600 M: Yeah.

601 K: I think I need to lose ten pounds before I strip in front of a camera.

602 M: Well see I don't strip all the way.

603 K: Oh we're not going all the way? How far are we going?

604 M: Not very far.

605 C: (laugh)

APPENDIX B: TRANSCRIPTION OF SESSION #2

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Transcription Dates: 12.05.98/12.16.98

Patient #4: M.S.

Left Basal Ganglia Hemorrhage

Taped: 11.23.98 (second taping)

M: M.S. (patient)

C: Catherine Off (graduate student clinician)

J: Jean-Marie Seitz (SLP clinician)

Symbols:

> Overlap

X Unintelligible utterance

() Clinician comments

[] Repeated word/phrase

Conversation # 1

606 M: (whispering) What are we going to talk about?

607 C: (laugh) What are we going to talk about? Um, Let's see, I think first could you tell me about [maybe um] some traveling that you've done in the past, or um>

608 M: Oh, I did a lot of traveling.

609 C: Yeah?

610 M: Uh huh. My husband and I traveled a lot.

611 C: Did you?

612 M: Yeah, we really did. Then he retired in nineteen eighty-one>

613 C: Uh huh.

614 M: And we went, oh, a lot of places. I think I've been in about every [every yeah uh]
state.

615 C: You have?

616 M: We have.

617 C: Oh how neat.

618 M: All except Maine, Maine and Minnesota.

619 C: Uh huh.

620 M: [I've] We've been a lot of places and I used to have this little white poodle...

621 C: Uh huh.

622 M: And she was so pretty [and] and I [ge] groomed her every day you know. We stayed
in some of the ritziest hotels.

623 C: (laugh)

624 M: And she used to lay on the back [of the] of the chair.

625 C: Uh huh.

626 M: And she'd lay right here on the back of my neck.

627 C: (laugh)

628 M: And we stayed, we went to the World's Fair in Spokane>

629 C: Uh huh.

630 M: And [I took her] we took her with us. We took her everywhere with us, you know.

631 C: Oh (endearing)

632 M: She'd go out the door, trot over to [the] the [uh] elevator and wait to be let down.
And then when we'd come up she'd come right over to me.

633 C: (laugh)

634 M: <She was really cute>

635 C: <How cute>

636 M: Yeah.

637 C: [Um] what part of the United States do you think you enjoyed the most when you
were traveling? [To] to visit. You know.

638 M: [Oh] oh gosh. [I] I really liked the New England states.

639 C: Um hum.

640 M: [And] especially in the fall when it was so pretty.

641 C: Um hum.

642 M: [I] I don't know, but actually oh I don't think I like Nevada...

643 C: Uh huh.

644 M: Places like that. But [um, I don't know] I think every state has got something pretty,
hun, you know.

645 C: Have you been down to the South?

646 M: The South? Oh yes.

647 C: Tell me about it.

648 M: Now that I wasn't that happy with that.

649 C: No?

650 M: In fact [we went] we were going to New Orleans and we went down through Monroe
and I can't remember all the names now>

651 C: Uh huh.

652 M: And if you couldn't tell the difference between the sky and the ground, it was so funny looking, you know it was just funny that time of year. You'd think [where] where is the sky, you know, you couldn't tell <where it was>

653 C: <Huh>

654 M: It just blended in. Have you traveled a lot?

655 C: Um, a bit yeah. Actually I've had less experience traveling in the United States than I do outside of the United States.

656 M: Oh I bet that's great.

657 C: My mom's from England, so I've been over there to visit her relatives a few times.

658 M: Um hum.

659 C: But the United States I don't have a lot of experience with, so it's wonderful to hear about parts of the United States from you.

660 M: We never did go out of the United States, 'cause there was so much I wanted to see [in] within it.

661 C: [I] That's right, I think that my next goals are to stay within the United States and see some of the things here. Um, have you been, um, on the West Coast.

662 M: Um hum. Been to San Francisco...

663 C: Um hum.

664 M: And San Diego. We went and took that 101 Highway down.

665 C: Um hum.

666 M: And the funny thing of it was is [uh] we started down that 101 Highway, and you know it goes like this (demonstrating curves) >

667 C: Um hum.

668 M: And pretty soon my husband he pulled off the highway, went down a little ways, slammed on the breaks, got out and walked around, you know, and I just sat there in the car and [just let] just let him sweat a little bit.

669 C: (laugh)

670 M: He had just gone crazy.

671 C: (laugh)

672 M: And [he was] he was a big guy, a big tall guy.

673 C: Yeah.

674 M: Very nice lookin'.

675 C: I'm sure.

676 J: Why did he slam on the breaks?

677 M: 'Cause the road went like this.

678 J: Oh, just the frustration of it.

679 M: Oh god he...So [I] I just took over driving. It bothered me but I wasn't as bad as he.

680 C: Not getting as nervous as he was.

681 M: right.

682 C: Oh that's funny. Okay. Jean-Marie was also telling me that you have played bridge a lot.

683 M: Yes.

684 C: What got you started, when did you start playing bridge?

685 M: Oh, let's see, good grief, it must have been in nineteen fifty-two something like that.

686 C: How did you get involved in it?

687 M: I had some friends, [and my, I had] my kids were little.

688 C: Um hum.

689 M: And they didn't have any, and my husband was an engineer out on the railroad>

690 C: Uh huh.

691 M: And so he would have to go out on trips and he'd be gone, sometimes, two or three days. And so [I could] I had lots of spare time and I'd put the kids to bed and these other three gals would come over to teach me how.

692 C: Oh how fun.

693 M: And I'd tell them, I'm through, I don't want to do this no more. Every night they came and we played bridge until I learned how>

694 C: Until you learned how to do it.

695 M: Uh huh.

696 C: Yeah, 'cause its not the easy game to learn.

697 M: No. [I played] I played yesterday too.

698 C: You did?

699 M: Yes I did.

700 C: So you've continued on <all these years>

701 M: <Um hum> Oh yeah, I love it.

702 C: Do you?

703 M: [It's] It's good for the brain.

704 C: Yeah, I agree.

705 M: You know?

706 C: So do play with just friends now or do you belong to a club or [uh]>

707 M: [I belong] I belong to two bridge clubs.

708 C: Oh, wonderful.

709 M: And before I stopped, I belonged also to a bridge marathon. But it just got to be, what with physical therapy, [and] and speech therapy, it was just too much.

710 C: What' s a bridge marathon?

711 M: That's where you play with the same partner all the time.

712 C: Uh huh.

713 M: And then you go to each other's house.

714 C: Uh huh.

715 M: And [there's only] it's a foursome. And so then you play and you [uh] keep track of the score and at the end of the year you have a banquet.

716 C: Oh how fun.

717 M: Uh huh. It is fun.

718 C: That's neat.

719 M: I hated to quit it. I've been in it since I first moved here. But [I] [I] I just got too involved.

720 C: Too much.

721 M: Uh.

722 C: When did you first move to [uh] was it Cheyenne? Have you lived in Wyoming your whole life?

723 M: My whole life. I was born and raised here in [Ch] in Laramie.

724 C: Okay.

725 M: Uh huh.

726 C: And then when did you move to Cheyenne?

727 M: In [uh] see nineteen seventy-two.

728 C: Uh huh. So you've been here a while then.

729 M: A long time.

730 C: Yeah.

731 M: Uh huh. Yeah, we were just talking you know that gal [that] that [uh] is in there with me now. She plays in [one of the um] one of the bridge clubs that I'm in. She's a sweetheart. She's the best cook.

732 C: Does she cook you some meals, sometimes?

733 M: Oh yeah, she's invited me over a lot you know. But [um] it [uh she's] she's good.

734 C: Yeah?

735 M: I mean she loves to cook.

736 C: Oh that's neat. Does she cook all types of food or>

737 M: All types of food and she's good [and you know] and she's just a wild woman.

738 C: What's your favorite type of food? Or, your favorite meal to have.

739 M: You mean now or it used to be?

740 C: Now. And used to be. Tell me both.

741 M: I don't eat too much, but I try to eat vegetables and chicken. I like chicken and I don't like beef anymore. So [um] thank you (blowing nose).

742 J: She's diabetic.

743 C: Oh, so its more more>

744 M: <Yeah>

745 C: <difficult for you to have some of the things you like.

746 M: Yeah, it really is.

747 C: What kinds of things did you like before?

748 M: Hamburgers.

749 C: Hamburgers.

750 M: Now I don't really like 'em.

751 C: Yeah?

752 M: What's your favorite food?

753 C: [Um], I grew up in California and I have a very strong taste for Mexican food. I love Mexican food.

754 M: I used to like Mexican food. But it's just a little bit too spicy.

755 C: Yeah. So probably that would be my favorite, and actually in Laramie now they have a very good restaurant.

756 M: Where?

757 C: It's by the Laramie Inn.

758 M: Oh. That>

759 C: Corona Village is what it's called. It's in the Laramie Inn, I think. It's>

760 M: Oh, [that] it's right there at the end of town?

761 C: Um hum.

762 M: Just as you're going, yeah, just as you're going in?

763 C: Yeah.

764 M: It used to be another one there.

765 C: Yeah.

766 M: Can't think of the name though.

767 C: Yeah it was something different and then probably about a year ago it changed, and
it's wonderful. They've got some good cooks>

768 M: Yeah, I've eaten there before when it, you know, just for no reason whatever, you
know.

769 C: Uh huh.

770 M: How many years more do you have to go?

771 C: Um, I'll be done in May>

772 M: Oh won't that be neat?

773 C: It will be neat>

774 M: <I bet I bet>

775 C: <Time to make some money>

776 M: I bet you make a very good therapist.

777 C: Oh, well thank you very much.

778 M: Really, you're just as sweet as can be.

779 C: Thank you. You're a very easy person to get a long with, so>

780 M: Yeah I really am. I like people, you know?

781 C: Yeah.

782 M: [I don] I really don't have trouble. There's just every once in a while somebody will
read wrong. But then I think that goes with>

783 C: I think that goes, probably, with anybody. XXX <used to>

784 M: <Well when that happens>, they don't know it.

785 C: Yeah. Indeed.

786 J: It's been XXX minutes. That was terrific.

787 C: That was great.

788 M: I'd rather do that than what you talk about.

789 J: Okay. I will just leave the room. Keep on talking. Now the truth comes out.

790 C: Okay, let me just check to see if it (the video camera) is still facing the right way. Yep it's, good.

791 M: Now we're going to come right down to the nitty-gritty.

792 C: Now you get to do all the work, huh?

793 J: The reason why you're here.

794 M: I liked it.

795 J: Why don't you tell Cathy why you do come here? I mean it's a lot more than us just having an afternoon social conversation.

796 M: Why I came here is I find that when I go home I can actually talk better. And understand better what I am talking about. Even though these (pointing to work on table) aren't always what I go by, I really uh >

797 C: laugh

798 M: Why do I>

799 J: I'm just trying to get your feel for the reasons. Why are you coming to language therapy?

800 M: For your help. And [I] I >

801 J: To do what?

802 M: To [um summarize to s wait], to summarize. I remembered one. Now if I knew you was going to ask me that I would have read my little book. To summarize, [uh] to do

math, which we've done, [um] I don't remember the other two. Wait a minute. Just,
just>

803 J: You're doing great.

804 C: Uh huh.

805 M: The other two is to remember. And>

806 J: Remember what?

807 M: Remember what I've learned [with] from you.

808 J: Okay.

809 M: What would you say it was?

810 J: That was fine. I'm going to narrow it just a little bit. Remember things that we're
hearing, that you're hearing for a little longer period of time.

811 M: Uh huh.

812 J: Okay.

813 M: And that fourth one was to...anxiety.

814 J: What about anxiety?

815 M: Those were the four things [on] on the list that I <was supposed to remember>

816 J: <No what about> anxiety? How can I help you with anxiety?

817 M: Anxiety where you taught me how to [uh] breathe, how to watch what I'm doing,
and...(whispering) I don't know.

818 J: Sure you do. Sure you do.

819 M: Um.

820 J: What does anxiety have to do with your talking or your thoughts?

821 M: [I] I get upset and [I] I get pains in my necks. And I haven't had a pain, do you know
I haven't had a pain since you've used [that um that] that pacifier?

822 J: Yeah. Well, I pacified you. With the vibrator didn't I? That's cute? It pacified you.
Let's just call it that.

823 M: Yeah. XXXX

824 J: I like that. That's what it did to you. That's how you're associating, remembering.
What day were you here last?

825 M: Oh let's see what is today? Wednesday, Thur....[um] Monday.

826 J: Okay. And boy you were really feeling the pains Monday, weren't you?

827 M: Um hum. Yes I was. I really was. I wasn't feeling good at all.

828 J: And once we used that massage>

829 M: Right. That massager, right.

830 J: And I was just using is up here. [What] did you consider checking into getting one of
those <vibrators>

831 M: <Yes I> did. [I] I really did. I just haven't had time to go up town. Or go K-Mart or
any place like that>

832 J: I know both would have them. And they would probably be near the pharmacy
department where they have the health aids.

833 M: Yeah. Even that one you said was too small, [it] it did the job. See [there] there's
really hard...

834 J: Yeah it feels so relaxed today.

835 M: Yeah it does.

836 J: Um, and that was one thing, you really described that beautifully today, Millie. First off, you remembered all of the goals. The main reasons why you're coming to therapy. But then once you got over your "frustration", then you were able to tell just why some of the things were here.

837 M: Most of the time I know what they are, but when I get here I can't remember them.

838 J: That's the factor, of what happens when you get anxious. How it boggles up our thinking. And that might be the simple way to express it. That, frustration, anxiety, fatigue, all of those things just make our thoughts more disorganized until (sigh) we can just ease off a little bit.

839 M: Well, I get tired.

840 J: Yes.

841 M: When I get tired I can't really talk.

842 J: See you have a lot of things that are effecting your ability to remember and your ability to stay on track with your talking. You get tired, you get tension and this artery right here; you do have medication effects.

843 M: Um hum.

844 J: That cause your head, like you said, it just feels all woozy. For a while.

845 M: That happens for quite a while in the mornings.

846 J: And you've learned to make adjustments with your day. Where you used to do everything in the morning, now you want to do your best thinking late in the morning and <early afternoon>

847 M: <Early afternoon>

848 J: That's a real adjustment you've had to make there.

- 849 M: Well, I think that it helps. [Not] you know not to be so pressured. And like [I I] I was doing in the morning.
- 850 J: What are you doing at home now? Anything to carry-over what we have been, what we have learned here in therapy or what we have talked about?
- 851 M: Oh yes.
- 852 J: Can you give me an example of that?
- 853 M: [I uh] I can talk. And I can make a sentence that's decent. You know, and [I] I can comprehend what you're trying to tell me in some things. But some people [that] that know me, and I talk to them, [they can't believe that] wonder why I'm coming to you. Because I can really talk better. You know?
- 854 J: And what do you tell them?
- 855 M: I tell them that I go to a Speech Therapist and her name's Jean-Marie.
- 856 J: And go to her and you'll sound just like me.
- 857 M: The other day when I came in, this guy that sits out there (pointing to waiting room), [he] he plays with Morgan you know? And [um] he says [uh Jean] Jean-Marie will be with you right away. I said something first like I called you, Jeanie. He said.
- 858 J: Knock on that cranium of his.
- 859 M: That was funny. I thought it was really funny. That was really a slip.
- 860 J: After all those times.
- 861 M: Um hum.
- 862 J: Have a look at this list right here. How are you feeling right now for head and neck tension?
- 863 M: [Um] Oh I would say, [it's] it's mild <today>

864 J: <Now>

865 M: Yeah.

866 J: Okay. Now when you first came in today, was it mild?

867 M: Yeah. It really was.

868 J: Okay. Good. So, that's been excellent. You started at a low level of tension and anxiety today>

869 M: Um hum.

870 J: And we're rating that a number one. Let's see if it's like that by the end of the session.

871 M: Um hum.

872 J: You're having a good day today, Millie.

873 M: I am. A lot better than the one on Monday.

874 J: Well, I need to see both kinds, don't I?

875 M: Um hum.

876 J: It's very important to me to see the better days and the worse days. And you made an effort to come in regardless of how you were feeling that day. Okay.

877 M: Well I have [uh uh I I I] there's a thing I remember is that when you give your word to somebody, [you] you keep it. (pause3 seconds) [You don't you don't] and [I] I've tried never to tell you I can't come in at the <last minute>

878 J: <That's one> of your personal values and boy I go along with you on that.

879 M: Um hum.

880 J: And that has changed so much with many people in the generation today.

881 M: Um hum.

882 J: We have a different society because people don't always keep their word or don't care.

883 M: Right. [I] I agree with that [and] and this is your job.

884 J: Right.

885 M: And so if I don't show up, you don't have anything to do [this year] this hour.

886 J: Right.

887 M: And I do like to keep it that way.

888 J: Thank you dear.

889 M: (laugh)

890 J: Now, just relax for a minute. We're going to get into some activities here for a few minutes and I want you to do one that should be real easy for you. I want you to try to make a picture in your mind of the words that I'm going to say to you. All right? So, you're going to either...let's start out with you closing your eyes. And I'm going to give you these three words with your eyes closed.

891 M: Okay.

892 J: All right? Here are the three words.

893 M: Do I have to put 'em in order?

894 J: Nope, no. The three words are frying pan, potatoes, and steak.

895 M: Um hum.

896 J: Can you see them in your mind? (pause) Okay. Now open your eyes and give me a sentence using all three words.

897 M: [Uh], would you hand me the frying pan so I can cook the potatoes and then I'll scoop the steak (laugh).

898 J: Wow. That was a long one. <And what> were the three words?

899 M: <kind of quirky>

900 J: That was an excellent sentence. What were the three words?

901 M: Frying pan, [s] potatoes and steak.

902 J: Where did you see those items in your mind? Where were they?

903 M: At a Bar-B-Que.

904 J: Ah, good. That helped you didn't it?

905 M: Um hum.

906 J: To remember?

907 M: Yes.

908 J: Okay. We're working on this visualization to help you with memory for separate things that you hear. Separate words.

909 M: Um hum.

910 J: Or separate things that you hear. All right? Now here are the <words>

911 M: Make [a] a cross somewhere 'cause I gotta tell you a story about that.

912 J: Well, tell me. Can you do it quickly?

913 M: Yes.

914 J: All right.

915 M: [When] when my kids were little like [oh] four or five, maybe three, four and five or something like that, they weren't very old. Is this on? (referring to the video camera)

916 J: Yeah.

917 M: Uh.

918 J: It's going to be on all hour.

919 M: My husband, we didn't have much money, you know, in those days and so he said let's go up to Vedauwoo [and] and cook dinner. Cook the whole dinner (emphasis on

'whole'). I say okay so we get everything ready and go up there and by that time, the kids are all filthy dirty and my pants were filthy, everything was dirty and he says [I want] let's cook potatoes, let's cook steak and all this kind of stuff. And we worked and worked and worked. He didn't work as hard as I did, so consequently he didn't get as dirty. And about that time, here drove up this car. And here was these two gals in there with these two guys. And they had on [shorts] white shorts, white sandals and they were flitting around like this [and] and I says let's go home. Let's go home. I'm not ever going on another picnic ever. And do you know I didn't go on another one for at least five or six years.

920 J: What disturbed you so much about those young people?

921 M: 'Cause they was my age only I was dirty.

922 J: Oh. (laugh) I didn't expect that answer.

923 C: (laugh)

924 J: Oh boy, you remember that <don't you that Bar-B-Que and cooking out. That was an instant association>

925 M: <Um hum. I do remember it. [I was so emb] I was embarrassed>

926 J: Isn't that fun to look back? We're at an age where we can look back and we can say how silly. We can laugh at things that were so serious for us then but we can really laugh>

927 M: Yeah, but ya' see I didn't have [the] the real brains at the time. You know? And you get jealous and (laugh)...

928 J: Yeah. Yeah. Cute. And I thought you don't want your husband seeing all of this either?

929 M: There wasn't anything I could do about it.

930 J: (laugh) Okay. All right. Are we back on task?

931 M: Um hum.

932 J: Okay. Here are the words. Close your eyes: haircut, Tuesday, style, appointment.
Keep your eyes closed, I'm going to say them again: haircut, Tuesday, style,
appointment.

933 M: Haircut, style, appointment>

934 J: Tuesday.

935 M: Tuesday is right after haircut. Haircut, <haircut...haircut...haircut>

936 J: <Have you got them in your mind? Do you have a picture in your mind?

937 M: Haircut...style...haircut...haircut...style...Tuesday...

938 J: Appointment.

939 M: Appointment.

940 J: Open your eyes. Give me a sentence with those words.

941 M: Um. Mr. Jones had an appointment with the barber and had to go in on Tuesday for a
hairstyle. I repeated hairstyle.

942 J: Okay, what you did. That was a good sentence, Millie.

943 M: Not really.

944 J: You were trying so hard to hold onto those words>

945 M: Haircut...style>

946 J: What you did, let me show you.

947 M: Yes.

948 J: All right. At the end, you said he had an appointment for a hairstyle, so you were trying to hold onto four words>

949 M: Oh.

950 J: And you combined two of them in order to hold onto those. Now that was quite acceptable.

951 M: Uh huh.

952 J: There was just one little part you missed there. It was harder to see those things in your mind that time, wasn't it?

953 M: Yes.

954 J: Okay. And something else that I did. Instead of just giving you three words, how many did I give <you>

955 M: <Four>

956 J: Okay. Okay. But I want to push you and see if we can go up to four>

957 M: Um hum.

958 J: On some things.

959 M: I know that.

960 J: All right? This was acceptable. You gave Mr. So-and-so had an appointment on Tuesday to go in and have and you said hairstyle for the extra word haircut.

961 M: Well, see they don't call 'em haircuts anymore, they call 'em hairstyles.

962 J: All right, <and that's why that would be an acceptable>

963 M: <And that's why I said that>

964 J: All right. Close you eyes. Here are the words: travel agent, December, Hawaii, reservation. Can you form a picture of those, Millie? I'll say them again: travel agent, Hawaii, December, reservation.

965 M: Uh. (pause 8 seconds) What was the first word please?

966 J: Travel agent.

967 M: Travel agent. Okay, [that] Mr. Jones went to the travel agent uh....because they were going to Hawaii...Mr. Jones

968 J: Keep on going.

969 M: Uh.

970 J: Went to the travel agent.

971 M: Went to the travel agent...

972 J: Because they were going to Hawaii...

973 M: Yes. I forgot.

974 J: Answer the question when?

975 M: Tuesday, no Wednesday, Friday...

976 J: No, it was a month.

977 M: A month. They were going to be gone in a month. What'd you say?

978 J: Here are the words again. Close your eyes. Don't make it too hard. Try to picture, these are the key points here: travel agent, Hawaii, December, reservation.

979 M: Mr. Jones had a reservation for December and they were going on their way to Hawaii...

980 J: Stop, right there. You've got all four words.

981 M: Where was the fourth?

982 J: You just said them. Mr. Jones had a reservation for December to go with a travel agent to go to Hawaii. I didn't repeat it back exactly, but you did get all four words in, right there.

983 M: What was the second one?

984 J: The second one. I've forgotten.

985 M: I'm sorry.

986 C: XXX Are you helping her out?

987 J: Yes. Please do. Okay. These are two of the words: reservation, Hawaii. What were the other two words?

988 M: Reservation...Hawaii...December...

989 J: Who's going to make the reservation?

990 M: Travel agent.

991 J: There you go.

992 M: Yes.

993 J: Good job. Good job. With minimal cuing. Are you still at a low tension level?

994 M: No, I'm listening to you.

995 J: Are you at a low-tension level?

996 M: No...yes I am.

997 J: Okay. Okay>

998 M: Yes I am.

999 J: 'Cause I saw a little frown coming in your face there and I <wondered>

1000 M: <Well>

1001 J: If the tension was building.

1002 M: It wasn't tension, it's because I couldn't remember the words.

1003 J: Okay. Okay. So, you were a little bothered, little bit. We'll go ahead.

1004 M: Okay.

1005 J: All right. Here are the words. One more of these we're going to do.

1006 M: Okay.

1007 J: You really were forming a picture that time, those were ones that could give you a good picture. Let's see if you can...there's only one word that will be hard for a picture here.

1008 M: Um hum.

1009 J: Close your eyes. Okay: salesclerk, music, store.

1010 M: There's three: salesclerk...oh wait...salesclerk...oh I had 'em.

1011 J: Take your time.

1012 M: Salesclerk...

1013 J: Do you want to ask me something?

1014 M: Yes, please.

1015 J: Okay, you want me to say them again?

1016 M: Um hum.

1017 J: Okay. Here are the three words, keep your eyes closed: salesclerk, music>

1018 M: There it is. Music.

1019 J: Store.

1020 M: Music, store. Salesclerk, music, store.

1021 J: Say it in a sentence.

1022 M: Oh. Uh, the salesclerk worked in a music store...

- 1023 J: XXX That's good. All right. I wasn't thinking of it that way, but that certainly would work.
- 1024 M: Oh. I thought it had to be exactly like you say it.
- 1025 J: No. It doesn't have to be in order, or <anything else>
- 1026 M: <Okay> Okay.
- 1027 J: Okay. I want to take that same one. The salesclerk worked in a music store. I want to add one more word with that this time>
- 1028 M: Salesclerk...music store.
- 1029 J: Okay. I want you to try to add one more word to your sentence. Here we go.
Salesclerk, music, loud, store.
- 1030 M: Salesclerk, music, loud, store. The salesclerk had a headache because the music was loud...
- 1031 J: Where?
- 1032 M: In the store.
- 1033 J: Bingo. I'm so proud of you!
- 1034 M: God.
- 1035 J: You got there!
- 1036 M: Isn't that funny how that isn't easy? (looking to C)
- 1037 J: Good for you!
- 1038 C: That was great.
- 1039 J: Good for you! You started and you were doing three and you moved yourself up to four.
- 1040 M: I did.

- 1041 J: And all those fit in in your own sentences>
- 1042 M: Jean, you know you are the one that helps me. You always praise me. And I think, jeeze, I must drive you crazy.
- 1043 J: You don't, Millie, not at all. You deserve that. I try not to do that when you don't. And I know when you're putting your maximum effort into it.
- 1044 M: Um hum.
- 1045 J: All right?
- 1046 M: Yes.
- 1047 J: And I was very pleased with those today.
- 1048 M: Good.
- 1049 J: That was a technique I want you to use wherever possible, even when you're thinking of groceries you need XXX (tape problem)
- 1050 J: ...that dish you're going to be cooking. And what you have to pick up>
- 1051 M: Um hum.
- 1052 J: ...at the store.
- 1053 M: Um hum.
- 1054 J: All right?
- 1055 M: Um hum.
- 1056 J: Um, you make a picture of it in your mind...to remember things. We had done this some time ago you were talking about a picnic and you made a picture in your mind of what are those things that I'm going to need to go with the hamburgers. All right. That helped you remember the other food items?
- 1057 M: Um hum.

1058 J: We talked about your back yard. Things you were going to attend to.

1059 M: Um hum.

1060 J: Um>

1061 M: Oh I remember that one, yeah.

1062 J: You were forming a picture in your mind. You were doing beautifully with that. That technique. That's a recall technique.

1063 M: That's good.

1064 J: Okay. At the end of the hour I'm going to ask you to remember pictures to help me remember things.

1065 M: Um hum.

1066 J: Pictures in my mind to help me remember.

1067 M: Um hum.

1068 J: Do you need another tape in there? (to Cathy) What time is it?

1069 C: One thirty-five.

1070 J: Oh we're good. We're doing fine. Let's do a bit of listening memory for a minute. And I'm just going to ask you some yes/no questions.

1071 M: Okay. Those will probably be harder yet.

1072 J: I'm going to expand the length of this just a bit, but they're only yes/no questions.

1073 M: Okay.

1074 J: The first one has to do with microwave ovens.

1075 M: Okay.

1076 J: Which you do have?

1077 M: Yes.

1078 J: So, you're familiar with it. And I think Cathy and I definitely, we're familiar. Very few households do not have a microwave, anymore. Here's a little bit of the background on this.

(Video stopped to change tape-- Jean-Marie reads short segment about microwave ovens and a yes/no question-answer session ensues. Following the questions, another short paragraph is read concerning a cruise trip and Wh-questions are presented. Following the listening exercises, conversation resumed.)

1079 J: Did you get more when you heard it the second time?

1080 M: The second time [was] there was more [to] for me to hear.

1081 J: Yeah. I think that time>

1082 M: I can't remember that, isn't that terrible? I sat here and I really listened.

1083 J: Right. And you were really concentrating. Could you see it in your mind?

1084 M: Yes.

1085 J: You could see it in your mind?

1086 M: Right.

1087 J: You know what happens?

1088 M: And what I was trying to really remember was when that was going to take place.

1089 J: All right. And I think that your point...when you then concentrate on one fact, it's hard to catch up to the person for the rest of the facts. 'Cause you were saying, "Oh, when was that cruise, that cruise was in November, September, November when was it?" And all of a sudden you've lost the next sentence or two.

1090 M: I can't hear the first of it and remember the second.

1091 J: You're trying very, very hard to hang onto certain details in there.

1092 M: Um hum.

1093 J: But, the fact is that you're pulling good information from that. Right now you're pulling about sixty, sixty-five percent of the information. And definitely you get more from it if you hear it two times.

1094 M: Um hum.

1095 J: Okay. You think that oughta take care of it today? I think we've had a good session today.

1096 M: That there, [can] that kinda...swayed me. [It um] That wasn't as good.

1097 J: We'll do some more of that.

1098 M: Perhaps it was because it was longer, I don't know.

1099 J: It was a little longer. And I purposefully>

1100 M: Um hum>

1101 J: ...got it up there because I want to get you to the point where you can just hear a story that has factual information on TV and you're going to be able to, right afterwards say, remember at least three of those facts>

1102 M: Um hum>

1103 J: ...on that and get them straight. Okay. And a new story is not always two or three sentences. It might be as long as this one that I gave you.

1104 M: Um hum.

1105 J: Okay. All right. I hope tomorrow we can>

1106 M: [You there] Sometimes there's things like that story you just told me, you just had.

1107 J: Um hum.

- 1108 M: That if we were talking, just normally...
- 1109 J: Um hum.
- 1110 M: I might be able to remember more. It's the fact that you've read it.
- 1111 J: Okay.
- 1112 M: [You you] Do you see what I'm trying to say?
- 1113 J: Yes. And I think that's a good point Millie. If it were just a one-to-one very casual conversation, you might be, um, for some reason, it's just more natural to you, isn't it.
- 1114 M: Yeah. [You] you would be able to have like a conversation.
- 1115 J: Okay.
- 1116 M: [When it's] when it's printed out, I'm trying to keep track of all these facts>
- 1117 J: Right. I think you have to listen for such a long period of time that you start missing the point.
- 1118 M: Yeah, because way back up here I'm still trying to remember that one point.
- 1119 J: And that's probably why you do so good in conversation. You hear a couple things, you can react to what the other person is saying. Then they'll say a few more things. Then you're reacting to what they're saying. And you somehow are able to put it together. And it sounds good.
- 1120 M: In a conversation.
- 1121 J: Right. Right.
- 1122 M: Um hum.
- 1123 J: After all, that's what most of your life is going to involve anyway, isn't it.
- 1124 M: A conversation, yes.
- 1125 J: Yeah. So we don't want to get too hung up on this.

1126 M: But [I] I wondered if you understood what I was saying?

1127 J: Yes. I did follow what you were saying.

1128 M: Uh huh. That's how you have a conversation between two people.

1129 J: Um hum.

1130 C: You can ask for clarification if you need to>

1131 M: Right. [It it it] I know [it's] it's hard, but [I I] I have, I'll tell you Jean, is [I at mornings] some mornings when I don't feel good I get up and oh god I can't think of the name, I can't remember the person or something, I can come in here with you and I can remember.