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FLUENCY BEHAVIOR DURING HYPNOTIC AGE REGRESSION

BY

Sharon L. Whitehouse


B.A., University of Kentucky, 1954

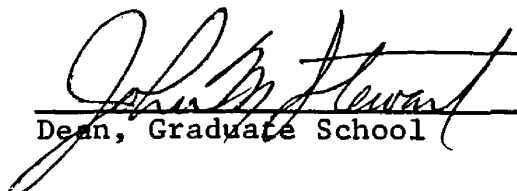
Presented in partial fulfillment of the requirements for the degree of  
Master of Arts

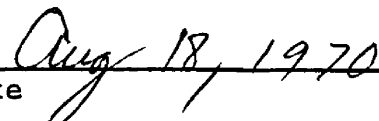
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1970

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## CHAPTER I

### INTRODUCTION

The development of stuttering is largely known from a compilation of information gathered from many stutterers of various ages, and rarely has the development of stuttering been observed and recorded in single individuals from a very early age through adulthood. In this study, hypnotic-age-regression was used as a means of collecting and sampling speech behavior for two adult stutterers at selected "regressed" ages. On the basis of measures of fluency characteristics of speech behavior which are indicative of certain developmental phases of stuttering, it may be believed possible to compare the speech of each age, and observe with reasonable accuracy the progression of stuttering behavior in an individual. It was the purpose of this study to make a clinical evaluation of the fluency behavior of two individuals whose fluency behavior was thought to have changed during their developmental years, using hypnotic age regression as a technique for observing the speech behavior over a wide age range.

Stuttering was used in this study to refer to a developmental communication disorder involving anxieties about dysfluencies as well as the dysfluencies themselves. Stuttering was also used to label the dysfluencies of the clinical population called stutterers (25, p. 1). Dysfluencies include interjections of posturings, sounds, syllables, words or phrases; repetitions of posturings, of parts of words, words



or phrases; revisions; incomplete phrases; broken words; and prolonged postures, sounds or parts of a word.<sup>1</sup>

Dysfluencies occur among many young children who do not become stutters (10, 12, 14, 57). In the development of stuttering, however, there is thought to be an increase in speech associated anxiety, which leads to dysfluent speech (11, p. 30) and distinctive speech patterns (27). The development of stuttering is a continuous process which varies with each individual, but certain characteristics tend to be more evident within certain age groups. These characteristics which differ at the various phases of stuttering include type and number of dysfluencies, locus of stuttering in a sentence, part of speech stuttered, and a number of associated symptoms (7, 8). Some of these characteristics are further defined in Appendix B.

Longitudinal studies in the areas of speech behavior other than stuttering have been done with one or more subjects. This writer knows of no longitudinal studies regarding stuttering. Speech behavior concerning dysfluency has been analyzed in children at specific ages (10, 12, 14), in adults (27), or from case records of a cross section of stutters of many ages (5). As a means of systematically and longitudinally investigating the stuttering behavior of an individual, hypnotic-age-regression<sup>2</sup> should be an effective tool. Hypnotic-age-regression was used in this way in a study by Bergman, et. al. (2).

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<sup>1</sup>See Appendix B for further description of these categories.

<sup>2</sup>For a discussion of the phenomena of hypnosis and age regression see Appendix A

A twenty year old soldier was administered the Rorschach Test at regressed alternate age levels and the results "appeared to factually reflect various stages in (his) personality development" (2, p. 28). In an experiment by Watkins (32), subjects regressed to ages six through ten were found to have a great lack of ocular coordination when reading.

A search of the literature for studies involving the use of hypnosis and age regression in the study of language, speech and/or stuttering revealed relatively few studies. Maïorov and Suslova (34) performed controlled experiments using hypnotic-age-regression, and determined that the articulation of five subjects at the "regressed" ages of one to six corresponded to that observed in the natural development of articulation in children. They also noted the following specific variations which corresponded to those reported as occurring during the subject's actual childhood. In one subject, "stuttering" was observed in ages two, three, four, five and six, but not at seven, eight, nine or ten. Earlier speech development was observed in one subject, a lag in speech development was noted in another, and still another spoke the Ukranian language of her childhood. Young (57, p.278) reports that experimental subjects in his experiment "felt very young (and) their speech and grammar as well as their mannerisms were childish . . . ". This is reported in the summary and conclusions, and a detailed description is not given.

In a study by Moore (37), the stuttering of twelve subjects increased under hypnosis when the subjects were talking about an unpleasant memory. Moore found that all his subjects were fluent when hypnotized and had a deep sense of relaxation. Schneck (46, p. 69)

reports a subject who relived experiences while hypnotized and apparently stuttered as he did during the actual experience. Hypnosis has been used as a method for treating stuttering. Hypnotherapy is commonly used in conjunction with age regression as a means of uncovering subconscious conflicts, memories and feelings. Posthypnotic suggestion is used to help achieve fluency and to desensitize to anxiety producing stimuli (11).

The criticisms of the hypnosis literature concerning stuttering include a lack of objective reporting of clinical experience, a failure to report depth of trance and severity of stuttering, and a lack of followup over a sufficient period of time to determine effectiveness of treatment (16, 41). There has been very little experimental hypnosis done with stutterers; most of the literature reported represents clinical experience.

The only study reported which uses age regression as a technique for observing speech behavior was that of Mairov and Suslova (34) who studied articulation. This study describes the fluency and fluency associated behavior of two adult stutterers at various "regressed" age levels and was conducted as an exploratory study for future clinical or research applications. It was expected that changes in fluency and fluency associated behavior could be demonstrated across the various "regressed" age levels using subjects who exhibited symptoms of "advanced stuttering behavior".

## CHAPTER II

### PROCEDURES

The general procedures followed in this study samples the speech behavior of the two subjects while in a hypnotized state. Fluency characteristics of their speech were observed and compared within four "regressed" ages, the adult awake and adult hypnotized conditions.

#### I. PARTICIPANTS

To assure that the subjects had experienced most of the features of stuttering to be measured, their speech behavior must have exhibited the outstanding features of the phase four stutterer as described by Bloodstein (8, p. 374):

1. Vivid anticipations of stuttering.
2. Special difficulty in response to various sounds, words, situations, and listeners.
3. Frequent word substitution and circumlocution.
4. Avoidance of certain speaking situations.
5. Other evidences of fear and embarrassment.

Subject selection was made by a speech pathologist.<sup>1</sup>

Seven subjects were invited to participate in the study. The hypnotist<sup>2</sup> screened the subjects for those who could be hypnotized into

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<sup>1</sup>The speech pathologist holds a Ph.D. in Speech Pathology and Audiology and a Certificate of Clinical Competency of the American Speech and Hearing Association.

<sup>2</sup>The hypnotist is a diplomate and past president of the American Board of Examiners in Psychological Hypnosis, and a past president of The International Society for Clinical and Experimental Hypnosis.

a "deep" trance. At that time the hypnotist answered any questions the subjects may have had regarding the phenomena of hypnosis. They were told that in the experiment the subject would be hypnotized to see how he had stuttered as a child. Three subjects were chosen. Of these, one partially completed the tasks and was considered a trial subject.<sup>3</sup> The remaining two were a male of thirty years and a female of twenty-one years. One had been hypnotized once before the experiment, and one was hypnotized twice before the experiment, all of which were in preparation for this experiment. Both subjects performed all the tasks at one session, which in both cases took approximately two hours.

## II. HYPNOTIC PROCEDURES

The subjects were hypnotized by an eye fixation technique.

By observing the responses of the subject, the hypnotist was able to determine whether or not the trance depth was sufficient to initiate age regression, and whether or not the age regression appeared to have been achieved. Due to the fluctuations in depth of response

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<sup>3</sup>This subject exhibited more severe stuttering behavior at the "regressed" age thirteen. Later the subject reported that at the "regressed" age of ten she "couldn't understand why she was talking this way", and at the "regressed" age of seven she told the hypnotist she didn't think she was in a trance. She later was unwilling to continue as a subject for the experiment and felt that the experience had caused her to stutter more. It appears that the former stuttering patterns became so noxious to the subject they nullified the hypnotic trance and raised her anxiety regarding her speech. Both the hypnotist, a clinical psychologist, and a speech pathologist who specializes in stuttering therapy were available for counseling with this subject.

during the individual sessions, the hypnotist made constant subjective evaluations, and at times felt it necessary to "deepen" the trance before continuing the experimental tasks.

The ages to which the subjects were regressed were four, seven, ten, and thirteen: these ages broadly coincide with Bloodstein's four developmental phases of stuttering behavior. It is recognized that the ages at which an individual may be in one or another phase of stuttering vary markedly. The intervals between the selected ages seemed sufficiently wide to reasonably expect differences in the speech behavior if stuttering actually developed during childhood. The order of the conditions was as follows: adult hypnotized state, "regressed" ages of thirteen, ten, seven, four, and finally the adult awake state.

### III. TASKS

During each of the six conditions the subject was presented with a variety of tasks. The Goodenough Intelligence Scale was administered for all six conditions and the subject was asked to write his name and age. These tasks were used as a validity check for age regression. The hypnotist used the following statements:

On this paper, write your name and age. Now I want you to make a picture of a man. Make the very best picture that you can. Take your time and work very carefully. Try very hard and see what a good picture you can make.

A communication stress situation task was administered in differing form for the various conditions. Because the situation which creates more stress varies with the age, the stress task at the "regressed" age of four and the adult awake condition differed from that used for the other four conditions. At the "regressed" age of

four, the hypnotist suggested to the subject that he was in front of a group of people who were visiting in his home; he was to state his name and recite a poem or a nursery rhyme he knew. At the "regressed" ages of seven, ten and thirteen, he was to state his name and recite the Pledge of Allegiance before his classmates in the schoolroom. In the adult awake condition only, the subject performed this task in the presence of one observer who was unknown to the subject.

Due to the fluidity of the trance state, a stress situation could not be maintained throughout the entire experiment. To help preserve the "deep" trance state, the remaining tasks were accomplished through conversations between the subject and the hypnotist.

For each of the six conditions, a common stimulus task, the CAT card #7<sup>4</sup>, was used to elicit spontaneous speech. The hypnotist asked the subject to tell him a story about the picture. The CAT card responses were also used as a validity check by ranking the language age of the response, as judged by two speech pathology graduate students. The hypnotist then talked with the subject about a topic which was appropriate to his age level and interests. In the adult conditions the subjects discussed courses taken at the university, summer vacation plans, or current work activities. At younger "ages" school, play activities, and friends were discussed.

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<sup>4</sup>Leopold Bellak, Children's Apperception Test, (2nd ed.; New York: C.P.S.CO., 1952).

A final task, speech awareness, was a series of questions designed to help show the awareness and concern the subject may have held for his speech behavior at the various ages observed. The questions asked were as follows:

How do you feel about the way you talk?  
Do you expect to have trouble talking? If so, how?  
Do you avoid talking? If so, how?

The procedures as they were presented to the hypnotist are given in Appendix C. The hypnotist deviated from those procedures as follows. The Goodenough Intelligence Scale instructions were given generally rather than verbatim. At the "regressed" age of ten subject "A" appeared agitated, and to maintain a "deep" trance state the hypnotist altered the procedure by eliminating the common stimulus task, the telling of a story about the picture on CAT card #7. Because the subject appeared more withdrawn during each successive "regressed" age, particularly in response to the CAT card at the "regressed" ages of ten and seven, the hypnotist did not ask for a recitation of the CAT card story at the "regressed" age four. Also, at the "regressed" age of four the phrasing of the questions regarding "A"'s speech behavior was altered to be more appropriate to his age level and apparent emotional state. Subject "B" was not asked to state her name at the "regressed" age of four.

#### IV. MEASUREMENT PROCEDURES

The subject and the hypnotist were alone in a room which was equipped with two cameras and two microphones. The video-tape equipment was operated from an adjacent room. One camera with a zoom lens was focused on the head and upper portion of the subject's body. When the subject stood to recite the Pledge of Allegiance, the camera was



re-focused by remote control to remain on the head and the upper portion of the subject's body. A second camera was stationary and positioned to include the entire body when seated. When the subject stood, the camera then only focused on the subject's lower torso, which included the lower arms and hands, and legs.

The speech sample included all the subject's verbiage after the trance induction procedure had been completed, excepting that which was spoken while the subject performed the Goodenough Intelligence Scale. Because this was essentially a silent task this procedure was not videotaped.

In transcribing the speech, both auditory, visual and contextual cues were used, and the speech was analyzed into units of phonemes meaningful to the transcriber. Due to the signal-to-noise ratio or very soft and rapid speech, four or five instances of words were relatively indistinct and difficult to analyze. Two judges<sup>5</sup> separately replayed the tape as much as necessary to analyze the tapes. The transcriptions were then compared and discrepancies were listened to again by both judges and an agreement was met.

Measurable dimensions of speech behavior were selected from Luper and Mulder's diagnostic categories (33, pp. 20-21). The following features of speech were tallied for each "regressed" age and state: number

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<sup>5</sup>The experimenter acted as the senior judge and a student in Speech Pathology and Audiology with training in stuttering served as the second judge.

of words; kinds of dysfluencies<sup>6</sup>; the number of instances of dysfluencies; the part of speech on which the dysfluencies occurred (major or relational words); in which part of the utterance the dysfluencies occurred; associated symptoms and rate.<sup>7</sup>

In judging dysfluencies, the judges together analyzed the tape of the trial subject until agreement was reached on the dysfluencies. To agree on the dysfluency behavior referred to as "posturing", which was observed only in the speech of subject "B", the judges together analyzed the Pledge of Allegiance in the adult hypnotized condition for subject "B". The dysfluency measurements were based on the judging done by the experimenter. The second judge was used as a reliability check on the experimenter's judgments. For any segment of speech from the respective subjects for which there was not 90% or greater agreement between the experimenter and the second judge, the tapes were replayed and a mutual agreement was reached.

Associated symptoms were observed and tallied from the time the hypnotist stopped talking until the subject stopped talking. Any movement of a body part occurring within a one second interval was given a value of one. If an eyeblink and a flaring of the nostrils both occurred within the same one second interval, a value of two was given. A metronome was used to mark the one second intervals. Hand counters were

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<sup>6</sup>It is recognized that all dysfluencies of stutterers are not stuttering instances but are what some call "normal dysfluencies". However, due to difficulty in differentiating the two, in this study all dysfluencies were analyzed and the assumption was made that the dysfluencies exhibited represent stuttering.

<sup>7</sup>See appendix B for a detailing of these categories.

used to tally the movements.<sup>8</sup> The two judges counted the associated symptoms independently. If the two judges' tallies were not identical but within 90% of the highest tally, a mean of the two tallies was used. If the agreement was less than 90%, the judges repeated the tally until they were within 90% agreement and then a mean was used.

The speech awareness task was analyzed according to the total number of dysfluencies.

Dysfluencies and associated symptoms results were computed per 100 words:

$$\frac{\text{the dysfluencies or associated symptoms}}{\text{number of words}} \times 100 =$$

Two measures of rate were recorded. One measure was made to determine how much the subject talked in the time permitted by the hypnotist. A stopwatch was used to measure the interval from the moment the hypnotist stopped talking until the subject stopped talking. This is referred to as "total rate". A second measure of rate was made to indicate how fast or how fluent the subject was in a given burst of articulation. This time interval was measured from the time the subject was observed either auditorily or visually to begin an utterance until the utterance was ended. This is referred to as "utterance rate". For both, rates were calculated as the number of words spoken per second, and are mean rates for the responses of the separate tasks for each condition.

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<sup>8</sup>The method used to tally the associated symptoms was taken from J. R. Means, "Gestural Behavior Under Stress", (unpublished M.A. thesis, University of Colorado, 1960).

The experimenter tallied the number of words, parts of speech, marked off utterances, and determined position of dysfluency in utterance according to the rules and descriptions described in Appendix B.

For a measure of language age, the responses to the CAT card for each subject were placed in random order and two graduate students of speech pathology were asked to place them in rank order according to language age. The instructions were as follows:

As part of my thesis experiment, the subjects were asked to tell a story about the picture on CAT card #7. The following are their responses made during varying hypnotic conditions and/or regressed ages. All the responses do not necessarily represent different age levels or refer to equally spaced intervals of age.

Rank order these responses according to language age, beginning with the youngest age. Mark a number "1" beside the response which seems to represent the response made at the youngest age, a "2" beside the next age response, etc.

For both subjects, the Goodenough Intelligence Scale was analyzed and judged by a speech pathologist.<sup>9</sup>

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<sup>9</sup>The speech pathologist holds a Ph.D. in Speech Pathology and Audiology and has considerable experience in evaluating the Goodenough Intelligence Scale.

## CHAPTER III

### RESULTS

Speech samples and associated behavior were obtained from two adult stutterers while they were hypnotized. The data was transcribed, judged and tallied according to type of dysfluencies, loci of dysfluency in utterance, part of speech on which the dysfluency occurred in the utterance, number of words, rate, and associated symptoms.

All tasks were completed by both subjects with the following exceptions. Subject "A" refused to complete the Pledge of Allegiance at the "regressed" age of thirteen. He then refused to state his name or recite the Pledge of Allegiance at the "regressed" ages of ten and seven. At the "regressed" age of four he was not asked for this information (see Chapter II). Subject "B" did not complete the Pledge of Allegiance at "regressed" age thirteen and was not asked to repeat her name at the "regressed" age of four.

These results were examined from an intra-subject point-of-view. The patterns and changes observed among the five hypnotized conditions and between the hypnotized and awake conditions are reported separately for each subject. An initial examination of the results indicated that type of speech, spontaneous and memorized, were independent variables; therefore the data for spontaneous and memorized speech are reported separately. Tables I and II present the data for Subject "A" for spontaneous and memorized speech respectively, and Tables III and IV present the data for Subject "B". In these tables, the data is presented in the same order as the tasks were presented to the subject

TABLE I  
RAW DATA - SUBJECT "A"

## Spontaneous Speech

Dimensions Measured	CONDITIONS					
	AH	13	10	7	4	AA
Number of Words	146	116	105	100	78	119
Total rate/wps	1.46	.94	.70	.60	.75	1.54
Utterance rate/wps	2.22	2.81	3.34	3.65	3.30	2.00
Total dysfluencies/100w	16.43	17.24	12.38	7.0	5.12	33.61
for Speech Awareness Task	17.02	18.75	13.04	7.25	0.0	33.33
Repetitions/100w	2.74	4.31	2.85	2.0	1.26	6.72
Prolongations/100w	4.79	4.31	1.90	0.0	.0	13.44
Proportion of repetitions to number of repetitions and prolongations	30%	50%	60%	100%	100%	33%
Associated Symptoms/100w	106.1	85.3	88.5	86.9	74.3	120.2
Locus of Dysfluency						
Beginning	13	8	5	2	2	17
Middle	11	12	8	5	1	24
Proportion at beginning to total	54%	40%	38%	28%	66%	41%
Parts of Speech						
Relational words	2	9	3	-	1	13
Major words	9	5	5	5	0	15
Proportion of relational to total	18%	64%	16%	0%	100%	46%

TABLE II  
RAW DATA - SUBJECT "A"

Memorized Speech

Dimensions Measured	CONDITIONS		
	AH	13	AA
Number of words	36	23	36
Total rate/wps	1.58	.25	1.88
Utterance rate/wps	2.73	2.62	4.05
Total dysfluencies/100w	0	56.5	27.7
Repetitions/100w	0	30.43	0
Prolongations/100w	0	21.7	27.7
Proportion of repetitions to number of repetitions and prolongations	-	58%	100%
Associated Symptoms/100w	13.8	800.0	16.6
Locus of Dysfluency			
Beginning	0	5	1
Middle	0	8	0
Proportion at beginning to total	-	38%	100%
Parts of Speech			
Relational words	0	6	0
Major words	0	7	1
Proportion of relational to total	-	46%	0%

TABLE III  
 RAW DATA - SUBJECT "B"  
 Spontaneous Speech

Dimensions Measured	CONDITIONS					
	AH	13	10	7	4	AA
Number of words	105	110	151	202	107	142
Total rate/wps	.55	.63	.83	1.30	1.32	1.12
Utterance rate/wps	2.03	.97	.87	2.80	2.62	2.45
Total dysfluencies/100w	95.2	119.09	115.8	82.6	114.02	64.08
for Speech Awareness Task	13.51	142.70	155.0	109.3	86.11	54.00
Repetitions/100w	18.09	20.9	20.5	8.41	14.9	8.4
Prolongations/100w	26.2	42.7	49.6	27.7	43.9	23.3
Posturings/100w	24.76	39.09	20.53	14.8	28.03	16.2
Proportion of repetitions to number of repetitions and prolongations	40%	32%	29%	23%	25%	27%
Associated Symptoms/100w	423.8	572.7	581.4	227.2	558.7	281.8
Locus of Dysfluency						
Beginning	26	41	30	15	36	15
Middle	72	86	145	112	86	76
Proportion at beginning to total	26%	32%	17%	11%	29%	16%
Parts of Speech						
Relational words	15	29	40	32	27	7
Major words	29	7	98	74	72	46
Proportion of relational to total	34%	80%	28%	30%	27%	13%



TABLE IV  
 RAW DATA - SUBJECT "B"  
 Memorized Speech

Dimensions Measured	CONDITIONS					
	AH	13	10	7	4	AA
Number of words	39	17	33	33	28	33
Total rate/wps	.66	.37	.60	1.06	1.46	.33
Utterance rate/wps	.60	.30	.74	1.11	1.60	.36
Total dysfluencies/100w	38.4	176.4	96.9	63.6	32.4	151.5
Repetitions/100w	28.2	4.11	15.1	14.3	0.0	24.24
Prolongations/100w	53.8	64.7	48.4	42.4	21.4	75.7
Posturings/100w	51.28	58.8	30.3	9.09	0.0	51.5
Proportion of repetitions to number of repetitions and prolongations	34%	38%	23%	22%	100%	24%
Associated Symptoms/100w	417.9	705.8	496.9	333.3	125.8	830.9
Locus of Dysfluency						
Beginning	13	17	3	3	1	6
Middle	40	13	29	18	8	44
Proportion at beginning to total	24%	56%	9%	14%	11%	12%
Parts of Speech						
Relational words	18	13	20	12	3	23
Major words	35	16	12	9	6	27
Proportion of relational to total	33%	44%	62%	57%	33%	46%

in the study. For each dimension measured, the data for each of the conditions were placed in rank order from that which is suggested by the literature on stuttering (7, 8, 27) to be least-stuttering-like behavior to that which is most-stuttering-like behavior. These dimensions were plotted in Figures I, II, III, and IV, to visually identify patterns and relationships with data from spontaneous and memorized responses separated.

The results for proportion of repetition to prolongation, loci of dysfluency, and relational and major words were not charted in the figures as the results on these measures did not suggest any meaningful pattern.

#### I. ADULT AWAKE AND ADULT HYPNOTIZED CONDITIONS

A comparison between the two adult conditions regarding severity is noted. In general, subject "A" demonstrated more severity (more stuttering-like-behavior) in the adult awake condition than in the adult hypnotized condition. The spontaneous speech in the adult awake condition increased in stuttering-like-behavior on seven of the eight dimensions. In memorized speech, "A" increased in stuttering-like-behavior on three of the six dimensions, decreased on two, and the results were identical on one dimension. Subject "B" generally decreased in severity in the adult awake condition. On spontaneous speech, "B" showed a decrease in severity on six of the dimensions in the adult awake condition, and an increase on one of the nine dimensions plotted. For memorized speech, "B" increased in severity in the adult awake condition from the adult hypnotized condition on five of the seven dimensions plotted.

FIGURE I

SUBJECT "A" - SPONTANEOUS SPEECH

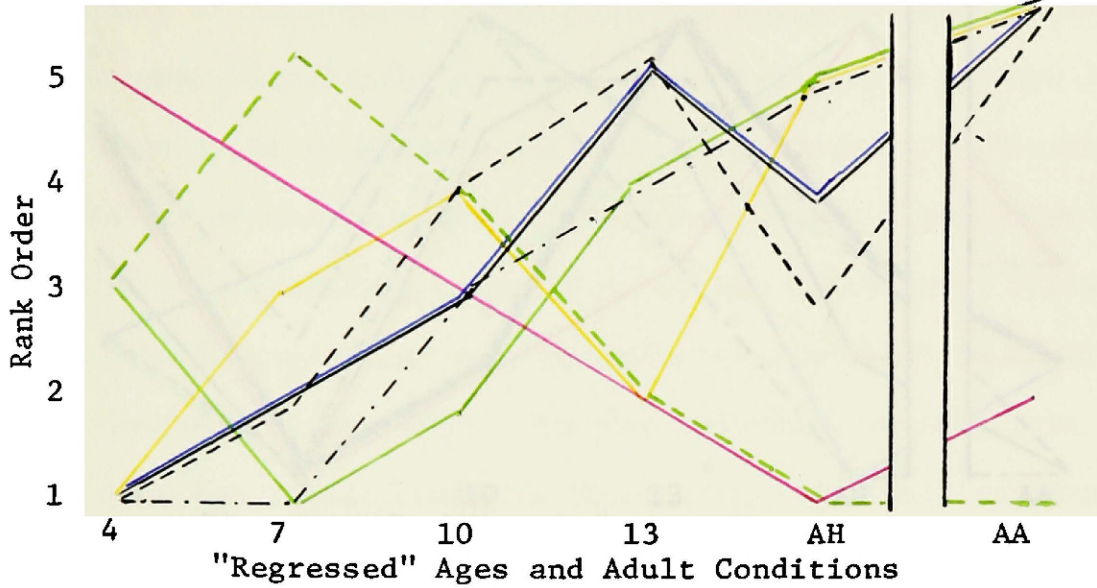
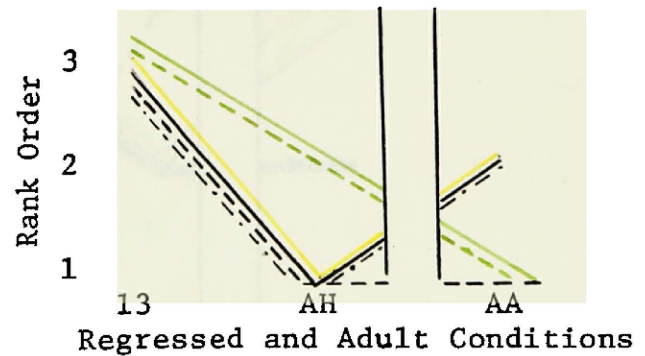


FIGURE II

SUBJECT "A" - MEMORIZED SPEECH



Legend

- Number of Words —————
- Total Rate —————
- Utterance Rate - - - - -
- Total dysfluencies for Speech Awareness Task —————
- Repetitions - - - - -
- Prolongations - . . . . .
- Associated Symptoms —————

FIGURE III  
 SUBJECT "B" - SPONTANEOUS SPEECH

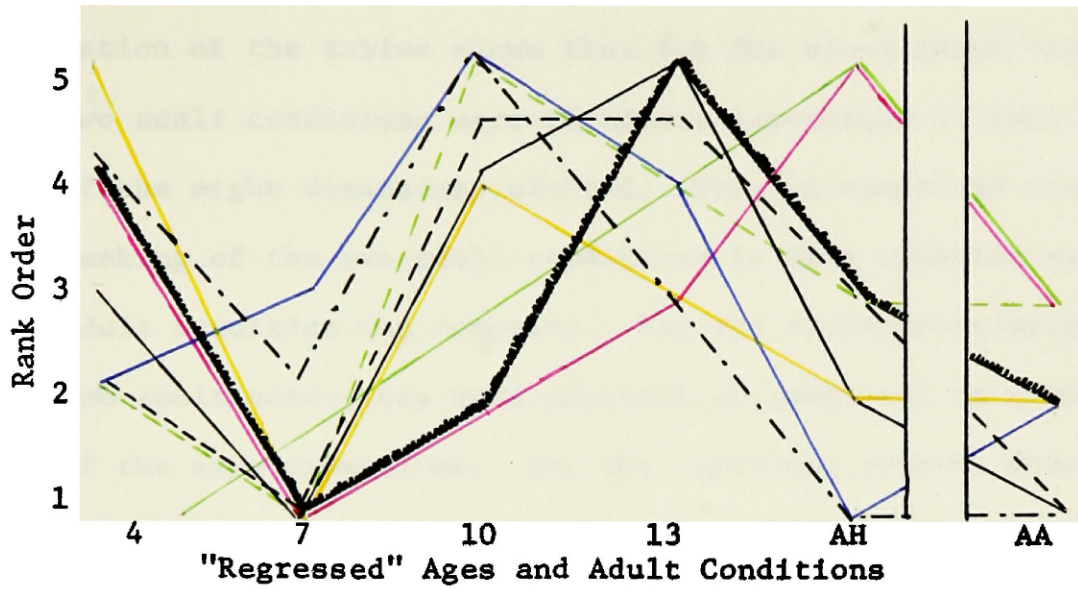
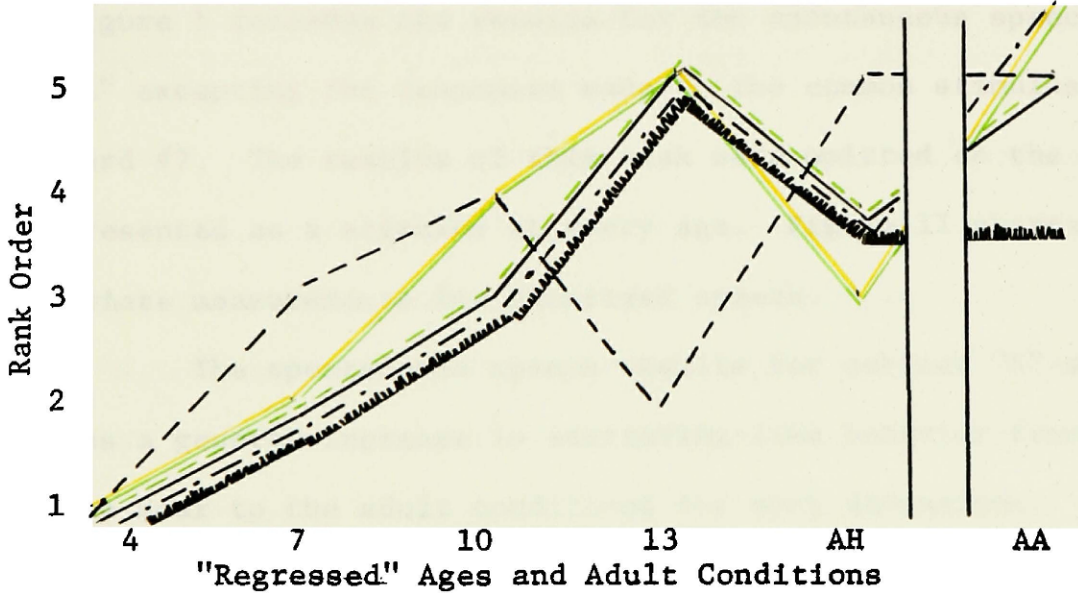


FIGURE IV  
 SUBJECT "B" - MEMORIZED SPEECH



Legend

- Number of Words —————
- Total Rate —————
- Utterance Rate - - - - -
- Total dysfluencies —————
- for Speech Awareness Task —————
- Repetitions - - - - -
- Prolongations - · - · - ·
- Posturings —————
- Associated Symptoms —————

Another comparison of the two adult conditions is noted concerning similarity as shown by adjacent positions in rank order. Examination of the tables shows that for the spontaneous speech of "A", the two adult conditions were in adjacent position in rank order on five of the eight dimensions plotted. For the memorized speech of "A", the ranking of the two adult conditions is less relevant as only one non-adult condition was compared. For the spontaneous speech of "B", the two adult conditions were adjacent or identical in ranking for six of the nine dimensions. For the memorized speech, four of the seven dimensions plotted were in adjacent or identical patterns.

## II. COMPARISON OF ALL CONDITIONS FOR SUBJECT "A"

For subject "A", the results are presented in Figures I and II. Figure I includes the results for the spontaneous speech of subject "A" excepting the responses made to the common stimulus task, CAT card #7. The results of this task were omitted as the task was not presented as a stimulus at every age. Figure II charts the appropriate measurements for memorized speech.

The spontaneous speech results for subject "A" show that there was a general increase in stuttering-like behavior from "regressed" age four to the adult conditions for most dimensions. Of the eight dimensions charted, number of words and utterance rate do not appear to be related to severity of stuttering, in the case of "A". Of the remaining six dimensions, five increased in severity to age thirteen, and three dimensions continued to increase in severity to the adult hypnotized condition. After the "regressed" age of thirteen, there appeared to be a decrease in stuttering-like behavior on three dimensions.

For the memorized speech of "A", the results only include the "regressed" age of thirteen and the adult hypnotized conditions. For this task, subject "A" exhibited the most-stuttering-like behavior at "regressed" age thirteen and decreased in stuttering-like behavior on all dimensions charted in the adult conditions.

In comparing Figure I (spontaneous speech) with the same ages and conditions of Figure II (memorized speech), more agreement in rank ordering of the dimensions can be seen for the memorized speech than for the spontaneous speech. Of the six dimensions charted in Figure II, all decreased in stuttering-like behavior from "regressed" age thirteen to the adult condition. Even though the Pledge of Allegiance was not completed at "regressed" age thirteen, the speech was so markedly dysfluent that it can be compared with that of the completed Pledge of Allegiance in the adult conditions.

### III. COMPARISON OF ALL CONDITIONS FOR SUBJECT "B"

For subject "B", Figure III presents the spontaneous speech, and the memorized material is charted in Figure IV. The Pledge of Allegiance was recited at all ages except at the "regressed" age four, at which time the subject recited a poem, but did not state her name.

There is a great deal of variation in the rank-ordering of the dimensions of fluency for spontaneous speech. Despite this variation across the hypnotized ages, a pattern is apparent. There was a decrease in stuttering-like behavior from "regressed" age four to "regressed" age seven on seven of the nine dimensions. The pattern shows an increase in stuttering-like behavior on all dimensions at

"regressed" ages ten and thirteen, five dimensions peaking in severity at "regressed" age ten, and two increasing in severity to peak at "regressed" age thirteen. Of the nine dimensions, two increased to be most stuttering-like at the adult age. Seven dimensions showed marked decrease in stuttering-like behavior from the peak reached at "regressed" ages ten and thirteen.

Figure IV shows that for memorized speech, subject "B" increased steadily in stuttering-like behavior from "regressed" age four to reach a peak of most-stuttering-like behavior at "regressed" age thirteen. At the adult hypnotized condition a decrease in stuttering-like behavior occurs on all dimensions from the peak reached at "regressed" age thirteen. Of the seven dimensions plotted, six followed closely in rank ordering for all ages, demonstrating more agreement among the development of the various dimensions of stuttering on memorized speech than for spontaneous speech.

#### IV. SPEECH AWARENESS TASK

The responses to the speech awareness questions by both subjects showed progressively increased awareness of their speech as they became older. See Appendix D for the responses. At "regressed" age four "A" showed no awareness or concern for his speech. At "regressed" age seven he reported that others made comments about his speech, he expected to have trouble talking, but he could not verbalize feelings about his speech. By "regressed" ages ten and thirteen he avoided talking and expressed that he didn't like the way he talked. In the adult conditions he indicated more understanding of the speech problem and his own reactions.

"B" at "regressed" age four generally showed awareness of others' reactions to her speech, but she said she didn't avoid talking. At "regressed" age seven she said she couldn't talk very well, but she didn't expect to have trouble and liked to talk. At "regressed" age ten "A" showed awareness of the other children's reactions to her speech, expected to have trouble talking but didn't avoid talking. By "regressed" age thirteen she said she didn't like the way she talked, sometimes she expected to have trouble, and she avoided talking. In the adult condition the answers denied a total awareness of her problem; she didn't expect to have trouble and she only avoided talking in the classroom.

#### V. VALIDITY CHECKS

For both subjects, the results of the Goodenough Intelligence Scale indicates a progression of change toward an older age level. By rank order the progression is linear.

##### Subject "A"

Hypnotized Age	Test Age
4	3-3
7	3-9
10	5-0
13	5-6
AA	6-6
AH	7-0

##### Subject "B"

Hypnotized Age	Test Age
4	5-3
7	5-9
10	6-6
13	9-3
AA	10-0
AH	10-3

The language age of the CAT responses are presented below:

##### Subject "A"

Hypnotized Age	Judged Rank	
	X	Y
-	-	-
7	1	1
-	-	-
13	2	4
AA	3	3
AH	4	2

##### Subject "B"

Hypnotized Age	Judged Rank	
	X	Y
4	4	2
7	2	1
10	6	3
13	3	5
AA	1	4
AH	5	6



The rank ordering of the responses by Judge X coincided with all the actual age responses made by "A". The rank ordering for "A" by Judge Y coincided on two of the actual age responses. For "B", Judge Y placed four of the six responses in a progression of proper age order and two of those judgments coincide with the "regressed" age. Judge X placed one response of "B" in a rank position which agreed with the age response and three of the six judgments were in the proper order of progression.

Certain behaviors and mannerism of the subjects during the hypnotized conditions as observed and interpreted by the experimenter, could possibly serve as validity checks for age regression. Subject "B" printed her name at "regressed" age four but said she couldn't write numbers, and she could not write her age. Subject "A" at "regressed" age seven said he didn't know how to write his name but he could and did print his initials. At the "regressed" age of ten, "A" told the hypnotist, "You never made me do it before", when asked to recite the Pledge of Allegiance in front of the class. His behavior became more withdrawn as he became "younger". His facial expression was more sullen, his body position was more closed, and his hands were interlocked and close to his chest. Subject "B" became more relaxed as she became "younger". Her behavior was less inhibited and more childlike. Her stance assumed a more childlike position, with the toes turned in. She wrinkled her nose and generally had more animation in her facial expressions. This was particularly more evident at the "regressed" ages of four and seven.

## CHAPTER IV

### DISCUSSION

The results of this study seem to indicate that through the use of hypnotic-age-regression one can compare and observe the progression of stuttering behavior in an individual across a broad age span. The patterns of fluency behavior across the "ages" examined showed differences and directions which were meaningful when considering stuttering as a developmental communication disorder.

#### I. AGE REGRESSION

The validity of the age regressions is based on the behavior of the subject during the different states. The Goodenough Intelligence Scale shows a linear and relative progression of change in both subjects and provides the strongest support for the validity of the age regressions. The language age judgments give some indication that the language the subjects used may have been different during the regressed states. Because of the complexity of making such a judgment, the amount of agreement reached between the actual responses and rank ordering of the judgments, seems somewhat supportive of a progression of age changes.

The subjects both engaged in other specific behaviors which indicate that they were behaving as if they were that age. The changes in the manner of the subjects described in Chapter II, i.e. becoming more "child-like" and "withdrawn", the reactions indicating the subject felt as if he were really in the classroom or among his friends of an

earlier age, the details remembered, are indications that the hypnotic-age-regression was successful.

The actual patterns and agreement in rank orders among the dimensions measured seem to be the strongest indicator that the behavior at the various regressed ages was characteristic. These patterns appear reasonable when observing them developmentally and considering the behavior as perhaps typical of the subject at that age.

## II. OVER-ALL PATTERNS AND RELATIONSHIPS

The patterns seen in the figures show that an increase in stuttering-like-behavior occurred with age. Both subjects were less severe at any early age, showed peaks of severity during adolescence and decreased in severity as an adult. These patterns seem probable and are rather common in the development of stuttering. Individual patterns and relationships can be seen and have to be explained in reference to the specific events in the life of each, and to the inter-relationships of the fluency behavior.

Subject "A" showed a steady increase in stuttering-like behavior to "regressed" age thirteen, and then decreased in severity in the adult hypnotized condition. His improvement in the adult condition can reflect the effects of speech therapy; therapy was first received when he was in the armed services.

The patterns shown for "A" may indicate how his stuttering first developed. At age four he appeared to have been fluent, both from fluency behavior observed, and the answers to the awareness questions showed no remembrance of having a speech problem at that time. The number of

words spoken was the least at "regressed" age four, suggesting that "A" did relatively little talking. Both rate measures ranked the mid-position relative to the other ages, indicating that his rate of speech may have been rather fast at age four. The total length of time it took "A" to respond at "regressed" age seven was the longest time for any age, but his utterance rate was the fastest at "regressed" age seven. The subject stated he became conscious of his speech problem in the second grade. It can be speculated that a fluency problem began to develop somewhere prior to or at seven. Because he had been withdrawn and quiet, he had little practice speaking, and was therefore unaccustomed to formulating an idea into speech. The very rapid utterance rate when he finally did speak would have been too fast for him and a fluency breakdown may have resulted.

Subject "B" was more dysfluent at the "regressed" age of four than seven. Studies have shown fluency normally improves between the ages of four and seven (10). The parents stated they first noticed "B" stuttering at eight or nine years and until then considered her speech normal. By fourth grade the teacher was not requiring oral work. This history is consistent with the sharp increase at age ten, as shown in Figure III. Another significant aspect of "B"'s pattern as seen in Figure III is the two peaks reached at "regressed" ages ten and thirteen. "B" received her first speech therapy at age ten and at "regressed" age thirteen a decrease in severity is noted on four of the nine dimensions. The adult condition showed the least severity, which possibly can again be attributed to continued speech therapy.

### III. SPONTANEOUS AND MEMORIZED SPEECH

The data was divided and charted according to spontaneous speech and memorized speech. For both subjects the rank ordering of the various dimensions for memorized speech showed much more agreement, and therefore a more consistent pattern. This constancy for the memorized speech is the major difference between the results for memorized and spontaneous speech.

The spontaneous speech was subject to many more variables, (i.e. number of times the hypnotist prompted the subject to say more, the topic being discussed, and feelings and memories aroused in the subject by the topics), whereas the memorized speech situation was much more constant. The variability in the stimuli at the different "regressed" ages could have generated the variability in the patterns among the dimensions plotted. For example, a specific associated symptom could have been a response to a specific stimuli which may or may not have been present in the environment created by a particular "regressed" age. For the memorized speech the variability was minimized by the task and situation being more constant.

The patterns as seen in the figures for memorized speech follow the general patterns shown for spontaneous speech. For "B" a noticeable difference is the increased dysfluent behavior in spontaneous speech at "regressed" age four. Spontaneous speech requires more creative thought processes, and hesitancy has been found to be related to uncertainty of prediction (20). Therefore at age four, this could have been a particularly important factor - an age at which language formulation may particularly affect fluency. The repeating of the poem (memorized)

would be predictable, easier, and therefore more fluent. In the case of "A", the dramatic difference in the memorized pattern was the decrease in severity of both rate measures from age thirteen. In predictable speech, rate can increase as the responses are more automatic.

The possibility of adaptation in the memorized speech as a cause for a general decrease in stuttering-like behavior as the subject was regressed to younger ages is considered unlikely. For both subjects, a rise in stuttering-like behavior occurred during the second repetition of the Pledge of Allegiance ("regressed" age thirteen). For both subjects the last repetition (adult awake) also increased, and for "B" it was an increase from the least-stuttering-like rank (1) at age four, to the most-stuttering-like rank (5). These increases seem to indicate that adaptation was not a factor in the pattern of stuttering shown in Figures II and IV. Rather, the stuttering-like behavior was representative of the ages sampled.

#### IV. DIMENSIONS OF FLUENCY

The results of proportion of repetition to prolongation, loci of dysfluency and relational to major words were omitted from the figures. The results did not show any meaningful pattern and appeared so inconsistent with any other dimensions plotted that the results were considered irrelevant to the fluency behavior demonstrated. The one exception which can be noted is the proportion of repetitions to prolongations. For both the memorized and spontaneous speech of "A", the higher proportion of repetitions did occur at the younger ages and the prolongations did show a linear increase as he became

older. "B", however, exhibited more prolongations at each age and the proportional relationship did now show a meaningful pattern of change across the ages. Bloodstein states that repetitions tend to predominate in phase one of stuttering, but in some cases hard contacts (prolongations) can occur at an early age and be a more significant part of the stuttering than the repetitions (7, 8).

The number of words spoken was not controlled. The hypnotist engaged in conversation and asked questions of the subject to elicit speech. Nevertheless, the amount of words spoken by the subjects did appear to be a significant part of their speech behavior. The number of words was plotted with the least number of words given the rank of most-stuttering-like, and indicated unwillingness to talk. The most words spoken was considered a sign of willingness to talk and was ranked least-stuttering-like. This rationale appeared to fit the stuttering development of "B"; the rank ordering generally followed the total plotting pattern of the other fluency dimensions. For subject "A", however, the number of words spoken showed a complete reversal to the patterns shown on the other fluency dimensions. The ranking was linear with the least words spoken at the "regressed" age of four and the most words spoken in the adult conditions. With "A" this particular measure does not appear to be related to stuttering. As this subject became "younger" he became progressively more quiet and withdrawn. His word count appears to have been more related then to language development and possibly his growth and emergence as a person. He was orphaned at a very early age and spent some time in various places before finally being permanently placed in an orphanage.

Rate appears to follow a meaningful stuttering-like pattern for both subjects. Rate was already discussed for "A" in the relationship between the total pattern, number of words, and memorized speech. The two measures of rate are diametrically opposed for "A", as shown in Figure I. It would then appear that his utterance rate and total rate were directly related: the slower his total rate, the faster his utterance rate. The utterance rate generally follows the patterns of the other dimensions, which show an increase in severity to the adult age. The total rate was especially significant for subject "A", At times he did not respond to the hypnotist's question for several seconds; i.e. four seconds, thirty seconds, even one minute and seven seconds at age seven. As the utterance rate slowed and as the dysfluencies increased, the total rate decreased. It would appear that the decrease in response time reduced the amount of time used to formulate a response, and therefore increased the dysfluencies.

In the spontaneous speech of "B" the two rate measures followed differing patterns. The utterance rate followed more closely the patterns of the other dimensions. The total rate, however, was linear in progression from four to adult. The number of words was the only other dimension which continued to increase in severity to the adult hypnotized state. It is possible that an increase in total rate represents time taken to formulate language and to choose words. The increased response time may have been an avoidance technique which enabled the stutterer to choose substitute words and/or to choose the response with the fewest words. In the memorized speech the two measures of rate followed a closer pattern but were not identical. The total rate



and associated symptoms in this case followed identical patterns. Again speculating, perhaps more preparation time was given to starter devices or avoidance techniques in the form of associated symptoms.

The associated symptoms also followed the general developmental trends for both subjects for both spontaneous and memorized speech. The dip on the chart at "regressed" age thirteen for "A" appears less significant when the tallies in Table I are examined. The tallies for the "regressed" ages of seven, ten and thirteen are very close: 86.9, 98.5, and 85.3 respectively. Perhaps the associated symptoms were a rather stable part of the stuttering behavior at those ages while the other fluency dimensions continued to change.

The dysfluency dimensions charted are total dysfluencies (which includes all dysfluency categories) and the two categories with the highest frequency counts - repetitions and prolongations. For "B", posturing behavior was also charted as it was a very prevalent part of her stuttering behavior. For both subjects, the dysfluency patterns in spontaneous speech followed the overall patterns previously described. In memorized speech all the dysfluencies for both subjects followed an identical developmental pattern, excepting the repetition pattern for "B", which was different from any other pattern.

The speech awareness task as measured by dysfluencies followed the total dysfluencies pattern exactly for "A" but was fairly independent for "B". For both subjects the patterns for this task agree with the overall stuttering behavior.

The pattern of increase in stuttering behavior with age is also strengthened by the answers to the speech awareness questions. Both subjects demonstrated more emotional reaction to their own speech as their age increased. However, both subjects showed less concern in the adult conditions which does agree with the decrease in some of the stuttering-like behavior during their adult conditions.

"A" grew in speech awareness from an apparent complete lack of awareness to a point where he knew he had trouble talking and avoided talking. His adult comments indicated that he had further developed his awareness to include an understanding of his feelings and his stuttering behavior. "B" was aware of her speech from an early age, but her reactions did develop to a point where she expected trouble and avoided speaking. The adult conditions, however, suggested that she does not have a full understanding of her stuttering and possibly denies the relative severity of her difficulty. She says "she hates the way she talks", but only expects to have trouble reciting before people and only avoids talking in the classroom situation.

#### V. LIMITATIONS

As a method of collecting dysfluency behavior, hypnotic-age regression presents some limitations. A hypnotist with the necessary skills is not always available. Everyone cannot be hypnotized to a trance depth sufficient to achieve age regression. Hypnotic-age-regression itself arouses much controversy regarding the validity of the phenomena<sup>1</sup>.

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<sup>1</sup>See Appendix A for a discussion of the phenomena of age-regression.

At the time of this study the video-tape equipment was expensive and not readily available. The judging and tallying of the data, as done in this study, was a very time consuming task.

The Stanford Hypnotic Susceptibility Scale, the Friedlander-Sarbin Scale and the Davis-Husband Scale provide measures of depth of trance useful primarily when inducing the trance state. The fluctuations in actual depth of response which occurred during individual sessions required the constant subjective evaluation of the hypnotist, and the use of the aforementioned scales was inappropriate in this study.

The use of the rank order scale in this study lacks in fully communicating the significance of the data collected. A rank order scale does not indicate, for example, the degree of severity of the dysfluent behavior. A scale to show linear development of the dimensions measured needs to be developed.

Due to a shortage of tape, the hypnotist's instructions and suggestions to the subjects were not recorded on the video-tape. It is recognized that in some studies involving hypnosis, the exact verbalizations of the hypnotist are included as part of the procedures. The relevant concern in this study can be minimized because at no time during the experiment did the hypnotist make any known suggestion to the subject that he would "talk" as he had at any previous age.

The relationship between the individual's overt stuttering behavior and his speech associated anxiety is a factor which must be given careful consideration in any given clinical or experimental association involving a stutterer. The experience of the trial subject,

in which former stuttering patterns were reawakened and brought to the surface, is a possible complicating factor which requires the attention of professional personnel capable of dealing with psychological distress.

A lack of an intensive case study is a limiting factor in this study. Case histories had been taken from both subjects when they had entered into speech therapy and these histories were available to the experimenter after the data had been collected. At the end of the hypnotic procedures, the hypnotist gave each subject the post-hypnotic suggestion that he could remember as much of the experiences during the experiment as he so desired. The possibility of arousing unpleasant memories and/or behavior patterns therefore entered into the decision to forego any further case history study. More information regarding the subjects' early life and speech behavior would have helped verify the results and the interpretations made.

A truly definitive study in the area of stuttering using hypnotic-age-regression as a tool would involve a comparison of the behavior during age regression with actual records from the subject's childhood. Such records for comparison were not available for this study.

## VI. MAIN RESULTS

The writer set out to make a clinical evaluation of the fluency behavior of subjects selected on the basis of having exhibited severe stuttering behavior and therefore were expected to have experienced change in fluency behavior over a wide age range. In this study, under

hypnotic-age regression, two subjects did indeed undergo fluency changes which were expected and credible.

The overall results for both subjects showed an increase with age in stuttering-like behavior. The results showed peaks and valleys in severity which can be accounted for by incidents in the life history of the subject and/or by analyzing relationships among the fluency dimensions. A difference was noted in the fluency behavior between spontaneous and memorized speech. The spontaneous speech results showed more variation among the dimensions measured, and the results between the dimensions on memorized speech were in more agreement on rank ordering. The specific dimensions measured showed meaningful and significant patterns which differed for each subject. The results shown seem credible both within the framework of stuttering theory and the case history of each subject.

The changes and credibility of the fluency behavior of both subjects suggests that hypnotic-age-regression can be used effectively as a tool to obtain former stuttering behavior, and opens up possibilities for research and rehabilitation in the field of stuttering. The information gathered from a single stutterer across a broad age range by the use of age regression can be useful in the understanding of the development of stuttering. Directions and relationships of the factors involved in stuttering are rarely known over a long time period and such information would be invaluable to the researcher. This information could be used also as a source for a therapy program.

The way in which the various dysfluency dimensions had progressed might indicate earlier types of dysfluencies to which desensitization therapy could be applied, and recent dysfluencies which may be less established patterns and therefore easier to eliminate.

## CHAPTER V

### SUMMARY

Rarely is the stuttering behavior of a single individual reported and compared across a broad age span. In this study, hypnotic-age-regression was used as a tool for observing the fluency behavior of two adult stutterers from a young age to adulthood.

The subjects performed certain tasks at the regressed ages of four, seven, ten, thirteen, and in the adult hypnotized and adult awake conditions. The tasks required were repeating their names and the Pledge of Allegiance, describing the picture on CAT card #7, discussing a topic of appropriate interest and age level with the hypnotist, and answering a series of questions related to speech awareness. The behavior was recorded on video-tape.

The fluency behavior observed included the type and number of dysfluencies, rate of speech, number of words, and associated symptoms. The data was tallied and analyzed by the experimenter, and a second disinterested judge was used for a reliability check. The Goodenough Intelligence Scale was used and language age judgments were made by other disinterested judges as validity checks of age regression. The results for each dimension of each age were placed in rank order. These rank order results were then plotted in figures for visual inspection.

The overall results of this study showed changes in fluency and an increase with age in stuttering-like behavior with differences in

the patterns for memorized and spontaneous speech, and the dysfluency dimensions measured. The patterns, variations and relationships appear accurate and probable both in stuttering theory and in the known history of the subjects. The results of this study indicate age regression has potential as a tool for longitudinal studies of developmental stuttering.



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## APPENDIX A

### HYPNOSIS AND AGE REGRESSION

Theories of hypnosis abound but none are fully adequate or comprehensive to account for all the phenomena that exist in hypnosis. It has been likened to sleep, been called a conditioned reflex (39), a partial cortical inhibition (39), an extension of ideamotor action (52), and a kind of dissociation (24). One widely accepted theory proposes hypnosis is a state of hypersuggestibility (3). An individual's capacity to respond to suggestion is increased as is the condition of readiness or set to make a response.

Many theorists utilize the concept of ego to explain hypnosis. It may be a loss of ego boundaries (19) or a bypassing of the ego (17), a state in which ego energy is manipulated (15), or an atavistic regression to a level of functioning characteristic of a primitive time before man had a fully developed ego (35). It is also described as a state of altered awareness, perhaps due to neurological change, an unconscious process with levels of awareness, a process of selective and relative inattention to internal and external stimuli, or a decrease or loss of criticality, in which critical thought of normal awareness fails to inhibit certain thoughts or actions (28).

Some feel it is a relationship rather than a state and it is frequently referred to as a social psychological phenomenon. Watkins (51) says the relationship between the subject and the hypnotist may very well lead to a hypnotic state. White (56, p. 483) calls it a "meaningful goal directed striving, its most general goal to behave like a

hypnotized person as this is continuously defined by the operator and understood by the subject". Sarbin says the subject acts the role of a hypnotized person according to motivation, his perception of the role, and a role-taking aptitude (43, p. 259). Watkins says perhaps hypnosis is all these things; it is a very complex phenomena which is dependent upon our experiences of the past, and that it is not only a state, but a kind of relationship between two people.<sup>1</sup>

The phenomena of age regression may occur during a hypnotic trance. "In a true age regression the individual apparently acts, thinks and behaves as if he were truly existing at that age level."<sup>2</sup> Considerable controversy has been aroused regarding the validity of age regression. Sarbin (43, p. 255) holds that hypnotic age regression can be described in the same terms as hypnosis, which he looks on as role-taking. The effectiveness of the age role depends upon accuracy of role perception and role-taking aptitude, and the assigned role must be congruent with his self-perceptions (44, p. 199). Best, et. al. (4, p. 1077) reports that "age regression is not true and complete . . . (but that) under hypnotic suggestion, the subjects have heightened recall of an age level . . . ". Platonow (40, p. 204) suggests as a rationale for regression "that conditioned reactions once developed do not disappear - but

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<sup>1</sup>This resume of the theories of hypnosis is a condensation of a taped lecture by Dr. J. G. Watkins from a series of lectures prepared for publication.

<sup>2</sup>J. G. Watkins. Direct quotation, Missoula, Montana, February, 1969.

leave organic traces in the nervous system". Hypnotic stimuli may re-animate earlier conditioned response patterns (40, p. 204).

Young (58, p. 278) found that un hypnotizable control subjects had better success in simulating the age of three than did trance subjects. Similar results were obtained by Gordon and Freston (22); they found that nonhypnotizable and hypnotically inexperienced subjects gave more childlike responses on a word association task than did the hypnotizable subjects. Of the hypnotizable subjects, there was no reliable statistical difference in their responses, awake or hypnotized.

In an experiment by Kline (30) the subjects' IQ scores showed a significant loss in raw score which coincided with the regressed age and the IQ remained constant. True and Stephenson (49) and Gidro-Frank and Buck, as reported by Kline (29, p. 22) were able to produce the plantar reflex in infantile hypnotic regression. Watkins (50, p. 85) was able to obtain handwriting samples at ages twelve, eight, six, and four, which appeared typical of those ages. At age four the subject "drew the single letters as words were spelled to her".

Kline (29) cites "salient aspects" of research in the areas and concludes that under certain conditions, valid regression can be obtained. Also Watkins (50, p. 87) probably summarizes the general attitudes of those clinicians who use the technique of age regression:

"Even though their existence (true age regression) is yet to be established firmly by experimental methods, those who have worked therapeutically with patients will tend to accept the reality of these phenomena."

On the basis of the literature, the position was taken in this study that hypnotic age regression is possible.



## APPENDIX B

### DEFINITIONS AND RULES

#### DYSFLUENCIES (27, pp. 3-4)

1. Interjections of Sounds, Syllables, Words or Phrases.  
This category includes extraneous sounds such as 'uh', 'er', and 'hmmmm' and extraneous words such as 'well', which are distinct from sounds and words associated with the fluent text or with phenomena included in other categories. An instance of interjection may include one or more units of repetition of the interjected material; for example, 'uh' and 'uh uh uh' are each counted as one instance of interjection.
2. Part-word Repetitions.  
Repetitions of parts of words - that is syllables, sounds and posturings are placed in this category. Only the instances of repetitions are counted, not the units of repetition. No attempt is made to draw a distinction between sound and syllable repetitions. 'Ruh-ruh-run', 'cuh-come', 'ba-ba-baby', and 'a-bou-bout' are examples of part-word repetitions.
3. Word Repetitions.  
Repetitions of whole words and words of one syllable are included in this category. Only the number of instances are counted. 'I-I-I', 'was-was' and 'going-going' are samples of instances of word repetition. A word repeated for emphasis as in 'very, very clean', is not counted as a dysfluency. A part-word repetition, or an interjection, does not nullify a word repetition; for example, 'going uh going' or 'guh-going going' is classified as a word repetition. In any such case, the interjected or associated dysfluency is also tabulated in the appropriate category.
4. Phrase Repetitions.  
Repetitions of two or more words are included in this category. "I was I was going" is an example of this type of dysfluency.
5. Revisions.  
Instances in which the content of a phrase is modified, or in which there is grammatical modification, are counted as instances of revision. Change in the pronunciation of a word is also counted as a revision. 'I was-I am going' is an example of this category.

## 6. Incomplete Phrases.

An incomplete phrase is one in which the thought or content is not completed and which is not an instance of a phrase repetition. 'She was--and after she got there he came' contains an example of an incomplete phrase.

## 7. Broken Words.

This category is typified by words which are not completely pronounced and which are not associated with any other category, or in which the normal rhythm of the word is broken in a way that definitely interferes with the smooth flow of speech. 'I was g--(pause)--oing home' is an example of a broken word: the pause is heard auditorily and no visual posturing is present. If posturing was observed it would not be a broken word: an example is 'g--(posture)--oing'. Also included in this category are words such as 'g-uh'oing'. In all such cases the associated dysfluencies are also tabulated in the appropriate categories.

## 8. Prolonged Sounds.

This category includes sounds, or postures for a sound judged to be unduly prolonged. If a sound is prolonged twice, it is counted both as a prolonged sound and a part-word repetition.

## 9. Posturing.

This category includes those movements of the articulators which appear to be posturings preparatory to pronouncing a word. Included are any posturings which are present during the time the subject is speaking even though a time lapse occurs between the posturing and a word. Posturings which are repeated and/or prolonged are also tabulated in the appropriate category.

## UTTERANCE

In this study an utterance is a segment of speech which is marked off by a shift in speaker, a pause of 1 1/2 second or more between words of the speaker, or by internal but not external grammatical relation.<sup>1</sup>

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<sup>1</sup>" . . . A unit of thought that was grammatically independent of any other utterance unit. For example, the words 'The boy went to the house, and he fell on the porch steps' would contain two utterance units, i.e. 'The boy went to the house', and 'he fell on the porch steps'. Each of these utterances has internal grammatical relation as each can stand by itself without support from another utterance. Also each was a unit of thought. If the utterance were revised to 'The boy went to the house and fell on the porch steps', then the entire group of words would be considered an utterance unit. The words 'and fell on the porch steps' depends on 'The boy went to the house' for external grammatical relation. The words 'and fell on the porch steps' cannot stand by themselves, i.e. do not have an internal grammatical relation". T.R. Radcliffe, "An Analysis of Utterance Units in Comparing Intended Oral and Written Persuasive and Informative Style" (unpublished M.A. thesis, University of Montana, 1969, p. 9)

### POSITION IN UTTERANCE

**Initial** - The dysfluency occurs at the beginning of the utterance. Included are all dysfluencies occurring before and on the first counted word (or words if the utterance begins with a dysfluent phrase) of the utterance - interjections, phrase repetitions, and word repetitions are included if they occur at the beginning.

**Medial** - The dysfluency occurs at any other point in the utterance than the initial position.

**Indeterminate** - Due to revisions, incomplete phrases or phrase repetitions, it may be difficult to determine the location of the dysfluency; it would then be placed in this category.

### PARTS OF SPEECH

Major words - noun, verb, adjective, adverb.

Relational Words - articles, conjunction, preposition, pronoun.

### ASSOCIATED SYMPTOMS

Any observable behaviors other than speaking which are "concomitant tensions and mannerisms of stuttering" (7, p. 222). The categories and examples are as follows:

**Respiratory** - sharp exhalation, speaking on residual air, gasping, glottal fry, cough, clearing throat, laugh, others.

**Face** - eye closure, frowning, rolling of the eyes, dilation of the eyes, jaw jerk, protrusion of tongue, lip tremor, twitch, raising eyebrows, licking lips, any abnormal and increased amount of tension of the mouth, others.

**Head** - jerk, bobbing, other.

**Extremities** - hiding mouth with hands, striking self or object, scratching, pressing with fingers, changing position of arms, kicking, changing position of legs, tapping with foot, others.

### RULES FOR COUNTING WORDS (48)<sup>2</sup>

1. Contractions of subject and predicate like "it's" and "we're" are counted as two words.
2. Contractions of the verb and the negative such as "can't" are counted as one word.
3. Each part of a verbal combination is counted as a separate word: thus "have been playing" is counted as three words.

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<sup>2</sup>Nos. 1 - 6 are direct quotations.

4. Hyphenated and compound nouns are one word.
5. Expressions which function as a unit in the child's understanding were counted as one word. Thus "oh boy", "all right", etc. were counted as one word, while "Christmas tree" was counted as two words.
6. Letters used such as ABC were counted as one word.
7. Each word repeated singly or in a phrase was counted only once, and interjected sounds or words not regarded as integral parts of the meaningful context are not counted. In any instance of revision only the words in the final forms are counted.

## APPENDIX C

### PROCEDURES AS PRESENTED TO HYPNOTIST

The order of hypnotic conditions is as follows:

Adult Hypnotized  
Thirteen (13)  
Ten (10)  
Seven (7)  
Four (4)  
Adult Awake

Procedures for the Adult Hypnotized condition and the "regressed" ages of 13, 10 and 7:

1. Write name and age.
2. Goodenough Intelligence Scale
3. Stress situation: Recitation in classroom at school.
  - a. Give name
  - b. Recite Pledge of Allegiance
4. CAT Card #7 - tell a story about the picture to hypnotist.
5. Give brief report on any subject - or talk about anything he chooses.
6. Questions:
  - a. How do you feel about the way you talk?
  - b. Do you expect to have trouble talking? If so, how?
  - c. Do you avoid talking? If so, how?

Procedures for the "regressed" age of four:

1. Write name and age.
2. Goodenough Intelligence Scale
3. Stress situation: a group of people are visiting in the home and his mother (or father) asks him to perform or speak in front of the group.
  - a. Give name.
  - b. Recite poem or nursery rhyme.
4. CAT card #7 - tell a story about the card to hypnotist.
5. Give a brief report on any subject - or talk about anything he chooses.
6. Questions:
  - a. How do you feel about the way you talk?
  - b. Do you expect to have trouble talking? If so, how?
  - c. Do you avoid talking? If so, how?

Procedures for the Adult Awake Condition:

1. Write name and age.
2. Goodenough Intelligence Scale.

3. Stress situation: one observer unknown to the subject will enter the room.
  - a. Give name.
  - b. Recite Pledge of Allegiance.(Observer will leave the room)
4. CAT Card #7 - tell a story about the card to hypnotist.
5. Give a brief report on any subject - or talk about anything he chooses.
6. Questions:
  - a. How do you feel about the way you talk?
  - b. Do you expect to have trouble talking? If so, how?
  - c. Do you avoid talking? If so, how?

## APPENDIX D<sup>1</sup>

### SPEECH AWARENESS TASK - QUESTIONS AND RESPONSES

#### SUBJECT "A"

##### Age Four:

Q: How do you feel about the way you talk? R: I don't have any feelings. I don't know.

Q: Can you talk good? R: I'm not sure.

Q: Does anybody ever say you can't? R: I don't remember. Don't know.

##### Age Seven:

(The subject was requested to recite the Pledge of Allegiance)

R: I don't want to.

Q: Why don't you want to? R: Because I sound funny.

Q: Who says you sound funny? R: All the kids (pointing around in front of him).

Q: Do they tease you? R: (shakes head yes)

Q: What do they say? R: He can't talk. He talks funny. He can't talk. Look at his face.

Q: How do you feel about the way you talk? R: I don't know.

Q: Do you expect to have trouble talking? R: I'm I'm gonna have trouble talking.

Q: How do you know you're going to have trouble talking?

R: Because the words words never come out right.

Q: Do you always talk bad? R: Yes.

Q: How do you feel inside? R: I don't feel feel anything inside. It's just that I wish my words would come out right.

##### Age Ten:

(The subject was instructed to recite the Pledge of Allegiance and he shook his head no)

Q: Why not? R: Because I don't have to.

Q: Do you know it? R: (shook head yes)

Q: Why don't you want to then? R: Because I can't talk.

Q: Why can't you talk? R: None of the words come out right.

Q: How do you feel about your talking? R: I can can talk enough to get by with.

Q: But you can't recite in front of the class? R: You never never made me do it before.

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<sup>1</sup>Complete transcriptions are on file in the subject's confidential folders in the University of Montana Speech and Hearing Clinic and can be made available to qualified personnel by contacting the Director of the University of Montana Speech and Hearing Clinic.

Q: No. How does it make you feel when I ask you to do it?  
 R: I just won't do it.

Q: Do you expect to have trouble talking? R: Yeah

Q: How? R: The words the words just get all tangled up.

Q: Do you avoid talking? R: Yes, particularly when somebody's around.

#### Age Thirteen:

Q: How do you feel about the way you talk? R: I don't like the way I talk.

Q: How do you mean? R: It's really not like the other kids there.

Q: Do you expect to have trouble talking? R: Yes

Q: How? R: I get all my tongue gets all twisted up. I sound terrible.

Q: Do you avoid talking? R: When I get I get a chance to.

#### Adult Hypnotized:

Q: How do you feel about the way you talk? R: Oh I guess I can better tell ya uh this way. I don't I don't feel like I used to feel. I uh my speech er and the way I talk was a lot different a long time ago from what it is now.

Q: Do you expect to have trouble talking? R: Oh, various situations, yes.

Q: Do you avoid talking? R: No, I can't say that I do.

#### Adult Awake:

Q: How do you feel about the way you talk? R: Oh, I'm making some progress I I have uh some more work to do on my speech but I'm

Q: Do you expect to have trouble talking? R: Oh from time to time particularly when that there's other people you know it's it just depends on the situation.

Q: Do you avoid talking? R: uh oh I think if I was really completely honest with you that there are perhaps a a few occasions where I would rather not say anything but uh by no means uh not as much as I did three or four years ago even.

#### SUBJECT "B"

#### Age Four:

Q: How do you feel about your talking? R: Everyone talks (the way you talk?) I don't know.

Q: Do you expect to have trouble talking? R: Well sometimes I that daddy and mommy are I talk about how I talk.

Q: They talk about how you talk? R: um hmmm.

Q: How do you mean? R: I they just say uh Cynthia don't stutter and

Q: What't is mean to stutter? R: I don't know.

Q: They say you do? R: Yeah.

Q: Have you had a lot of trouble for a long time or not?

R: I don't know. I don't know if I have.

Q: Do you avoid talking any? R: No.



Age Seven:

Q: How do you feel about the way you talk? R: uh well sometimes I I can't talk very uh well so Dad uh has Mom uh make me take naps after school so I won't be as uh oh they say nervous so I can talk right.

Q: They make you take naps after school? R: Yes.

Q: How do you feel about it? R: I don't like to take naps.

Q: Do you expect to have trouble talking? R: No.

Q: Do you avoid talking? R: No. Yeah, I like to talk.

Age Ten:

Q: How do you feel about the way you talk? R: Well, I don't like it because the uh kids kinda laugh n ask me why I I talk so funny.

Q: Do you expect to have trouble talking? R: Well, that's uh how it's been for a long time.

Q: Do you avoid talking? R: No uh uh when uh the teacher uh calls on me I try to answer her.

Age Thirteen:

Q: How do you feel about the way you talk? R: I don't like it at all.

Q: Why not? R: Well, everyone else can I can't stand up and recite but I just can't.

Q: Do you expect to have trouble talking? R: No.

Q: In front of poeple? R: Well, I sometimes I do.

Q: How? R: Well uh when it's all quiet and I everyone's listening to me I just I just can't talk very well.

Q: Do you avoid talking? R: Yes.

Adult Hypnotized:

Q: How do you feel about the way you talk? R: Uh uh it's uh my fault I that I talk I still stutter uh because I have had uh uh therapy and I just haven't used it.

Q: Do you expect to have trouble talking? R: Uh what I I don't know if I understand I your question.

Q: Under ordinary situations, when you're out with people, do you expect to have trouble talking to them? R: No.

Q: Do you avoid talking? R: Just I just classrooms I don't uh speak uh up at all.

Adult Awake:

Q: How do you feel about the way you talk? R: Oh I just hate it.

Q: Do you expect to have trouble talking? R: uh hmm.

Q: How? R: When I have to recite and there's-people I just I can't do it. I don't know I just really have a lot of trouble.

Q: Do you avoid talking? R: um hmm. uh just in the classrooms uh like at uh at home or in the dorm I just you know talk all the time but in the classrooms.

## APPENDIX E

### CASE HISTORY INFORMATION

#### Subject "A"

"A" was orphaned at an early age and lived in an orphanage-school situation throughout his childhood. He reports good memories of his life there but did become conscious of a speech problem because of a second grade teacher he had there. When he had her for the second time in the fourth grade she "pretended he wasn't there" instead of pointing him out, as she had in the second grade. He said everyone "bugged" him about his speech in the home, which made him angry. After he was discharged from the military service, he attended a five week program for stutterers at Walter Reed Hospital. He received speech therapy at the University of Montana Speech and Hearing Clinic for approximately two years.

#### Subject "B"

"B" began to say a few words before she walked, was speaking sentences at two years and was using grammatically correct and complex sentences when she was four years old. Her parents considered her fast in speech development and spent time coaxing her to talk. When learning to read as a first grader she was in the top section of her class, but when she had difficulty with stuttering, her reading became poorer. The parents state she first stuttered in the third or fourth grade. At eight or nine they took her to a doctor for her stuttering. He said she was nervous and recommended she be put on a schedule with sleep, meals and schoolwork at a regular time. By the fourth grade her speech was a definite problem and the teachers gave her more written work and didn't require oral work from her. At age ten she was first seen by a speech therapist and received help for two or three years. She later had therapy for two summers in a summer speech residential program.