

FURTHER STUDIES IN THE RHYTHMIC AND
MELODIC PATTERNS OF CONVERSATIONAL AND PUBLIC SPEECH

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I hereby recommend that the thesis prepared
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PREFACE

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CHAPTER I

PRESENT STATUS OF THE SUBJECT

Recent trends in the theatre show scientific methods being used to solve problems of artistic nature. For a number of years experimental work has been done on the characteristics of the voice during emotional expression by Cowan, Ortleb, Goates, Fairbanks, Pronovost, and Hoaglin. The usual methods of study employed have been to determine the aesthetic preferences or to have judgments made by observers and then to measure the physical elements of the voice scientifically.¹

In looking over a survey compiled by F. H. Knowler of the graduate work done in the field of speech it was found that in comparison to the studies made on the theatre relatively little work had been done on public address and such studies had been concerned with rhetoric rather than the physical elements of the voice.²

A new field of investigation has been opened in the comparison of speech factors in public address and conver-

¹Fairbanks, Grant, "Toward an Experimental Aesthetics of the Theatre," Quarterly Journal of Speech, Feb. 1942, pp. 50-55.

²Knowler, Franklin H., "Graduate Theses--An Index of Graduate Work in the Field of Speech," Speech Monographs, 1932-1939.

sation. Using an experimental procedure Talley has studied changes in voice quality, pitch and intensity of experienced actors when speaking as in ordinary conversation and as before a large audience.¹ May has analyzed conversation and public address of noted speakers for pitch factors and duration.²

Traditional ideas concerning the relationship of conversation and public address may be found in standard texts on public speaking. That similar qualities are common to the two types of speech is indicated by Winans and O'Neill and Weaver.

Since there is practically nothing true of public speaking that may not be true at times of conversation or nothing true of conversation that may not be true of public speaking, we can hardly hold the differences of fundamental importance.³

In sum, it seems impossible to think of any specific quality or characteristic which clearly distinguishes conversation from public speaking.⁴

Other quotations suggest the relationship between conversation and effective speaking.

¹Talley, C. Horton, "A Comparison of Conversational and Audience Speech," Archives of Speech, II (July, 1937), 28.

²May, Doris Evelyn, "Some Comparisons of the Time and Pitch Characteristics of Conversation and Public Address of Selected Speakers," Unpublished Master's Thesis, Department of Speech, Texas State College for Women, 1941.

³Winans, J. A., Speech Making (New York: The Century Co., 1938), p. 16.

⁴O'Neill, J. M., and Weaver, A. T., Elements of Speech (New York: Longmans, Green and Co., 1935), p. 310.

Generally speaking, there is no better standard for effective speech delivery than good conversation.

Good conversation is physically and vocally free and unrestricted (and) varies greatly in rate, pitch, and force.--Oliver¹

Effective public speaking is based on the best characteristics of good conversation.

Some of the traits of ordinary conversation are bad: often the range of voice is too narrow; the rate too rapid and too uniform; effective pauses are too few; language is too informal and articulation too slovenly. --Sarett and Foster²

One may note the term "good conversation" as used by different authors is based on no objective standards. The only meaning implied here is that which each writer has as his own mental picture of conversation at its best. No objective standards are set for judging conversation.

¹Oliver, Robert T., Training for Effective Speech (New York: The Cordon Co., 1939), pp. 278-279.

²Sarett, Lew, and Foster, Wm. T., Basic Principles of Speech (New York: Houghton Mifflin Co., 1936), pp. 89, 102.

CHAPTER II

STATEMENT OF THE PROBLEM

The present study had several purposes. First, it served as a check on preliminary findings in studies of the differences in rhythm and melody of conversation and public address. This experiment checked on Talley's pitch findings and on May's "usual" and "decisive" differences in time and pitch but took no account of the quality and loudness factors.

The second purpose was to carry the objective comparison of conversation and public address further. This was accomplished by observing, measuring, and comparing the time and pitch elements of actual conversation and of public address of eight noted speakers. May's study is the only other experiment using actual conversation. The present study differs from hers in that here understandability was not removed¹ from the speaking and more variables were considered in the measurements.

Third, the study was to determine the extent to which the use of actual conversational patterns in public address

¹May's method of removing understandability was to destroy the force and quality elements by placing a low pass filter in the circuit which cut out all frequencies above 500 cycles per second. The purpose in removing these two physical elements was to have the judgment of the students as to which was conversation and which was public address based wholly on the two factors of pitch and time.

governed the judgment of listeners as to the effectiveness of a style of speaking or their preference or liking for it. After ratings had been made by a large group of college speech students as to their preferred speakers the rhythmic and melodic patterns were analyzed and compared with patterns of actual conversation.

The fourth purpose was to compare the styles of public address of preferred speakers with the typical public address and conversational patterns of a previous study. Certain results obtained in May's and in this study on duration, pitch levels, and pitch patterns were used for direct comparisons.

CHAPTER III

A DESCRIPTION OF THE METHOD OF THE STUDY

The method of study involved the following steps:

- (1) recording actual conversation and public address of noted lecturers; (2) selecting one-minute excerpts from the two types of speech of each speaker for testing; (3) rating the public address excerpts according to the most preferred speakers by college speech students; and (4) transcribing the excerpts and measuring and comparing the physical elements.

Recording Conversation and Public Address

Eight noted lecturers appearing at the Texas State College for Women served as subjects for the experiment. By means of a live microphone placed near them in a convenient receiving room phonograph recordings were made, without their knowledge, of their conversation before going on the stage. Recordings of their public address were made by means of connections between the platform microphone and the recording laboratory.

Selecting Test Excerpts

A test record was made from these recordings of one-minute public address excerpts from each speaker. Attention was given to unity and clarity in making these selections.

Conversation passages totalling about one minute per speaker were also recorded from this same group. No conversation passage was used for one person from whom it was impossible to get any good conversation. Two of the speakers were also used as subjects in the final analysis of May's study. The recordings of the speakers before they went on the platform were examples of ordinary conversation, possibly somewhat affected by the pre-lecture nervousness of the speakers.

Rating of Speakers

The speakers were rated according to preference by one hundred and sixty-one speech students. Each student was given a rating sheet with instructions.¹ Four one-minute excerpts were played and judged at one time. The test included six groups of four excerpts. By this arrangement each speaker was presented with each of the others to determine the rank order of merit. To nullify any order effect the groups were reversed for approximately one-half of the ratings.

Transcribing, Measuring, and Comparing

An exact transcription was made of each excerpt. The rates of speaking were determined and the length of the pauses and phrases were timed to the tenth of a second by

¹A sample of the rating sheets given to the students is included here.

RATING SHEET

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Eight one-minute excerpts have been taken from public address. These excerpts will be played in six groups of four. You will rate the speakers in each group 1, 2, 3, and 4, according to your preference. In making this rating, consider the rate, the variation in melody or pitch, the phrasing, the rhythmic patterns, and the general effectiveness of the speaker. Do not permit the content of the speech to enter into this judgment.

GROUP	SPEAKER	RATING
I	A	
	B	
	C	
	D	
II	A	
	B	
	C	
	D	
III	A	
	B	
	C	
	D	
IV	A	
	B	
	C	
	D	
V	A	
	B	
	C	
	D	
VI	A	
	B	
	C	
	D	

the use of a stop watch. The average length and the standard deviation of the phrases and pauses were computed for each speaker. In order to get a measure of relative variability of the phrases and pauses Pearson's coefficient of variation measurement was used.

From these measurements rank orders were figured for the speaking rates and for the coefficients of variation of the phrases and pauses. Rank orders were also determined for the general pitch levels and the degree to which pitch patterns were repeated by pairing the voice of each speaker with that of every other speaker for subjective comparisons.

The coefficient of correlation was determined between the rank orders of the various measurements and the rank order of merit of the public address. The public address rank orders were correlated with the conversation rank orders in like measurements. A comparison was made of the physical attributes of the conversation and public address of the preferred. By comparing rank orders within the group on the basis of each specific measurement direct comparisons of the conversational and public address patterns of each individual were made. A direct comparison was also made of the exact measurements of the phrases and pauses in the public address of each individual speaker with the group as a whole. The preferred public address was compared with the typical public address and typical conversation from May's findings.

CHAPTER IV

THE RESULTS AND THEIR MEANINGS

The quantitative data obtained by measuring the physical elements of the voices and by correlating and comparing these various and specific measurements are presented in tables. It is the purpose of this chapter to analyze and interpret the material found in these tables in order to develop further ideas concerning the rhythmic and melodic patterns of conversation and public address and the relationships of these two styles of speaking. The results will be compared with other research in the field whenever possible. This treatment will by no means complete the comparison of the two types of speech but should aid definitely in clarifying traditional ideas and should aid in a better understanding of the physical elements involved in conversation and public address.

Explanation of Data Found in Tables

The tables in this chapter show physical measurements, and rank orders and correlations of measurements of conversation and public address.

Table I gives the physical measurements of some of the attributes of conversation and public address and the rank order of merit obtained from the rating of the students as

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[illegible]

to their preferences. The speaking rates are given for each speaker and specific measurements of average length, standard deviation, and coefficient of variation in both conversation and public address are shown for the three units of duration: phrase, pause, and phrase and pause. This last combination of phrase and pause units was used because of the uncertainty as to which was the most important unit of duration. Direct comparisons were made from the measurements in Table I and rank orders of these measurements were obtained from which to compute correlations.

In Table II, The Rank Orders of Conversation and Public Address Measurements of Speakers, the rank orders of merit of the public address are used again. The rank orders of rate, phrase variation, pause variation, phrase and pause variation, pitch levels, and repeated pitch patterns are given for both public address and conversation. These measurements are included for all the speakers with the exceptions of speaker eight from whom it was impossible to get a good recording of conversation and speaker nine from whom only conversation was used. The rank orders of pause and phrase variations were obtained from the measurements in Table I and the rank orders of the pitch levels and the pitch patterns were derived by subjective comparisons of each speaker with every other

TABLE II.

RANK ORDERS OF CONVERSATION AND
PUBLIC ADDRESS MEASUREMENTS OF SPEAKERS

Speaker	C—Conversation PA—Public Address	Merit	Rate (1) (Fastest to slowest)	General Pitch level (Highest to lowest)	Repeated pitch Pattern (Most to least)	Phrase Variation (Most to least)	Pause Variation (Most to least)	Phrase and Pause Var. (Most to least)
1.	C		5	2	4	3	6	3
	PA	4	3	3	3	5	7	5
2.	C		8	8	3	2	1	1
	PA	6	8	8	7	2	1	3
3.	C		1	3	1	8	8	8
	PA	7	5	6	2	7	8	7
4.	C		3	6	2	7	7	4
	PA	2	7	5	1	6	5	6
5.	C		6	5	7	1	5	2
	PA	5	1	2	5	8	6	8
6.	C		4	4	8	4	3	6
	PA	3	4	1	4	3	4	4
7.	C		7	7	6	6	2	7
	PA	1	6	7	6	4	3	2
*8.	C							
	PA	8	2	4	8	1	2	1
**9.	C		2	1	5	5	3	5
	PA							

* Speaker from whom no conversation passage was obtained.

** Speaker used in May's final analysis.

speaker. The data given in Table II were used for figuring the coefficient of correlation of rank orders¹ of all the public address measurements and of all the conversation measurements.

The rank orders in Table III, Rank Orders of Conversation and Public Address Measurements of Speakers from Whom Both Types of Speech Were Obtained, were taken from the measurements in Table I. Only speakers from whom both conversation and public address excerpts were obtained were included here. This chart was used for computing the coefficient of correlation of conversation rank orders with public address rank orders.

Table IV gives the coefficients of correlation of the rank orders of the physical measurements in public address in terms of "r" values and probable error. Table V gives the coefficient of correlation of the rank orders of the conversation measurements. Table VI gives the coefficient of correlation of the rank orders of physical elements in conversation and public address.

Table VII shows the measurements of rate and the judgments of pitch level and repeated pitch pattern for the three most preferred public address excerpts and the

¹See Garrett, Henry E., Statistics in Psychology and Education (New York: Longmans, Green and Co., 1934), p. 191. Although the coefficient of correlation of rank orders based on only 8 cases is said to be conventionally reliable Garrett states, "r's and PE's secured from less than 30 cases should be accepted as tentative, and interpreted with caution."

TABLE III.

RANK ORDERS OF CONVERSATION AND
PUBLIC ADDRESS MEASUREMENTS OF SPEAKERS
FROM WHOM BOTH TYPES OF SPEECH WERE OBTAINED

Speaker	C--Conversation PA--Public Address	Rate (Fastest to slowest)	General Pitch level (Highest to lowest)	Repeated Pitch Pattern (Most to least)	Phrase Variation (Most to least)	Pause Variation (Most to least)	Phrase and Pause Var. (Most to least)	Merit
1.	C	4	1	4	3	5	3	
	PA	2	3	3	4	6	4	4
2.	C	7	7	3	2	1	1	
	PA	7	7	7	1	1	2	6
3.	C	1	2	1	7	7	7	
	PA	4	5	2	6	7	6	7
4.	C	2	5	2	6	6	4	
	PA	6	4	1	5	4	5	2
5.	C	5	4	6	1	4	2	
	PA	1	2	5	7	5	7	5
6.	C	3	3	7	4	3	5	
	PA	3	1	4	2	3	3	3
7.	C	6	6	5	5	2	6	
	PA	5	6	6	3	2	1	1

three typical public addresses. Table VIII shows the same measurements for the three most preferred public address excerpts and the two typical conversation excerpts. The excerpts of typical conversation and public address were taken from May's findings for the purpose of discovering the correlation between typical and preferred patterns of speech.

Correlation of Rank Orders in Public Address

The quantitative data presented in Table IV which was obtained by correlating the different rank orders¹ of merit and various physical measurements as given in Tables I and II are interpreted and summarized.

An examination of the significant correlations² showed that a fast speaking rate was usually accompanied by a high pitch level with an "r" of .81 and a probable error of .09. A consistent significant correlation revealed that when variation in phrase is great the variation in pause is also great. In correlating phrase variation with pause variation the value of "r" was .84 and the probable error was .07. The correlation of phrase variation with phrase and pause variation showed the value of

¹Rank orders were used as a basis for comparison since no measure of refinement was possible.

²The term "significant correlation" was used when "r" was found to be around four times the PE making a small error of chance.

TABLE IV.

COEFFICIENT OF CORRELATION OF RANK ORDERS
OF PHYSICAL MEASUREMENTS IN PUBLIC ADDRESS

Orders of Physical Measurements	Order of Rate (Fastest to slowest)	Order of Co-ef. of Var. of Phrase (Most to least)	Order of Co-ef. of Var. of Pause (Most to least)	Order of Co-ef. of Var. of Phrase & Pause (Most to least)	Order of General Pitch Level (Highest to lowest)	Order of Repeated Pitch Pattern (Most to least)
Order of Merit	$r = .35$ PE-.22	$r = .09$ PE-.25	$r = .15$ PE-.24	$r = .02$ PE-.25	$r = .05$ PE-.25	$r = .37$ PE-.22
Order of Rate		$r = .20$ PE-.24	$r = .22$ PE-.24	$r = .20$ PE-.24	$r = .81$ PE-.09	$r = .17$ PE-.24
Order of Co-ef. of Var. of Phrase			$r = .84$ PE-.07	$r = .94$ PE-.03	$r = .20$ PE-.24	$r = .71$ PE-.13
Order of Co-ef. of Var. of Pause				$r = .82$ PE-.08	$r = .41$ PE-.21	$r = .81$ PE-.09
Order of Co-ef. of Var. of Phrase and Pause					$r = .32$ PE-.22	$r = .73$ PE-.12
Order of Pitch Level						$r = .20$ PE-.24

"r" to be .94 and the probable error to be .03. An "r" of .82 and a PE of .08 was found between pause variation and phrase and pause variation.

Consistent significant correlations showed also that the least variation of phrases and pauses was accompanied by the most repeated pitch patterns. A correlation between the least phrase variation and the most repeated pitch patterns showed a value of "r" of .71 and a probable error of .13. That the least pause variation accompanied the most repeated pitch patterns was shown by an "r" value of .81 and a PE of .09. An "r" .73 and a PE .12 was found in correlating least phrase and pause variation with the most repeated pitch patterns.

Probable correlations¹ were found between a low rank of merit and a fast speaking rate by an "r" of .33 and a PE of .22. This probable correlation would suggest that high ranks of merit would accompany average speaking rates or rates that were slightly below average. For purposes of this study the average speaking rate of 154 words per minute as found by Darley was used.²

Further check on individual rates showed the most pre-

¹The term "probable correlation" was used when "r" was slightly higher than the PE and there was a possible error or chance.

²Darley, F. L., "A Normative Study of Oral Reading Rate," Unpublished Master's Thesis, Department of Speech, State University of Iowa, 1940.

ferred speaker to have an average rate of 153 words per minute. Another study of reading rates by Franke revealed that rates exceeding 185 words per minute were almost certain to be too rapid and rates less than 140 words per minute were almost certain to be too slow.¹ It is interesting to note that the second speaker had a below average rate of 107 words per minute, which was below the lower limit set by Franke. The third preferred speaker used a rate of 164 words per minute which was slightly above the average.

A probable correlation between a high rank of merit and the most repeated pitch patterns with an "r" of .37 and a PE of .22 suggested that a high rank of merit tended to accompany average repeated pitch patterns. In accordance with May's findings, however, the pitch patterns in public address seemed to be a little more definite than in conversation. The differences in pitch patterns of the two types of speech was less marked in this study than in May's because unselected conversation was used here while excerpts selected as typical conversation and public address were used as basis for judgments in May's study. A probable correlation between the least pause variation and the highest pitch level with an "r" value of .41 and a PE of .21

¹Franke, P., "A Preliminary Study Validating the Measurement of Oral Reading Rate in Words per Minute," Unpublished Master's Thesis, Department of Speech, State University of Iowa, 1939.

might suggest that a great variation in pause accompanied an average pitch level. There was also a probable correlation between the least phrase and pause variation and the highest pitch level having an "r" of .32 and a PE of .22.

Possible correlations³ were found between other measurements. The lowest order of merit and most pause variation had an "r" value of .15 and a PE of .24. There was a consistent possible correlation between low rates and great phrase and pause variations. The correlations in each case had an "r" value of .20 and a PE of .24. A possible correlation was shown between the lowest rate and the most repeated pitch pattern with an "r" of .17 and a PE of .24. Possible correlations of lowest variation in phrase and highest pitch level, and between highest pitch level and most repeated pitch patterns showed "r" values of .20 and PE's of .24.

No correlation² was found between rank of merit and phrase variation, rank of merit and phrase and pause variation, and rank of merit and general pitch level. That speaking ability is not determined by average pitch

¹The term "possible correlation" was used when "r" was slightly lower than the PE and there was a greater possible error of chance.

²The term "no correlation" was used when "r" was very low and the PE was great.

was also demonstrated by Murray and Tiffin.¹ Cowan has shown that the average pitch level varies widely among different individuals.² This present study showed that although the most preferred speaker had a relatively low pitch level there was no correlation between ranks of merit and pitch levels as a whole.

Correlation of Rank Orders in Conversation

The data in Table V obtained by correlating the rank orders of conversation measurements as given in Tables I and II are also examined and summarized.

Consistent significant correlations were shown between the slowest rate and greatest phrase variation ($r = -.69$, $PE = .13$), between the slowest rate and greatest pause variation ($r = -.76$, $PE = .11$), and between a slow rate and the most phrase and pause variation ($r = -.59$, $PE = .16$). The correlation between these factors seemed to be greater in conversation than in public address. A significant correlation between the fastest rate and the highest pitch level ($r = -.71$, $PE = .12$) showed that a fast rate accompanied a high pitch level in conversation as well as in public address. The significant correlation found between the most phrase variation and the greatest phrase and pause

¹Murray, E., and Tiffin, J., "An Analysis of Some Basic Aspects of Effective Speech," Archives of Speech, I (1934), 61-83.

²Cowan, Milton, "Pitch and Intensity Characteristics of of Stage Speech," Archives of Speech, I (1936) Supplement, 1-92.

TABLE V.

COEFFICIENT OF CORRELATION OF RANK ORDERS
OF PHYSICAL MEASUREMENTS IN CONVERSATION

Orders of Physical Measurements	Order of Co-ef. of Var. of Phrase (Most to least)	Order of Co-ef. of Var. of Pause (Most to least)	Order of Co-ef. of Var. of Phrase & Pause (Most to least)	Order of General Pitch Level (Highest to lowest)	Order of Repeated Pitch Pattern (Most to least)
Order of Rate	$r = .69$ PE-.13	$r = .76$ PE-.11	$r = .56$ PE-.16	$r = .71$ PE-.12	$r = .37$ PE-.22
Order of Co-ef. of Var. Of Phrase		$r = .48$ PE-.19	$r = .81$ PE-.08	$r = .15$ PE-.24	$r = .54$ PE-.17
Order of Co-ef. of Var. of Pause			$r = .27$ PE-.23	$r = .52$ PE-.18	$r = .54$ PE-.17
Order of Co-ef. of Var. of Phrase and Pause				$r = .28$ PE-.23	$r = .05$ PE-.28
Order of Pitch Level					$r = .02$ PE-.25

variation ($r = -.81$, $PE = .08$) agrees with the correlation of the same measurements in public speech. Least phrase variations and least pause variations showed significant correlations with most repeated pitch patterns ($r = .54$, $PE = .17$).

There was a probable correlation between the fastest rate and the most repeated pitch pattern ($r = .37$, $PE = .22$). The probable correlation ($r = .48$, $PE = .19$) between the most phrase variation and the most pause variation and the probable correlation ($r = .27$, $PE = .23$) between the most pause variation and the most phrase and pause variation were not as great as the correlations found in the public address measurements. This correlation also suggested less variation in pause than in phrase in conversation. Probable correlations suggested that least pause variations accompanied highest pitch levels ($r = .52$, $PE = .18$) and least phrase and pause variations accompanied highest pitch levels ($r = .28$, $PE = .23$).

A possible correlation was found between the least phrase variation and the highest pitch level ($r = .15$, $PE = .24$). The relationship of the phrase and pause variations with the pitch levels in conversation corresponded with the relationship of the like measurements in public speech.

No correlations were found between the least phrase and pause variation and the greatest repeated pitch pattern

($r = -.05$, $PE = .28$), or between the highest pitch level and the most repeated pitch pattern ($r = .02$, $PE = .25$).

Correlations of Rank Orders
of Public Address with Conversation

Table V shows correlations of rank orders of like measurements in public address and conversation which are interpreted here in summary form.

Significant correlations were shown between the variations of pause ($r = .90$, $PE = .05$) and also between the general pitch levels ($r = .61$, $PE = .16$) in public address and conversation. Attention might be called to a particular observation, namely that a fast speaking rate accompanied a high pitch in both conversation and public address. Since it has been shown before that there is a definite rise in pitch when changing from conversation to public address and since conversation is more rapid than public address it would seem that other factors than rate bring about this rise in pitch, namely, increased intensity as shown by Talley. Since public address is usually higher pitched than conversation the significant correlation between the pitches of conversation and public address would suggest an approximately consistent amount of rise in pitch when changing from conversation to public address.

A probable correlation was found between the repeated pitch patterns ($r = .48$, $PE = .21$). According to May, pitch patterns were the most evident difference between conver-

TABLE VI.

COEFFICIENT OF CORRELATION OF RANK ORDERS
OF PHYSICAL MEASUREMENTS IN CONVERSATION
AND IN PUBLIC ADDRESS

Order of Rate	r	.19
(Fastest to slowest)	PE	.26
Order of Co-ef. of	r	.15
Var. of Phrase	PE	.26
(Most to least)		
Order of Co-ef. of	r	.90
Var. of Pause	PE	.05
(Most to least)		
Order of Co-ef. of	r	.04
Var. of Phrase and	PE	.26
Pause (Most to least)		
Order of Pitch Level	r	.63
(Highest to lowest)	PE	.16
Order of Repeated	r	.48
Pitch Pattern	PE	.21
(Most to least)		

sation and public address, and her findings showed little carry over of individual pitch patterns from one type of speech to another, though correlation of rank orders suggested a probable correlation between the pitch patterns of the two types of speech. This comparison was of degree of patternization rather than of the particular type of pattern and does not cover the point of carryover of a particular pattern from conversation to public address.

There were no correlations between the least variation of phrase and pause in conversation and the most variation of phrase and pause in public address ($r = -.04$, $PE = .26$).

Direct Comparisons of Conversation and Public Address Patterns

In making a comparison of rank orders within the group on the basis of specific measurements, the rate, pitch level, and the degree of repeated pitch patterns seemed more nearly the same in the conversation and public address of the preferred speaker than in that of the other speakers.

Certain observations in regard to specific public address measurements of different speakers and ranks of merit show that the length, SD, and Variation of phrase and pause were great in the most preferred speaker. This observation also revealed a great variation in phrase and pause for the least preferred speaker. The least preferred speaker had a high speaking rate of 185 words per minute while the most preferred speaker used an average rate of 146 words per minute.

The assembling of different observations mentioned before in this chapter brought out another factor regarding the speech of the preferred speaker. The fact that the preferred speaker had a low pitch, a narrow pitch range and no definite repeated pitch pattern would tend to bring his speech to the pattern of ordinary conversation.

Comparison of Styles of Public Address of Preferred Speakers with Typical Public Address and Conversation

Very few direct comparisons could be made between the public address patterns of the preferred speakers in this study and the typical public address and conversation

patterns in May's study because of the different methods of rating used in the two investigations. In the present study particular attention was given to the relationship between the preferred speakers as rated by students and ordinary conversation. In May's study the students attempted to distinguish between conversation and public address after the quality and force factors were removed and special attention was given to the groups which were most frequently correctly identified.

A comparison of the preferred speakers with the typical public address in Table VII showed the speaking rate to be about average for both of them. The repeated pitch pattern was found to be more definite in the three best liked and the three most typical public address excerpts than in the typical conversation, although, the best liked public address did not have the most definite pattern. There were both high and low pitch levels found in the three most typical and the best liked public address excerpts but the first preferred speaker used a low pitch.

In the comparison of the preferred speakers with the typical conversation in Table VIII a higher rate was found in the typical conversation. The repeated pitch patterns were more definite in the liked public address than the typical conversation. No direct comparisons could be made in the pitch level except that the typical conversation was found to have lower pitch than the typical public address and the first preferred speaker used a low pitch.

TABLE VII.

PHYSICAL MEASUREMENTS IN LIKED PUBLIC ADDRESS
AND TYPICAL PUBLIC ADDRESS

		Rate	Pitch Level	Pitch Pattern
Liked Public Address	1.	Average	Low	Some Pattern
	2.	Slow	Medium	Definite
	3.	Above Average	High	Some Pattern
Typical Public Address	1.	Average	Low	Definite
	2.	Slow	High	Definite
	3.	Slow	Low	Definite

TABLE VIII.

PHYSICAL MEASUREMENTS IN LIKED PUBLIC ADDRESS
AND TYPICAL CONVERSATION

		Rate	Pitch Level	Pitch Pattern
Liked Public Address	1.	Average	Low	Some Pattern
	2.	Slow	Medium	Definite
	3.	Above Average	High	Some Pattern
Typical Conversation	1.	Rapid	Low	No Pattern
	2.	Very Rapid	Low	No Pattern

CHAPTER V

CONCLUSIONS

This investigation dealing with a comparison of the pitch and duration elements and patterns of conversation and public address showed that the choice of the raters as to the most effective speaker was not based on any one characteristic. They liked or disliked different speakers for different reasons. Such factors as diction, quality, pitch range, subject matter and many other factors may have entered into the students' subjective rating as well as the physical elements measured in this study.

Other conclusions which could be drawn were:

1. Probable correlations were found between high ranks of merit and slow rates and most repeated pitch patterns.
2. Possible correlations were found between high ranks of merit and least pause variation.
3. No correlation existed between ranks of merit and phrase variations, phrase and pause variations, and general pitch level.
4. The most preferred speaker had long phrases and pauses and great variation of phrase and pause.
5. The least preferred speaker had great variation of phrase and pause.
6. The rate, general pitch level, and degree of

repeated pitch pattern were more nearly the same in the conversation and public address of the preferred speaker than in that of the other speakers.

7. The rates of speaking were higher in conversation than in public address with the exception of one speaker.

8. A significant correlation between ranks orders of the general pitch levels of conversation and public address, and an accepted higher public address pitch than conversation pitch suggested an approximately consistent amount of rise in pitch in changing from conversation to public address.

9. The rates of preferred public address and the typical public address were both average while the typical conversation was above average.

10. Repeated pitch patterns of the preferred public address seemed to lie somewhere between the definite pattern of the typical public address and no pattern of the typical conversation.

11. The pitch levels of the preferred public address and the typical conversation were lower than the typical public address.

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