

Rhythms in Speech: The Formulaic Structure of Four Fundamentalist Sermons

JOHN B. SMITH AND BRUCE A. ROSENBERG

Through an intensive computer-assisted study we have attempted to show that a set of four fundamentalist sermons are highly formulaic. We have extended the traditional meaning of formula to include any and all principles of structure. The study reveals that exact structural descriptions of changes in the preacher's rate of delivery, the quality of his voice, and the responses of his audience can be achieved through the aid of Fourier analysis. The most successful sermon reveals an intuitively beautiful curve of rising tension, climax, and denouement. As the sermons become successively poorer in quality, the curves become increasingly distorted. By perfecting precise analytic tools for describing esthetic response for this highly stylized language performance, we hope to apply and extend similar techniques to more sophisticated esthetic and literary experiences.

BACKGROUND

This study addresses itself to questions pertaining to spontaneous oral performance raised by Albert B. Lord's *The Singer of Tales* (Cambridge, Mass.: Atheneum Press, 1965), a study of oral epic composition among the Yugoslavian singers of narrative, the *guslars*. Beginning in the early 1930's, Harvard classicist Milman Parry (who died shortly after) and Lord studied these Serbo-Croatian singers of tales, some of whom were blind and most of whom were illiterate, and decided that their method of composition on the level of the single line was by means of the oral formula, which Parry defined as "a group of words regularly employed under the same metrical conditions to express a given essential idea". Parry's original intention had been to learn something of the Homeric process of composition, so that what he learned in Yugoslavia he then applied, by analogy, to the epics of ancient Greece.

Following rapidly upon the publication of Parry's and Lord's initial findings, several scholars with various literary interests analyzed texts in their own specialities, demonstrating — or alleging to demonstrate — the formulaic nature of the literature. The implied assumption of nearly all such analyses was that the manuscripts were the actual records of oral performances. Jean Rychner argued for the oral-formulaic nature of the *Chanson de Roland*; others for the formulaic character of the Middle English romances, for Old Norse Skaldic verse, the Russian folk epics (the *byliny*), and for Anglo-Saxon narra-

tive poetry, particularly *Beowulf*. More than 150 articles, monographs, and books were published following the appearance of Magoun's seminal essay in *Speculum*, "The Oral-Formulaic Character of Anglo-Saxon Narrative Poetry" (1953: 446-65) and in the decade following its publication no other approach to Old English gained so much attention nor commanded so much reflection in scholarly journals.

However, the modifiers as well as the extenders soon forced the scholarly community to seek for a genuine oral tradition against which the theories of Parry and Lord and their disciples could be tested. Without such a tradition, all discussion was merely speculative: Lord had claimed that the *guslars* were the last remaining singers of narrative in the West, and their tradition was rapidly dying. Nearly all of the literary analysis (on the Old French epic, on Anglo-Saxon narrative, etc.) had necessarily been executed on manuscripts whose orality was at least dubious. When it was discovered that many American fundamentalist preachers (living mainly in the South and Southwest) preached their sermons spontaneously, using techniques quite similar to those found Yugoslavia, the direct study of an authentic oral tradition again became possible.

The initial results of the study (reported in *The Art of The American Folk Preacher* [New York: Oxford University Press, 1970]) suggested that oral composition involved much more than syntactical manipulation, the theory that had occupied most workers in formulaic theory. Specifically, the rhythm of the performance seemed to be as

important to composition as syntax and as crucial to the audience's comprehension as semantics. The present essay attempts to demonstrate the role of rhythm in the American folk sermon by following up on the impressions of the early work done in this area with more objective and precise data, generated from the original sound tapes of the performances and their transcriptions, and processed by the computer.

DATA

Four sermons from the original collection of seventeen published in *The Art of The American Folk Preacher* were selected for further study. All were delivered by the Reverend Rubin Lacy in southern California over a thirteen-month period. The four sermons actually represent two versions of two different sermons, each based on an extended theme. The first pair is developed around what Lacy called 'The Deck of Cards', an extended metaphor comparing various numerological correspondences between the Creation and a deck of playing cards (fifty-two weeks in the year; fifty-two cards in the deck, etc.). The two versions of this sermon were delivered on June 20, 1967, and May 19, 1968, in Bakersfield and Corcoran, California, respectively. Comments from the transcriber's notes indicate that version I (DOC I) was "well received" while version II (DOC II) was "poorly delivered and poorly received". The second pair of sermons, based on the Twenty-Third Psalm, were delivered on July 9, 1967, and May 5, 1968, again in Bakersfield and Corcoran, respectively. Version I (23 I) was "nearly [a] complete failure" that Lacy salvaged at the last minute by reciting a popular, nearly memorized theme, "The Four Horsemen of the Apocalypse". Version II (23 II), however, was "well received" although the congregation was small. Thus, one version of each pair is recorded as having been "well received" while the other version of the pair was, in great part, a failure. Since the successful sermons, the first and last of those recorded over the thirteen-month period, were given both in Bakersfield and Corcoran, time and place do not seem to influence the performance significantly. Rather, the conditions necessary for a successful performance appear to be a function of the preacher, the congregation, and their interaction.

Based on the transcriber's notes, DOC I appears to have been more successful than 23 II, which, as we have noted, was well received but delivered to a rather small audience. Among the failures, 23 I was salvaged at least in part while DOC II was a total failure. Thus, the implied hierarchy of 'success' or 'failure' is: Deck of Cards I,

Twenty-Third Psalm II, Twenty-Third Psalm I, finally Deck of Cards II. This ordering is admittedly subjective, but we feel that the transcriber's impressions can be readily verified by listening to the tapes of the performances. And we are furthermore confirmed in our ordering by the marked differences in the level of audience response and participation which characterize this kind of religious encounter, as well as the obvious changes in the preacher's voice indicating his emotional involvement. In order to characterize the differences in performance and in the role rhythm plays, we will concentrate on the Deck of Cards pair, the 'best' and 'worst' of the four, and then verify our conclusions by applying the same analysis to the Twenty-Third Psalm pair.

FOCUS OF ANALYSIS

In these sermons rhythm functions on several different levels. Individual lines have definite metrical patterns within them (a line is conveniently defined as the sequence of words between pauses in the preacher's delivery); themes are introduced and modulated over units from several lines to seventy-five or a hundred lines. This discussion focusses on global rhythms defined over the entire sermon.

A number of stylistic features may be considered at this level. Among the most apparent are the changes in the preacher's rate of delivery reflected in both the number of words and the number of seconds per line. Because the two are closely related, a detailed analysis was made of only one: the rate of delivery in terms of time.

In addition to quantitative changes in delivery, the preacher's voice also changes qualitatively. He usually begins in a conversational tone before becoming more orational. At some stage of the sermon Lacy begins to sing or chant parts of the lines; at others he chants entire lines. A fifth stage is reached only when he and the audience are most emotionally aroused, and responding to each other freely. This physiological state of the preacher's voice, which is probably caused by an involuntary contraction of his throat, is marked by increased salivation and by a very sharp intake of breath (between lines) that resembles a loud gasp or bark. The lines where these various changes take place were noted by comparing the tapes with the transcripts, and the states were scaled one to five.

The third feature most apparent at this level is audience response. At virtually every pause in the preacher's delivery the audience responds with some interjection such as "amen" or "yes, brother". There are three noticeable

stages. At their quietest, the members of the audience merely speak, but when they are more aroused they chant their response. The third stage, not achieved at all in the less successful sermons, is marked by the overlap of the audience's ecstatic chanting and the preacher's delivery. Both preacher and audience seem transported — all are chanting, singing, and 'barking' at the same time. Again, these states were scaled and the lines where they shift were noted.

Values for all three features were converted from lines to a uniform time scale in seconds, obtained by accumulating the time interval for individual lines. Plots of these distributions over the sermon are given for Deck of Cards I in Fig. 1-3. Time values for the rate of delivery, however, were converted to the reciprocal of the time for each line: consequently a rise in the graph indicates an increase in speed while a decrease indicates that the preacher has slowed down. The values used to produce these plots become the data for the analysis described below.

As the graphs indicate, the scaled audience responses and the voice characteristics of the preacher tend to be stable states between shifts. The rate of delivery, however, is a much more complex feature, shifting often but perhaps containing a predominant pattern. Consequently, it was chosen as the major variable on which to base this analysis. Intuition leads to the same conclusion; although preacher and audience definitely interact, we have assumed that the preacher sets the tone for the encounter. Lacy, for example, preached both good and bad sermons to audiences of widely different sizes indicating that the composition of the audiences — at least with respect to size — did not determine the performance's quality.

The major questions we considered were whether the shifts in the rate of delivery are patterned and whether they correspond to shifts in audience response as well as the preacher's voice. If such a pattern can be determined it might be a key to the major dynamics of the sermon indicating, in the degree that it is present, the level of success for the performance. That is, if the two successful sermons are patterned but differ in a consistent way from the two failures, that pattern may be considered a formula for the successful sermon, at least for these four sermons by the Rev. Lacy.¹

What we sought, then, was a pattern in the changes in the speed of delivery that takes place over the duration of

the sermon, measured in seconds; but a pattern over time is simply a rhythm or perhaps a combination of rhythms. If the graph, or its values, could be broken down into regular, recurring rhythms, the sum of the more important rhythms should be the pattern sought. To do this we used Fourier analysis. Before considering the results of the analysis, a brief discussion of Fourier transformations may be useful for the reader unfamiliar with this analytic method.

FOURIER ANALYSIS

Essentially, Fourier analysis transforms any graph or wave form of a finite number of points or observations into a collection of perfectly regular, sine and cosine functions or waves of various amplitudes and frequencies.² When these terms are added together, their sum will reproduce the original within the limits of observational error. For example, if one speaks for one second over a channel with, say, a 6,000 cycle bandwidth such as a telephone, the wave form — like that produced by a voice spectrograph — can be reproduced EXACTLY by at most 6,000 sine and cosine waves with varying amplitudes and with frequencies ranging from one to 6,000 cycles per second. This is true no matter how complex the wave form appears.

More precisely, assume 1 observations of a variable denoted by $\chi_0, \chi_1, \dots, \chi_{l-1}$, which are taken at equally spaced intervals in time, $\lambda_0, \lambda_1, \dots, \lambda_{l-1}$. For computational purposes, the sequence of observations must be padded with terms set equal to zero so that the number of terms is exactly some power of 2. That is, the sequence of observations becomes:

$$\chi_0, \chi_1, \dots, \chi_{l-1}, \chi_l, \dots, \chi_{r-1}$$

where

$$\chi_l, \chi_{l+1}, \dots, \chi_{r-1} = 0$$

and

$$l' = 2^n \text{ for some } n.$$

The sequence of observations can be represented by the following Fourier series:

¹ Note that this use of the term, formula is different from Parry's more restrictive use. We will refer to any structural pattern that characterizes a class of phenomena as formulaic.

² We are indebted to Jay Politzer of the Penn State Computation Center for his generous help in programming this analysis and interpreting results.

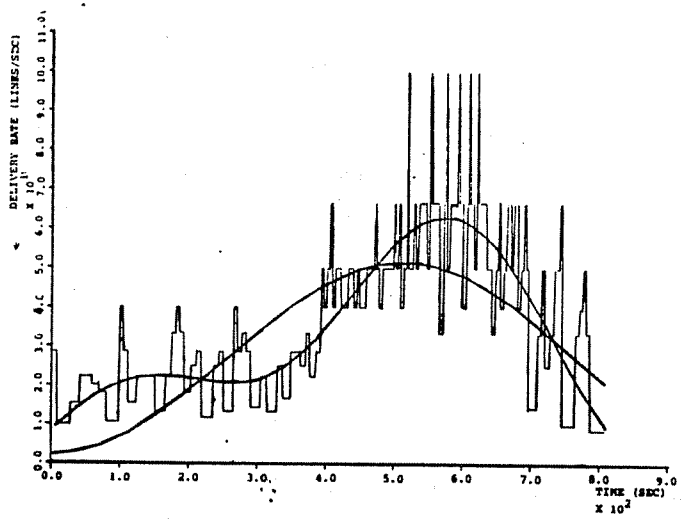


Fig. 1. Deck of Cards I: rate of delivery.

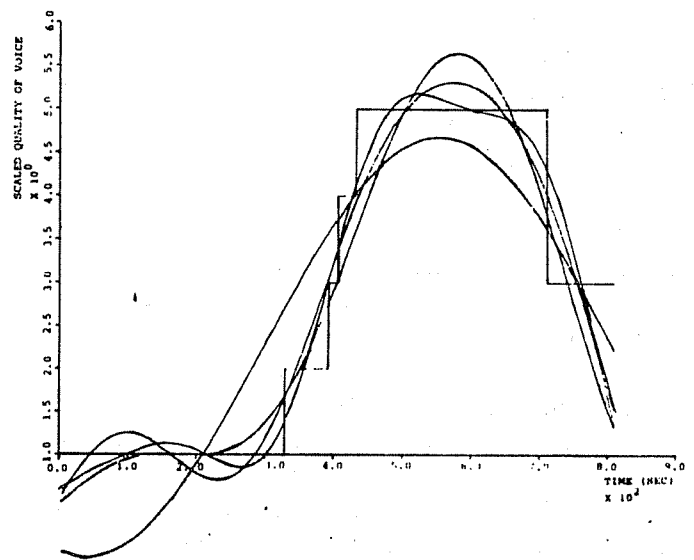


Fig. 2. Deck of Cards I: voice.

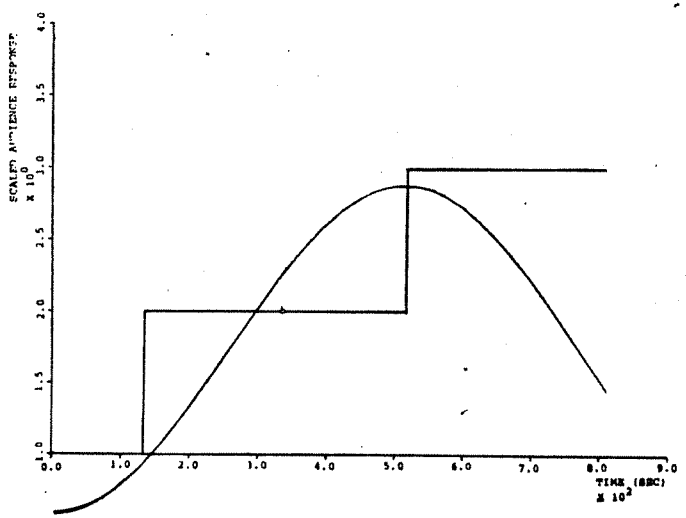


Fig. 3. Deck of Cards I: audience.

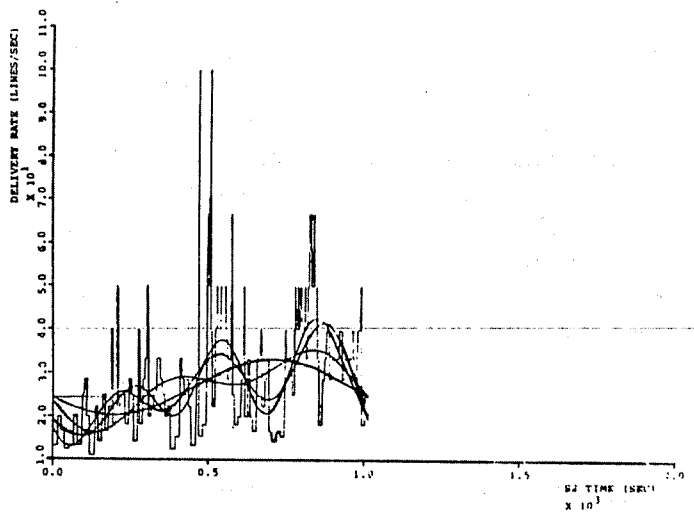


Fig. 4. DOC II: rate.

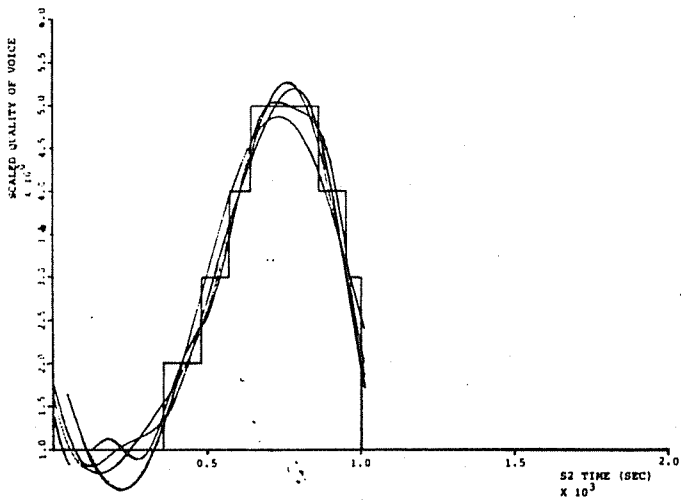


Fig. 5. D0C II: voice.

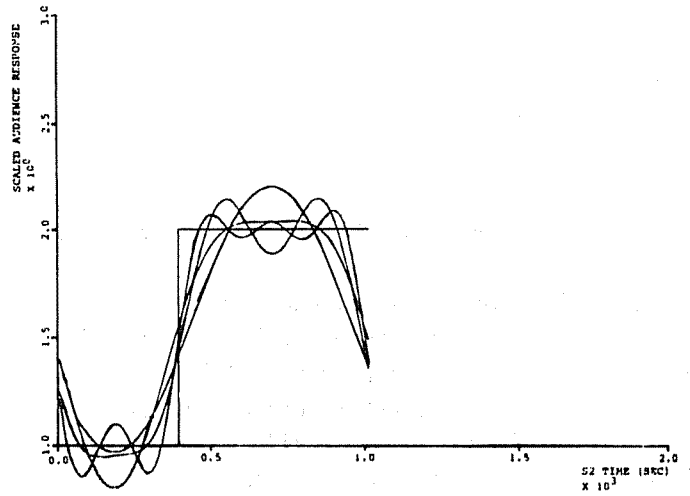


Fig. 6. D0C II: audience.

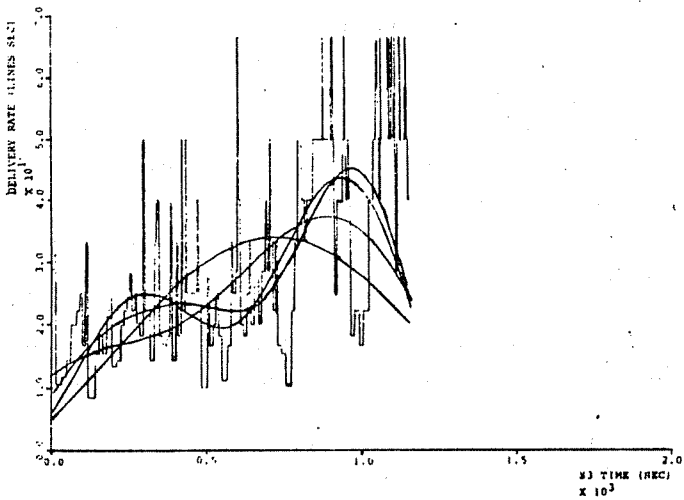


Fig. 7. 23 I: rate.

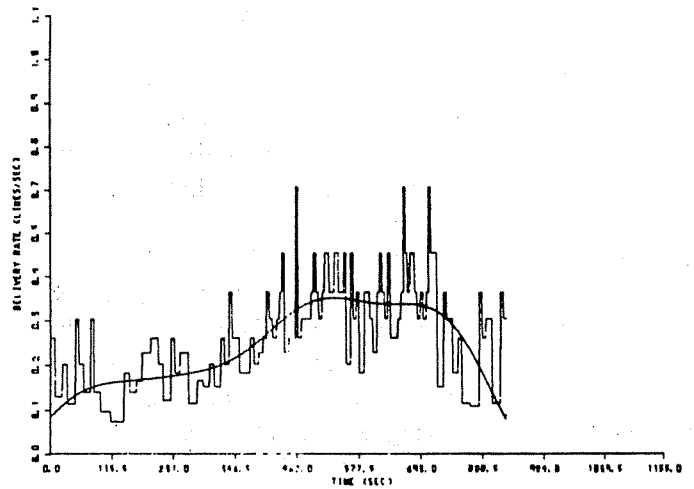


Fig. 8. 23 II: rate.

$$\chi = a_0 + \sum_{k=1}^{l-1} a_k \cos w_k(\lambda - \lambda_0) + b_k \sin w_k(\lambda - \lambda_0) + a_{l-1} \cos w_{l-1}(\lambda - \lambda_0)$$

where

$$\lambda_0 \leq \lambda \leq \lambda_{l-1}$$

and

$$w_k = \frac{\pi(1-1)k}{1(\lambda_{l-1} - \lambda_0)} = 2\pi f_k.$$

The frequency, f_k , corresponding to each Fourier component in the series is:

$$f_k = \frac{(1-1)k}{l(\lambda_{l-1} - \lambda_0)}$$

The power or degree of contribution of the terms is defined as follows:

$$g_k = a_k^2 + b_k^2.$$

The graph of the g_n 's for all k constitute the power spectrum.

The sum of all terms in the series is an analytic approximation of the original observations. Taking fewer, but the most significant, terms as indicated in the power spectrum reduces the phenomenon to its most fundamental rhythms. Their sum may be considered the characteristic form of the original wave or graph.

RESULTS

The Fourier analysis of DOC I reveals a characteristic pattern composed primarily of only two terms, the first with a frequency of one for the length of the sermon and the other with a frequency of two. The power or degree of contribution of all other terms falls off by a factor of one thousand. The composite curve obtained by adding these two terms together represents the characteristic form of this graph. This curve is seen in Fig. 1 as the heavy, smooth curve. (The heavy line is actually two lines representing the sums of the first two and the first three terms. The extreme closeness of these lines indicates how little the third term contributes).

In this sermon the main rhythms in the rate of delivery are those that cycle over the entire sermon. The performance begins slowly but soon speeds up perceptively. After a slight decrease, the remaining half of the sermon is marked by a long, sustained build-up in speed of delivery followed by a final slowing down. This portion of the sermon, some four hundred seconds in length, is virtually symmetrical.

A comparison of the rate of delivery graph for DOC I with the quality of voice and audience response graphs for this same sermon reveals the close interaction of these three factors. The audience moves from speaking to chanting their responses early in the sermon, just after the first substantial increase in delivery. On the characteristic curve, this change occurs where the curve flattens out. The introductory section lasts for another two hundred seconds with the audience responding at the same level. At approximately 350 seconds into the sermon as the preacher begins his major theme, the rate of delivery rises in a stair step fashion accompanied by three shifts in voice characteristics. During this transition he changes from a conversational to an orational tone. This is followed by shifts to chanting parts of lines and then entire lines. The final gasping, barking state follows soon after. Having kept the audience at an intermediate level of emotional tension (indicated by their chanted responses) through most of the rather long introduction, Lacy is able to draw them along quickly when he moves into the main body of the sermon. The degree to which preacher and audience are entuned, and the audience's readiness to respond, are indicated by the audience's shift to its third level of response at the very moment the preacher achieves his maximum rate of delivery. This emotional climax for both preacher and audience comes at the top of the characteristic curve and is followed by a denouement balancing the earlier crescendo.

DOC II, Lacy's attempt to deliver the same sermon a year later, exhibits markedly different patterns (Fig. 4-6). The transformed terms do not begin to converge until the fourth, implying more frequent shifts in delivery rate. Although the general form of the curve guilds throughout the sermon, there are three distinct cycles of speeding up and slowing down indicating the preacher's attempts to shifts the level of emotional tension every two to three minutes throughout the sermon. In DOC I the single sustained cycle is over eight minutes long. The lack of response in DOC II indicates that the audience is unable to move through so many changes and still reach the level of religious ecstasy produced in DOC I. We should note that we have seen somewhat similar patterns in other, successful sermons; but these performances were several times as long as DOC II.

In DOC I the audience's level of response remained high for a tantalizingly long time before the preacher sped up significantly or changed the quality of his voice. In DOC II the pattern is reversed. Trying to pull his unresponsive audience along, Lacy both speeds up and begins his orational style before there is any significant change in his audience. They begin to chant their responses in the

intervals between the preacher's statements nearly three times as far into the sermon as in DOC I. Never do they reach the third stage where their chanting becomes continuous, as at the climax of the earlier sermon.

The patterns seen in DOC I and DOC II are present in slightly modified forms in 23 II (Fig. 8) and 23 I (Fig. 7), respectively. 23 II was deemed by the transcriber a successful sermon although it was delivered to a rather small audience. Like DOC I, it begins with an introductory section that speeds up a bit, tapers off slightly before a long, sustained build up toward climax, ending in denouement. The power spectrum is much closer to that of DOC I than to DOC II or 23 I, but Fig. 4 indicates that subrhythms beyond frequencies of one or two cycles are slightly more significant than in DOC I. The high spike midway through the sermon and the long (nearly five minute), rather flat climax may indicate that the sermon peaks a bit early. Also, the rate of delivery never reaches the same absolute level achieved in DOC I (1 and $\frac{1}{2}$ seconds per line maximum for 23 II vs. 1 second per line maximum for DOC I). Thus, while the characteristic curve for 23 II is very similar to DOC I, the flattened climax and the fact that the series does not converge as sharply confirms the transcriber's impression that this sermon is well delivered but not so successful a performance as DOC I.

Sermon 23 I shows strong convergence in the power spectrum by the fourth term, but like DOC II it has a definite cyclical pattern indicating abrupt transitions in rate of delivery. Where DOC II goes through three complete cycles, 23 I goes through two. The characteristic curve confirms the transcriber's negative impression for this sermon also. We can see that the curve is a further distortion of that for DOC I. The slight speed up and slowing down of the introductory section present in DOC I has become a substantial change in rate of delivery. This feature combined with the absence of a denouement and the apparently random spike in the middle where a careful transition would be expected explains in part why this was evaluated as the poorest of the four sermons.

In these four sermons, the characteristic curves of the two successful sermons are similar as are those of the poorer sermons. The curves for DOC II, 23 I and II all represent varying degrees of distortion of the characteristic curve for DOC I, indicating that poor performances produce greater distortion. With regard to these sermons, the characteristic curve determined by the analysis of DOC I may be considered a formula for the successful sermon; not a sufficient or complete explanation but a necessary pattern with regard to rate of delivery.

The pattern we have uncovered and called formulaic may properly be applied only to the four sermons discussed. Its simplicity of form, however, suggests that it may be more general. The folk sermon is characterized by its single purpose: to transpose its audience to a state of religious ecstasy. Consequently, we would expect such a performance to contain a single, well-developed climax preceded by a rise in intensity, succeeded by a release of emotion. It is this pattern that marked the superb performance of DOC I and that was successively distorted in the other sermons.

If this pattern is general for this primitive folk medium, it suggests a correspondence with some fundamental human emotional or esthetic pattern. It may represent an archetype that, stretched or reduced in time, can be found in other media. For example, colleagues to whom we have shown these graphs suggest that the pattern represents the emotional development produced by tragedy. This is probably true for classical tragedy, consisting of prologue followed by complication, climax, and denouement, in which emotional intensity builds unremittingly. In later tragedy, for example, *Hamlet*, this may not be exactly accurate. The action builds inevitably toward a tragic climax with accompanying rises in emotional intensity, but it is punctuated with comic relief. The effect in the observer is an undulation in a generally rising level of tension. The characteristic pattern of this kind of tragedy may be closer to the three cycle pattern of DOC II. In this fifteen minute sermon (DOC II), the shifts came too close together, dampening the audience's reactions; but the far greater length of some Shakespearian tragedies may necessitate such a pattern. Where classical tragedy builds steadily toward the inevitable fall, later tragedies achieve higher levels of tension and, hence, greater catharsis through longer, undulating rises of emotional response. Even here, the pattern may be considered the formulaic pattern of the sermons with superimposed higher frequency, lower intensity rhythms of comic action.

This pattern of emotional crescendo and denouement is familiar to many other areas of human experience. A friend who conducts encounter groups (of the type made famous by Esselen) has told us that he chooses physical exercises which raise or lower the group's tension, in an effort to follow a pattern similar to the one we have described. These psychological workshops last from several hours to several months. Shorter crescendo-and-denouement patterns inform the movements of symphonies and concerti, especially those written since the early nineteenth century. And drama in film, like that of the stage, again

embodies this scheme. The rhythmologist might well be interested to consider the persistence of this pattern in light of its obvious recapitulation of its physiological microcosm, the sexual encounter.

We could easily extend our list of examples but they would add little to the significance of this study. We have sought to isolate and identify objectively schematic patterns of some common emotional and aesthetic aspects of

human behavior. Formulae of this sort cannot completely explain the satisfying aesthetic experience; this we fully admit at the outset. But as we discover objectively certifiable patterns in our experience we gain deeper understandings of these experiences. Collectively, they enable us to move toward a more comprehensive and objective understanding of aesthetics, and in some small measure, of human nature as well.