Effects of Name Sounds in the Congressional Elections of 1998

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This study extends earlier studies demonstrating electoral predictions based on selected phonetic features in the names of political candidates. The current study tested modifications of the original analytical model and enlarged the data base five-fold, applying the revised model to all 1998 races for the U.S. Senate and House of Representatives. The modifications did not affect the success of the model significantly, but the larger sample of data reaffirmed the model's statistical reliability.

Introduction

Four previous reports by this investigator have shown how voters, especially "undecided" voters, seem to be influenced by the sounds of language, especially rhythm, in the names of political candidates. These studies report the predictive reliability of added scores from twenty phonetic attributes (the analytical model) and thereby illustrate in a practical way that speech sounds have an effect of their own on human behavior, i.e., in addition to morphological and lexical meanings.

Since the first, each study has used the same model while refining procedures and definitions and using new data. The current study was designed to improve the reliability of the analytical model with small modifications of the parameters and, more importantly, a much larger data base. It presents predictions (forwarded before the elections to Vote/Smart) based on the analysis of the names of the principal contenders in the 469 Congressional elections of 1998--435 House races and 34 Senate races. 47 races had incumbents running unopposed, and in one race principal contenders were not accurately determined, leaving 421 test cases. The revised model predicted 278 winners (66%) correctly, demonstrating a high level of statistical reliability--i.e., a chi-square value of 43.085 (1 degree of freedom) with $p < .001$.

In addition to discussing these results, this paper will trace the development of the original model used in previous studies, summarize central assumptions, and describe the modifications of the model used in this study, the rationale for using them, and their limited success.

Development of Analytical Model

At the 1995 annual meeting of the American Name Society I reported an analysis of phonetic attributes in the names of the principal Presidential candidates from 1824 (when the popular vote began to be recorded)

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through 1992. By selecting common attributes found in the surnames of winning candidates as positives and attributes found in the names of losing candidates as negatives, an analytical model of twenty attributes (see Appendix A) was constructed that could account for the results in 35 out of 42 elections (83%). I also reported that the model had been applied in November of 1995 to the local elections of Spokane County, successfully predicting 32 of 44 races (73%).

Given names in all 86 races were analyzed with the same criteria and appeared to be much less reliable. There were difficulties in determining which given name or nickname was most recognizable and which rhythmical pattern of the given name and surname would have been presented most often to voters. For these reasons, the sounds of given names are assumed to have some effect in elections but have not been given additional systematic study.

Definition of Parameters and Discussion of Negative Examples

The development and application of the model was again reported at the XIX International Congress of Onomastic Sciences (ICOS), chaired by Professor W.F.H. Nicolaisen (1996), and published in 1998 as part of those proceedings (Smith 1998). This report included definitions of the twenty attributes and a discussion of Presidential elections in which the model failed to predict winning candidates (Van Buren, 1836; Polk, 1844; McKinley, 1896 and 1900; Taft, 1908; and, especially, Wilson in 1912 and Roosevelt in 1936). The model assumes that a particular sound pattern (a clear trochaic rhythm reinforced with easily pronounced phonemes) appeals to voters in most but not in all elections. The favorable sound pattern suggests stability and calm, but such feelings are not always what most voters prefer. In 1844, for example, the abrupt, assertive sounds in the name *Polk* were apparently more compatible with public sentiment (and the attitudes associated with Manifest Destiny and the annexation of Texas) than the flatter sounds of *Clay*.

First Test of Reliability and Discussion of Central Assumptions

The statistical reliability of the model was not tested until the 1996 elections. The historical data of Presidential elections can not be counted toward future reliability, and predictions for the local elections of 1995 were few in number and had not been forwarded to an independent agency. These latter analyses might, arguably, have been influenced by my personal knowledge of the candidates. To test the model scientifically, the 1996 Presidential race, all 34 Senate races, and 44 House races identified by *The Congressional Quarterly* as "most competitive" were analyzed and predictions forwarded to a variety of news agencies. Of the 79 races analyzed, 49 were predicted correctly, or 62%. In statistical terms, $p<.025$, which is a significant level of reliability and confirms the influence of name sounds described by this model.

These and all previous results were reported in full detail in a recent issue of *Communication Monographs* (CM 1998). Besides the statistical detail, this article also includes discussion of six central assumptions (and relevant scholarship), which may be summarized as follows:

1. Name sounds need to be distinguished from lexical and morphological meaning. Names can function without meaning and are processed in different areas of the brain than other forms of language (Semenza & Zettin, 1989; Shaywitz, 1996). While their sounds may (as in poetry) mediate or parallel discursive cognition, they also function independently, as a screen play might reinforce the mood of a movie, or as a melody reinforces lyrics. Although the written forms of names can often carry ethnic/gender identifiers or any number of metaphorical associations, these are discursive meanings and are excluded from the simple analysis of speech sounds reported here. For example, in 1996 a man with the name *Yellowtail* was running for Congress in Montana. The possible semantic associations were obviously negative, but the sound pattern was more positive than his opponent, *Hill*. Thus, the analytical model predicted Yellowtail would win, but for other reasons, possibly including the metaphorical associations, he lost decisively.

2. Name sounds are only one of many types of influences on political elections. Voters want to act on personal beliefs and appear to be more strongly influenced by specific issues, incumbency, familiarity, and the imagery by which these are conveyed than they are by name sounds. However, these other influences may balance out. They are generally discursive types of information and are subject to displacement by similar types of information. For many voters the competing types of discursive information add up to an intellectual muddle. As a consequence, if only five percent of the voters are swayed by name sounds, and if the model is only 80% accurate in its description of significant sounds, then the model will account for a four percent swing in the vote totals, which is usually enough to swing an election.

3. Unlike discursive types of information, name sounds are fixed rather than contingent elements of every election. Politicians seldom change their names. While the media may present a great range of discursive information and/or create competing visual images, names are unique and singular identifiers. Their sounds elicit associations that are not categorized grammatically or lexically but intuitively and, by analogy, musically. Most importantly, perhaps, they are the central focus of attention in the voting booth itself. For such reasons, they may generate the most stable and predictive of all types of emotive associations.

4. A trochaic rhythm and its reinforcement with easily pronounced phonemes seems to be associated with a greater sense of comfort, stability, or reassurance as voters hear, read, speak, or sub-vocalize names. However, the mechanics of articulation are not direct causes of emotive

associations. The associative process takes place in the brain and is affected by social conditioning and language learning.

5. The analytical model used in these studies describes a sound pattern that predicts relative political success in a single language community. Speakers of different languages may associate stability and comfort with a different rhythm and a different combination of phonemes. Basic similarities and considerable overlap may be found among languages, and in 1996 this model was used to predict that Howard would beat Keating in Australia, Yeltsin would beat Zuganov in Russia, and Netanyahu would beat Perez in Israel. However, these three examples do not constitute a reliable sample. Because the developmental data was limited to U.S. Presidential elections, the analytical model is assumed to be valid only for American English as found in the popular media.

6. Finally, as noted in the ICOS proceedings, the pattern of name sounds favored in this analytical model does not match the public mood or individual moods in all elections. A few individuals might have unique linguistic backgrounds, and many more will vote on the basis of ideas, personal beliefs, or other interests. Also, the public mood varies, and the more it varies, the less predictability we should expect with any fixed set of phonetic parameters. However, the greater the predictability found with a fixed set of parameters, as in the analytical model presented here, the less variation can be presumed in public mood. The success of this model (62% or better) suggests a relatively stable political environment.

Rationalization of Parameters and Suggestions for Modifications

As may be seen in Appendix A, the model has three general categories of sound features: rhythm (the number of syllables and, most importantly, their trochaic emphasis), vowels, and consonants. A full description of the categories and sub-categories may be found in the *CM* article and an abbreviated version is included here as Appendix B.

The current study follows an attempt in 1997 to suggest ways of giving the model greater unity, rationality, and, presumably, predictive reliability. In a paper presented to the 2nd International Congress of Dialectologists and Geolinguists in Amsterdam (prepared after the *CM* article) I emphasized the need for more data--proposing that a very large database might eventually be used to calibrate statistically the value of each individual parameter, and, at the least, that a larger sample would be helpful in demonstrating statistical significance. Because few names engage more than five of the parameters and some parameters are seldom engaged, the data sample needed for individual calibration would be much larger than can be provided at this time. However, the current study is based on a data sample about five times larger than the previous studies, and so its statistical probability is about 25 times greater.

I also proposed four specific modifications in individual parameters, which were then adopted and used in the analysis presented here.

Descriptions of these changes and their effects on the predictive success of the model follow:

A. First, it bears emphasis that the trochaic rhythm is the foundation for all values in all categories and sub-categories of the model. However, the original model does not give a value to the basic trochaic pattern in long names, such as *Eisenhower* v. *Stevenson*. Some such value seems to be a logical inference, but it was omitted from the original model because it would have made no difference in predicting winners among the Presidential names. Thus, to pursue the rationale of the model, one half point was added in the current study when scoring names with four syllables in a trochaic pattern.

The results gave the model very slight improvement. There were sixteen names with this rhythmical pattern. Eight won their elections, and eight lost. This suggests no effect of the trochaic rhythm in long names. However, some significance can be seen in the fact that only three predictions were changed from negative to positive because of the modification. Of those three, two (66.7%) actually won in the election, and the model thereby scored one more predictive success than it would have otherwise and improved its reliability by the thinnest of margins.

Also, three of the names lost to names that had higher predictive scores for other reasons. Of the remaining thirteen names, eight (61.5%) won.

In isolation, of course, these numbers are not statistically significant, but an extra half point for long names with a trochaic rhythm does not hurt the predictive reliability of the model. At the same time, a higher score for trochaic names with two syllables seems appropriate.

B. Favorable patterns among the vowels parallel the trochaic pattern in rhythm, especially as seen in the unstressed terminal "ee" sound (/i:/) following a stop (B.4 in the model). It may be that a stop is a strong sound and that an unstressed vowel completes a preferred strong-soft pattern. If so, it would seem logical that any stop plus a terminal, unstressed vowel should have the same effect (e.g., Landa, Maldonado, and Goethe). However, no such examples occurred in the original data from Presidential elections, and if they had been counted in other subsequent tests, no predictions would have been changed. Nonetheless, to make the model more rational in the current analysis, one point was added in scoring names with any stop plus a terminal, unstressed vowel.

The results of this change reduced the predictive success slightly. Of the thirteen examples, six won and seven lost. Only two of the names lost to names that had higher predictive scores for other reasons. Also, three predictions were changed from negative to positive because of the added one point. Of those three, only one actually won in the election, and the model thereby scored one less predictive success than it would have otherwise.

By contrast, there were 28 names ending with a stop plus an unstressed /i:/, and seventeen won (60.7%). Thus, the original parameter described in B.4 continued to contribute to overall predictive success (and to a degree proportional to its weighting) and ought to remain a part of the model without modification.

C. The third category lists consonant features, specifically the way in which they may enhance the strong-weak pattern by means of their resonance and ease of articulation, or obscure the pattern with turbulence and abruptness. As may be seen in C.2 and C.3, the liquids are usually positive, and it may be that other frictionless continuants at the initial position should receive a modest positive score as well. To test this hypothesis, each initial /w/ and/j/ was given an extra half point in the analysis.

Again, the results of this modification made the model marginally more successful. There were 38 examples, and 21 won (55.3%). Five predictions were changed, three of which won, giving the model a net gain of one successful prediction. These numbers are not statistically significant, but retaining this modification probably won't hurt reliability.

D. In earlier studies, one type of name appears to be undervalued by double exposure to negative parameters in the model. The paternal prefix "Mc" (or "Mac") usually shifts rhythmical stress away from the first syllable and adds a stop, thus lowering scores in two of the categories. If the "Mc" prefix had not been counted as an extra syllable or as an extra stop in the 1996 elections, two more predictions would have proved correct, improving reliability from 62% to 65%, and no other predictions would have been reversed. No data was available for names beginning with other types of paternal prefixes.

For the current study, no unstressed "Mc" prefixes were counted as syllables. Of the seventeen examples, seven won and ten lost (41.2%). Also, the modification reversed seven of the predictions, and of those seven, five lost, thereby giving the model a net loss of three predictions in this study. These numbers are not large and have no statistical significance in themselves, but they do make a difference in the reliability of the model in this study (0.71%).

The apparent failure of this modification points to a central distinction between speech sounds and other types of emotive associations. That is to say, the basis of this modification appears to be a comparison of apples and oranges. The "Mc" has more morphological than phonological significance, and this modification errs by shifting focus from sound to form. The simple frequency of the "Mc" form within the culture may well convey a sense of familiarity, which is politically favorable, overcoming at times its negative rhythm. In similar fashion, the sounds in *Smith* get a low score, but in the 1998 elections four of seven Smiths won their races. *Smith* is the most common name in America, and familiarity, like incumbency, might be a more important factor in elections than name sounds. However, as noted above and discussed in the *CM* article, the emotive associations based on lexical and morphological information vary much more than those based on phonology. In previous studies not counting the unstressed "Mc" prefixes would have been a clear positive, but in this study it was a clear negative.

E. None of the four modifications improved the success of the model significantly, and the total effect was to reduce the success of the model by two predictions. This suggests that empirical induction (by which the model was created) is more important than any sort of rational unity. However, the negative impact stems almost entirely from the morphological emphasis in "D." The other three modifications affected success to the slightest degree possible, are consistent with the phonological basis of the model, and so will be retained for further testing. The model works well as originally constructed, but the values of all parameters can be better calibrated statistically when more data are accumulated from future elections.

Other Results

In the course of this study three new issues emerged -- 1. the analysis of hyphenated names; 2. the inclusion of minor party candidates; and 3. the importance of incumbency.

1. In previous studies there was only one hyphenated name, Moseley-Braun, and the results were not affected by whether or not the name were analyzed and scored as a unit or whether just one part of the name were scored. There were seven names in all; three won and four lost--which suggests an inherent disruption of rhythms. However, the individual parts of the names did not compare well with the opposition. In this study only the second part of the name was scored, and five out of seven contests were correctly predicted. If only the first part of the name had been scored or if the name had been scored as a unit, four out of seven would have been correctly predicted.

The differences in these numbers are not significant, but the results suggest a cognitive focus on the last half of the name (as with phrases and clauses).

2. The procedure of this study and of those that preceded it was to analyze the two *principal* candidates for each office. Usually the two principal candidates are a Democrat and a Republican, but among these races, 45 of the principal candidates represented minor parties -- independents, libertarians, etc.

It might be argued that such races should be considered as uncontested. If all 45 of these races were removed from this study, the final results would show 239 accurate predictions out of 376 chances, or 63.6%, giving a chi square value of 27.67 and $p<.001$. This is higher reliability and greater statistical significance than the analyses of the 1996 elections.

However, these races usually featured very strong incumbents with names that scored high. At the same time, the minor party candidates had names that tended to score low. In total, the model predicted only six would win. None of those did, but one independent whose name scored low won anyway. Thus, the model appears to reflect political reality as accurately in these races as in others, and the data of all contested races, those that may be less competitive as well as the "most competitive," ought to be retained.

3. Incumbency is obviously the most significant influence in U.S. elections. However, because only the "most competitive" races were selected for analysis in the 1996 elections, incumbency was not, in that study, the dominant factor it usually is or that it was in 1998. Of the 429 incumbents who ran in 1998, 47 had no opposition, and only nine lost. In this election, therefore, the importance of name sounds stands out in the counter trend --i.e., in races without incumbents and when incumbents lost.

An analysis of races without incumbents and when incumbents lost clearly validates the broader results of this current study. 40 races were without incumbents, and the model correctly predicted 27 winners (67.5%). Of the nine losing incumbents, the model correctly predicted six (66.7%). Thus, there were 49 such races altogether and 33 accurate predictions, giving a chi square value of 5.90, with $p < .025$. Again, these numbers are statistically more significant than the analyses of the 1996 elections (which gave a chi square of 4.154), and the percentages of accurate predictions among these races (i.e., which exclude the incumbency factor) actually exceed the percentages of the study as a whole.

Conclusion

In summary, no attempt is made here to claim that name sounds is the most important influence in political elections. Incumbency is a much stronger influence, and people clearly prefer to vote on the basis of specific issues and personal belief. However, this study confirms previous studies of name sounds and the efficacy of a model used to measure the impact of a politically favorable sound pattern. With a much larger body of data than a similar study in 1996, the percentage of accurate predictions for 1998 went up from 61.54% to 66%, while statistical significance jumped from a chi square of 4.154 to 43.085.

We can reasonably conclude that the model describes a sound pattern in names -- characterized, perhaps, by strength, clarity, and stability -- preferred by most voters in the elections covered. Because the model was developed with historical data and has been applied in three elections, its success demonstrates that speech sounds in general and name sounds in particular have an effect on human behavior clearly distinguishable from lexical or morphological meaning.

The nature of these observations should not be seen as anything novel. The rhythms and sounds of language are obvious adjuncts to meaning as they affect us in poetry, advertising, and everyday speech. The value of a smooth sounding name in politics has also been often observed. This series of studies has simply tried to demonstrate these observations systematically.

Note
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Appendix A

The Analytical Model

A. Rhythm

1.	two syllables	= + 1.5
2.	more than two syllables	= + 0.5
3.	monosyllabic	= - 0.5
4.	initial stress	= + 1.5
5.	medial stress	= - 0.5

B. Vowels

1.	stressed vowel is middle vowel	= +1.0
2.	stressed high vowel	= - 1.5
3.	vowel sequence is higher to lower/front to back	= + 0.5
4.	terminal /iy/ following a stop	= + 1.0
5.	schwa before terminal nasal consonant	= + 0.5
6.	high vowel before terminal fricative/affricate	= - 1.0

C. Consonants

1.	terminal nasal (especially *n*, possible *nd*)	= + 1.5

2.	/l/ or /r/ following initial stop	= + 1.0
3.	initial /l/ or /r/	= + 0.5
4.	initial fricative	= - 1.0
5.	ending fricative/affricate	= - 1.5
6.	more than one medial stop	= - 1.0
7.	more than one fricative glide	= - 1.5
8.	special harshness	= - 1.0
9.	tie-breaker (e.g., voicing, clusters)	= - 0.5

Appendix B

Descriptions of Categories and Sub-Categories

A.1, A.2, and A.3: Two appears to be the most favorable number of syllables, and there are one point differentials (in descending order) between the sub-categories: "two syllables" (A.1.), "more than two syllables" (A.2.), and "monosyllabic" (A.3.).

A.4 and A.5: "Initial stress" (A.4) is given a high score of one and a half while "medial stress" (A.5) is given a minus half, a two point differential.

B.1 and B.2: If the "stressed vowel is a middle vowel" (B.1.), as in *Kennedy*, *Reagan, Harrison*, or *Roosevelt*, it is scored a plus one. All high vowels, but especially the high back vowels of *Van Buren, Hughes, Dewey,* and *Bush*, are negative and if stressed are scored a negative one and a half (B.2) -- a big spread of two and a half points from the stressed middle vowels.

B.3 and B.4: Statistically, there is an apparent preference for sequences of high to low and/or front to back. Such a pattern is not usually very clear, but names in which it is, such as *Jackson, Lincoln, Truman, Reagan,* and *Clinton*, gain a half point value. Even more reinforcement of the stressed-unstressed pattern may be seen in the function of vowels at the end of a name. A "terminal unstressed /i:/ following a stop" generates a plus one.

B.5 and B.6: A terminal unstressed schwa before the nasal /n/ reinforces the basic trochaic rhythm. If the value of the consonant is added from the next category, this particular combination of sounds -- the -*un* sound -- is the single most positive score on this list (e.g., in 20 of 42 winners in Presidential elections). By contrast, a high vowel before a fricative or affricate disrupts the preferred sense of rhythm and structure.

C.1: "Terminal nasal," especially /n/, has a long and easy duration, which smoothes the down beat and perhaps adds a sense of continuity to the trochaic structure. As indicated in B.5., this is a very positive feature.

C.2 and C.3: Liquid consonants at the beginning of the name seem to lend a sense of continuity because of air flow. Most positive is an "/l/ or /r/ following an initial stop" of a name with two or more syllables (e.g., Cleveland or Clinton). This particular consonant cluster begins with physical firmness followed by a smooth air flow. At the beginning of the name, this sequence seems to suggest direction or purpose and generates a score of plus one. Also, beginning liquids, as in Lincoln, Roosevelt, and Reagan, generate a modest plus one-half.

C.4: Turbulence seems to obscure the clarity and simplicity of the rhythmical pattern. However, the affricates are not included with the fricatives in initial position. Like the stops, the affricates begin with the complete closure of the vocal tract and release the airflow with brief explosions of friction. Phonologically, they are like the /tr/ sound, in which a continuant follows a plosive, as in C.2. Thus, initial affricates, as in Johnson, are not negative and may even justify a positive score.

C.5: Turbulence at the end of a name is more negative and points again (as in B.6.) to the greater importance of the terminal phonemes in general. Thus, terminal fricatives (C.5.), as in Douglas, Davis, Cox, Smith, Dukakis, and Bush, generate a negative score of one and a half. The affricates are included as negatives here because their friction is more noticeable in terminal position.

C.6, C.7, C.8, and C.9: The basic rhythmical pattern of a name may also be disturbed in medial positions. No Presidential candidate, for example, has won whose name had "more than one medial stop;" two have lost decisively -- Goldwater and Dukakis. Similarly, not many names have "more than one fricative glide," but when they do, the repeated turbulence, although slight, seems to have a very clear negative effect, which justify a minus one and a half. The fricative glides off the initial /d/ and second /k/ of Dukakis are examples. "Special harshness" includes clusters of fricatives (e.g., Morasch) or junctures within names between two fricatives (e.g., Steffes) and has been used to analyze non-Presidential elections with a score of minus one. The last sub-category (C.9.) is a catchall for use only when scores are tied. Although specific values are not been calculated, one half point is added or subtracted from one of the names for features that reinforce or disturb a simple trochaic rhythm.