Charles Brockden Brown: Quantitative Analysis and Literary Interpretation

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Abstract

This study is a test case in the use of stylometric techniques to provide an entrance into questions of literary criticism and interpretation. The study applies multivariate analysis to two texts of Charles Brockden Brown, sometimes considered the first professional writer in the United States. Both a scatter graph of a principal components analysis and a cluster analysis show that individual chapters from each of two novels (*Wieland* and *Carwin*) group together, except for three chapters of *Wieland* that cluster with the *Carwin* chapters. One chapter of *Wieland* that clusters with the *Carwin* chapters is narrated by the same character who narrates all of *Carwin*, thus providing statistical evidence that Brown has created a narrator with a distinctive voice. Accounting for the clustering of the other two chapters calls for a consideration of several of the more crucial and problematic interpretative issues in the novel, and suggests that quantitative analysis can indeed provide background and evidence for literary critical discussion and understanding.

Nearly fifteen years ago, the publication of *Computation into Criticism*: *A Study of Jane Austen and an Experiment in Method* by J. F. Burrows (1987) appeared to promise the beginning of an important relationship between quantitative and traditional literary analysis. However, in the intervening years, statistical and quantitative studies seem not to have had a significant impact on 'mainstream' literary analysis, particularly on matters of interpretation. That the interface between literary criticism and quantitative research remains a topic for debate and study is evinced by the recent special edition of *Computers and the Humanities*, 'A new computer-assisted literary criticism?' (Vol. 36, No. 2) and by the provocative papers and discussions in the session on 'Reconceiving text analysis' at ALLC/ACH 2002.

Certainly, there has been important work done. At meetings of ALLC/ACH, papers such as 'The magic carpet ride' (Opas and Tweedie, 1999a) and 'Come into my world: styles of stance in detective and romantic fiction' (Opas and Tweedie, 1999b) have used quantitative analysis to test

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and illustrate ideas from literary criticism. During this past year, two papers in *Literary and Linguistic Computing*, 'The statistical analysis of style: reflections on form, meaning, and ideology in the "Nausicaa" episode of *Ulysses*' (McKenna and Antonia, 2001) and 'The density of Latinate words in the speeches of Jane Austen's characters' (DeForest and Johnson, 2001), have provided rich and detailed examples of how quantitative analysis can lead to interpretive judgments. Still, the results of quantitative studies seldom become part of the larger dialogue about literary texts; it seems important, therefore, to continue to insist on the relevance of quantitative study and to continue demonstrating how quantitative studies may speak to crucial literary and critical questions. This study is one test case in an attempt to consider ways in which the use of quantitative analysis may add to our critical understanding of literary texts and, in fact, enrich our interpretation of literary texts.

The texts that this study considers are those of the late-eighteenth- and early nineteenth-century American novelist, Charles Brockden Brown, sometimes considered the first professional novelist in the United States. The first of the texts is the novel *Wieland or The Transformation* (1798); the second is *Memoirs of Carwin, The Biloquist* (1803–1805). *Carwin* is an unfinished novel, the first ten chapters of which were published serially. The primary narrator of *Wieland* is Clara Wieland, who narrates twenty-four of the novel's twenty-seven chapters; however, single chapters are narrated by three other characters: Henry Pleyel, Clara's romantic interest, Theodore Wieland, her brother, and the villainous Carwin, a ventriloquist of nearly supernatural powers, who also narrates the whole of the unfinished novel *Carwin*. The rather simple question with which the study began was whether quantitative analysis could indicate if Brown had created in Carwin a character and narrator with a distinctive voice, whether what we call the character Carwin is a distinct literary or linguistic entity. Is the voice of Carwin similar in the two texts and can it be differentiated from other narrative voices in *Wieland*?

It seemed that one way to answer this question might be to use the stylometric methods employed effectively in author attribution studies.[1] That is, if one can differentiate between the styles of two writers, it might be possible to use the same method to differentiate among narrative voices created by the same writer. Obviously, such an assumption is questionable. Stylometry, after all, is, as Stamou and Forsyth (2000) put it, 'based upon the notion that it is possible to detect an author's signature by examining quantifiable features of written texts'. As this 'signature' is often seen as undisguisable or unchanging, it might seem that the use of these techniques to discover differences *within* a single writer's style contradicts the basic assumption of stylometry. The question is certainly a legitimate one, but surely it is possible that small variations may appear in that signature as the writer moves from one voice to another. A handwriting expert might be able to identify various individual signatures as belonging to a single writer, but they might still be differentiated among themselves. Just as Stamou and Forsyth in stylochronometric studies argue that a writer's signature may evolve over time, this study suggests,

1 See, for example, among others, 'A widow and her soldier: stylometry and the American Civil War' (Holmes *et al.*, 2001) or 'The Federalist revisited: new directions in authorship attribution' (Holmes and Forsyth, 1995) for discussion and examples of stylometry.

as a hypothesis, that there may be distinct variations among different voices created by a given writer.[2]

To determine differences or similarities in narrative voice, the study utilized a variation on what is sometimes called the Burrow's technique, which uses multivariate analysis to discover patterns in the occurrence rate of the text's most common function words. The procedure promised to be a rather straightforward one: using principal components analysis to compare the individual chapters of the two novels should show whether or not the various narrators in these texts speak with different voices. If the chapter of *Wieland* narrated by Carwin is clustered with other chapters of *Wieland* or if the chapters of the two texts are overlapping, one could assume either that Brown had not created distinct narrative voices or, possibly, that this procedure does not work to determine or show these kinds of distinctions. However, if the chapter of *Wieland* narrated by Carwin clusters with other chapters of the novel *Carwin*, it would offer some evidence that the narrative voices are distinctive.

Along with the use of the thirty most common words, this analysis included as variables the occurrence rate of punctuation marks (periods, commas, question marks, exclamation points, semicolons, colons, and ellipses) and of other stylistic markers such as sentence and paragraph length. These variables included the rate of short and long sentences (defined as five or fewer words and twenty-five or more words), short and long paragraphs (defined as fifty or fewer words and 125 or more words), average words per sentence, average sentences per paragraph, and percentage of unique words. The latter variables were utilized because in the analysis of a sample of fourteen late-eighteenth- and early-nineteenth-century novels, the addition of these variables appeared substantially to increase the sensitivity of the analysis. With the addition of these variables, the study, as indicated, used a principal components analysis to reduce the forty-four variables to two dimensions and displayed the results of the two most significant factors on a scatter graph. Also, a cluster analysis was made.

Although the first two principal components account for only 46.4% of the variation in the data and, therefore, must be interpreted with caution, the results of the scatter graph as well as the cluster analysis show a clear distinction between most of the chapters in *Wieland* and those in *Carwin* (see Figs 1 and 2). However, chapter twenty-three of *Wieland*, the chapter narrated by the character Carwin, is clearly situated among the chapters from *Carwin*. Thus, it would seem that the narrative voice of Carwin is distinctive, that Brown has created a character whose voice in one novel is quantitatively recognizable as his voice in the other.

Interestingly, the variables most responsible for differences are not those of word frequency but those of style and punctuation: the frequencies of short paragraphs, exclamation points, short sentences, words per paragraph, and commas. The variables comprising the first principal component are set out in Table 1. Rather clearly, Carwin as a narrator has much shorter paragraphs than Clara and also is much less exclamatory.

2 The use of multivariate analysis for this purpose seems in accord with the statement by Hoover (2002) that if 'techniques can be found that can accurately distinguish authors from each other, those techniques should be able to tell us something significant about the styles of those authors' (*ALLC/ACH 2002 Conference Abstracts*, p. 52).

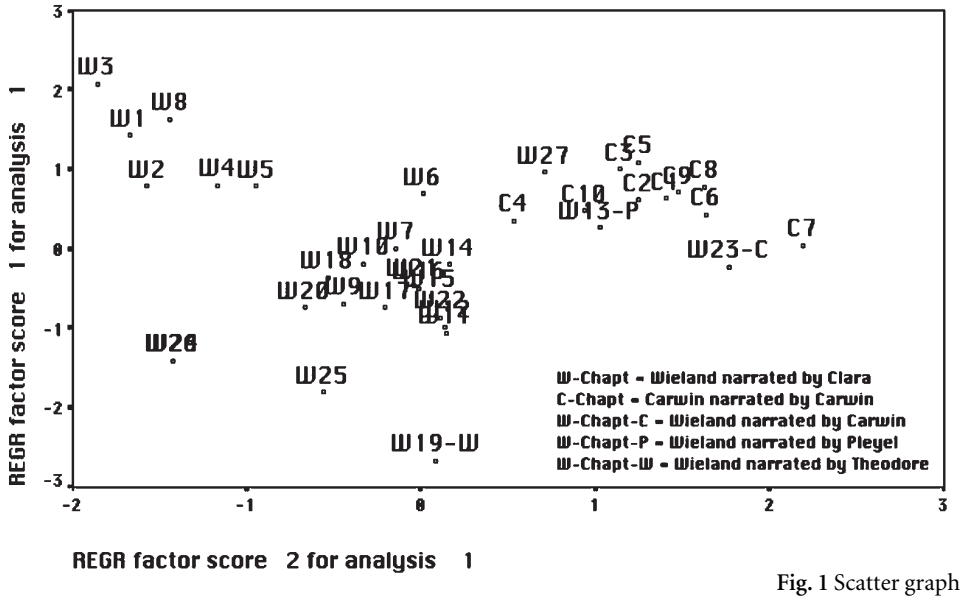

Fig. 1 Scatter graph of *Wieland* and *Carwin* chapters.

Table 1

Exclamation point	–0.85746	'My'	–0.60007
Short paragraphs	–0.85431	Colon	–0.59402
Word length	0.75190	'On'	0.59380
Words per paragraph	0.72865	'Our'	0.56859
'Me'	–0.70278	'In'	0.56849
Short sentences	–0.68805	Semicolon	–0.56711
Comma	0.68376	'By'	0.54982
'I'c	–0.68276	'Of'	0.54740
Question mark	–0.65479	'A'	0.52666
Dash	–0.65479	Not	–0.51299
'What'	0.61538	'We'	0.49375
Words per sentence	0.61324	'Us'	0.46901
'Have'	–0.60954	'The'	0.46196
Long paragraphs	0.60719		

Whereas the chapters in *Wieland* as a whole average 23.72 exclamation points per thousand punctuation marks, Carwin's chapter twenty-three contains 4.5 per thousand. Similarly, the average incidence of dashes per thousand in the novel as a whole is 11.407; chapter twenty-three contains none. Question marks also differentiate Carwin's narration from Clara's. The average number of question marks per 1,000 punctuation marks for *Wieland* is 47.64; for chapter twenty-three, it is 4.5, less than one-tenth the average of other chapters. Thus, while Clara's style frequently seems uncertain (as indicated by the question marks) and distracted and even wild (as indicated by the exclamation points and dashes), Carwin's effectiveness as a villain may be enhanced by his more understated and coolly logical style.

Thus, there does seem to be some statistical evidence that Charles Brockden Brown has created narrators whose styles are linguistically distinct. However, one notices both on the scatter graph and in the cluster

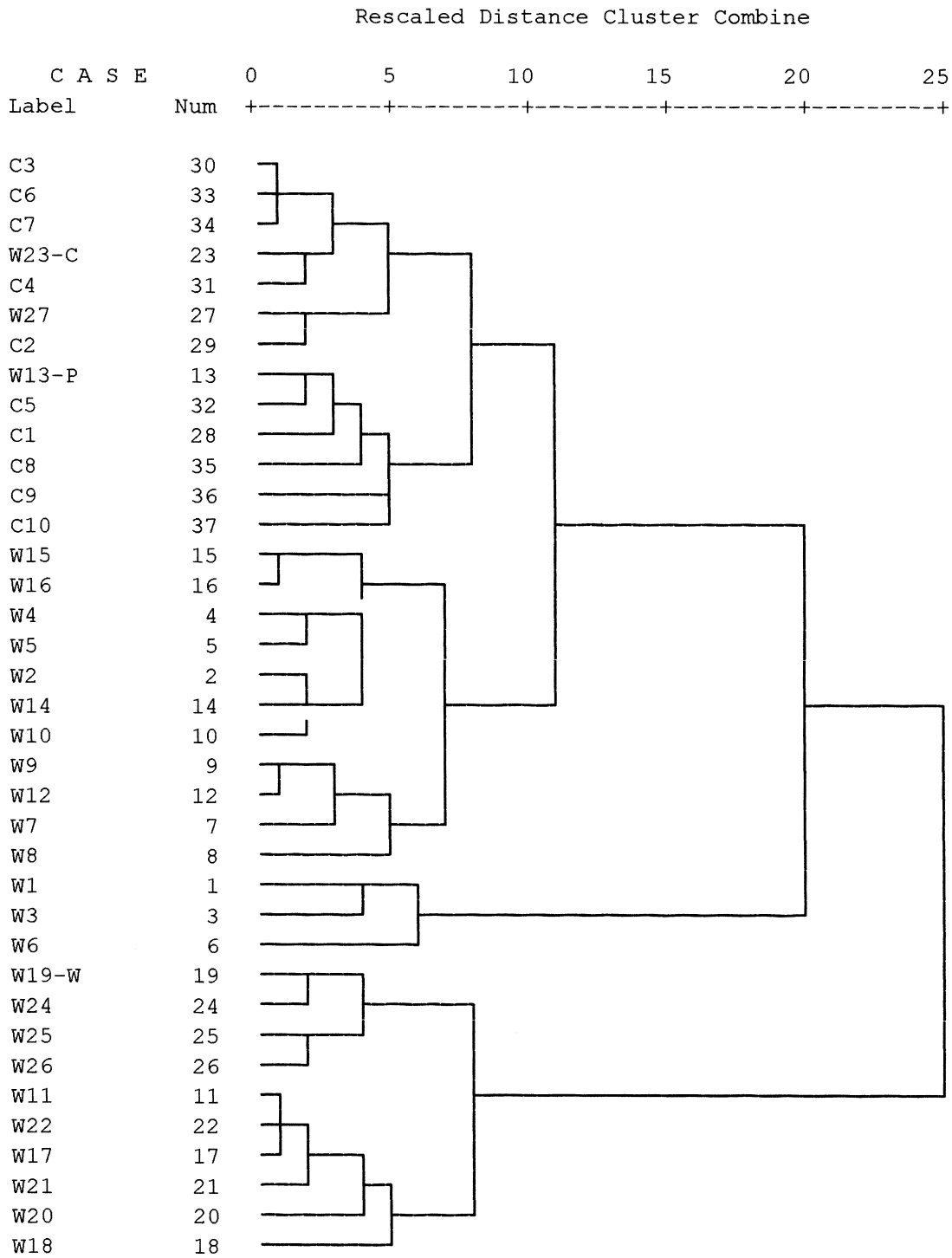

Fig. 2 Dendrogram using average linkage (between groups).

analysis that two other chapters from *Wieland* appear in the cluster of Carwin chapters: chapter twenty-seven, the final chapter of the novel, and chapter thirteen, the chapter narrated by Pleyel. Attempting to determine why these two chapters seem to be written in a voice the same as or similar to Carwin's leads back to the text and may suggest how quantitative analysis may fruitfully interact with more traditional literary interpretation.

It is necessary at this point very briefly to sketch the outline of *Wieland* and to indicate something of the nature of the critical and theoretical discussion of the text today. Renewed interest in the texts of Charles Brockden Brown during the last twenty years has coincided with the rise of cultural and historicist studies, and most recent discussions view the texts as participants in the dialogue of postrevolutionary America. They are, Steven Watts suggests, discourses 'in a volatile social setting' (Watts, 1994, p. 239); or, as Watts paraphrases the words of Cathy Davidson (1986) in *Revolution and the Word: The Rise of the Novel in America*, Brown's novels are carnivalesque performances 'in which determined ambiguities of character and plot sustain a spirit of "revolt" against social constraints and proprieties' (p. 240). Both statements, of course, emphasize dialogue or different voices, the very matter that this study attempts to consider.

Briefly, *Wieland* tells the story of Clara and Theodore Wieland, who are orphaned as young children and raised by an aunt, who provides them with an almost idyllic rural American life. In adolescence, they are joined in this life by Catharine Pleyel, who eventually marries Theodore, and her brother Henry, just returned from Europe.

It is with the appearance of a stranger, Carwin, that this ideal version of American society, a life Clara speaks of as 'serene and blissful, beyond the ordinary portion of humanity' (Watts, 1994, p. 69), begins to come undone. Carwin simply appears; he is oddly dressed and erratic in personality and behaviour, but his superior mind and personal magnetism allow him to be taken into the Wieland society. However, strange things have been occurring, with voices being heard that cannot be accounted for. During this time, Clara has come to recognize her romantic feelings for Henry Pleyel. However, one night, near Clara's house, Pleyel hears voices that seem to be those of Clara and Carwin engaged in acts that, in Pleyel's words, show Clara to be 'the most profligate of women' (Brown, 1977, p. 104). Pleyel, refusing to believe Clara's denials because they would refute the testimony of his own senses, leaves her and returns to Europe.

Theodore, too, has been hearing voices, but these voices he believes come from God. Following the direction of these voices, he murders his wife, four children, and a young servant. After being jailed, he escapes and, again following what he believes to be the will of God, confronts Clara. He is about to kill her when Carwin appears. Carwin admits that, using his abilities as a ventriloquist, he has been responsible for the voices heard by Pleyel and others. However, he denies any role in the voices that have led Theodore Wieland to murder. Ultimately, Theodore Wieland

seems to return to reason; he recognizes the enormity of his acts and turns the knife, with which he had been threatening Clara, on himself.

In the penultimate chapter, Clara as narrator declares 'my repose is coming—my work is done' (Brown, 1977, p. 233). Her brother is dead as are Catharine and the children; the man she loves is gone, believing her to be depraved and profligate. Her society has been torn apart and its philosophical underpinnings destroyed. Neither religion nor enlightenment values serve as a foundation for individual or social life. Reliance on individually revealed religion has led to the atrocities of Theodore Wieland, and reliance on Lockean sensationalist psychology has led to the loss of the one man she had come to love. It is little wonder that Clara asks 'only a quick deliverance from life and all the ills that attend it' (p. 233).

It is against this background that I will attempt to sketch out very briefly one way to account for the fact that, in the quantitative analysis, Pleyel's voice in Chapter 13 and Clara's voice in the final chapter, Chapter 27, share qualities of Carwin's voice or, perhaps, may be seen as being Carwin's voice. This sketch also may suggest ways in which the quantitative analysis may help us think about the novel.

We can begin with an observation in Bill Christophersen's (1993) *The Apparition in the Glass: Charles Brockden Brown's American Gothic*. Christophersen points out, almost in passing: 'One cannot help noticing, moreover, the way in which, time and again, Pleyel materializes in Carwin's wake, as if the two were alter egos' (p. 29). Subsequent criticism seems not to have picked up on the observation that Pleyel and Carwin are alter egos and, indeed, Christophersen does not return to it. However, the quantitative analysis suggests it to be a possibility worth exploring. Although Christophersen points especially to the physical presences and absences of the characters, the fact that they seem alternately to fill certain spaces, the characters share other traits.

Carwin and Pleyel, although both born in America, are the European characters in the novel. They have both spent much of their lives in Europe; early in their lives, both seem to have given up on America and to have adopted European values and attitudes. In fact, the two had met earlier in Spain where Carwin through 'indefatigable attention to the language, and a studious conformity with the customs of the people, had made him[self] indistinguishable from a native, when he chose to assume that character' (Brown, 1977, p. 67). In Spain, Carwin had 'embraced the catholic religion' (p. 67), although 'a suspicion was, sometimes, admitted that his belief was counterfeited for some political purpose' (p. 68). Pleyel had lived in France, travelled extensively in Spain, eventually had come to call Leipzig 'home', and was engaged to a German woman. It is Pleyel who has discovered that Theodore Wieland has a legitimate claim to a substantial inheritance in Lusatia and 'employ[s] every argument that his invention could suggest' to convince the Wieland circle to move to Europe. In his argument, he dwells particularly 'on the privileges of wealth and rank' (pp. 37–38).

Pleyel, of course, is almost allegorical in terms of his representation of sensationalist psychology, whereas Carwin may represent the dark underside of such psychology, cynically manipulating sensory data until there is no certainty and nothing is as it seems. In attempting to explain the source of the mysterious voices, Pleyel denies 'faith to any testimony but that of his sense' and 'Carwin adopted, in some degree, a similar distinction' (p. 75). In a novel that Steven Watts refers to as 'a devastating critique of eighteenth-century rationalism based on sensory impressions' (Watts, 1994, p. 82), these characters are linked, indeed seem to double themselves, in their reliance on the sensory. It is no wonder that at one point Clara speaks of Pleyel as being 'leagued' with Carwin. Carwin's manipulation of sensory data and Pleyel's misinterpretation of them lead to a novel in which both individual and national identity seem at stake in an attempt to determine the sources of some kind of truth by which to live. Christophersen points out in another context the pertinence of this determination 'to a republic, in which citizens, to play their role, are obliged to read, listen to, and assess a din of competing and often inscrutable voices' (Christophersen, 1993, p. 42).

Throughout the novel, Carwin and Pleyel almost interchangeably occupy rhetorical and physical space, much as they do on the scatter graph. These are the men who attempt to impose their identity on to Clara and to use sensory data to bring her to submission. Carwin, of course, has manipulated those data, creating a scene that he hopes will drive a wedge between Pleyel and Clara and allow him to possess her. Only by defaming and humiliating her can he hope to have her. Pleyel, as well, requires humiliation and complete submission. When Clara seeks him out to vindicate herself, he asks only that she admit her guilt and yield to the evidence of *his* senses: he will be restored to happiness, he says, if she will admit 'abhorrence for the part' she has acted (Brown, 1977, p. 116). Both men seek to possess her through imposing their own interpretation of sensory data upon her.

Considering the novel's final chapter may help us to say more not simply about that chapter but about the relationship of Carwin and Pleyel as well. As indicated before, the penultimate chapter has Clara waiting for death and, in fact, declaring her 'work' to be 'done'. The final chapter begins with a head note indicating its time and place: 'Written three years after the foregoing, and dated at Montpellier' (p. 234). Clara relates in this chapter (although the quantitative analysis suggests it to be Carwin's voice) that she and an uncle have left America for 'the ancient world'. By this time, Pleyel has married his German fiancée, but when she dies he joins Clara and her uncle in the 'old world' and eventually marries Clara.

Earlier discussions of *Wieland* often viewed the events of the final chapter as an obligatory happy ending, necessary for the demands of the genre. More recently, however, the move to Europe and Clara's marriage to Pleyel have been probed more deeply. Christophersen represents several writers who suggest that the ending indicates an inability to come to terms with the stresses and fractures of postrevolutionary America, that it suggests 'grave skepticism on Brown's part toward the American enterprise':

> By sending his surviving characters back to Europe, Brown as good as denies the possibility of rectifying the New World's 'fall', of returning an adolescent America to a state of bliss. Even any *apparent* resumption of sanity, of balance, Brown seems to say, will come about through Old World artifice, not genuine convalescence (Christophersen, 1993, p. 39).

Old world artifice, of course, is what Carwin ultimately represents, not a true voice of individual or national identity, not an individual voice taking part within a dialogue but a voice whose source and identity can never be ascertained.

And it is with Carwin's voice that Clara speaks in the final chapter. As early as 1970, Carl Nelson spoke of Clara's voice in that chapter as a 'thrown voice' although Nelson does not explicitly identify the voice as Carwin's. Within the last chapter, Clara voices moralistic platitudes and pieties of the kind that Pleyel had earlier uttered against her and of the kind also that Carwin is fully capable of giving voice to. Clara's attitudes toward Pleyel and Carwin go beyond forgiveness to submission. Earlier when Pleyel accuses Clara of depravities with Carwin, she replies with 'disdain and anger': 'My offenses exist only in your own distempered imagination; you are leagued with the traitor who assailed my life: you have vowed the destruction of my peace and honor' (Brown, 1977, p. 117). In the final chapter, her voice is transformed as she reflects on the love between herself and Pleyel 'which was merely smothered for a time; and on the esteem which was mutual' (p. 238). She speaks also of Carwin as a person who has come to see the error of his ways. He has given up ventriloquism, she says, and is living a secluded life in Pennsylvania 'engaged in the harmless pursuits of agriculture': 'The innocence and usefulness of his future life may, in some degree, atone for the miseries so rashly or so thoughtlessly inflicted' (p. 239). The suggestion that Carwin was simply rash or thoughtless is very much the story as Carwin would like to tell it or, perhaps, is telling it. In fact, the tone and words are those that Carwin has earlier used to rationalize his own conduct. Certainly, these words do not describe the Carwin that Clara earlier in the novel calls the 'most fatal and potent of mankind' (p. 49).

The narrative voice of the final chapter has become the voice that Carwin/Pleyel desire; it has become Clara's voice as they would speak it. It takes upon itself the guilt and errors: 'That virtue should become the victim of treachery is, no doubt, a mournful consideration; but it will not escape your notice, that the evils … owed their existence to the errors of the sufferers' (p. 244). Neither Carwin nor Pleyel need ultimately to accept blame. As the narrative voice puts it in the final words of the text, 'If I had been gifted with ordinary equanimity or foresight, the double-tongued deceiver would have been baffled and repelled' (p. 244).

It is tempting to end by suggesting that Carwin has thrown his voice one more time, that, in fact, we are hearing Carwin and not Clara, and that Carwin is tricking the reader as he earlier tricked Pleyel. It is enough, however, I think, simply to recognize that the voices of two characters, Carwin and Pleyel, are nearly identical throughout and that by the end a

third character, Clara, is speaking in that voice as well. With Theodore Wieland as a character dead or as a linguistic entity unavailable, the text no longer has distinctive voices or competing discourses; there is no longer a dialogue but only a single voice mouthing uncritical platitudes.

To conclude, the point here is not so much an interpretation of *Wieland* as it is an attempt to consider the interface between quantitative analysis and more traditional textual analysis. The study is meant in some small way to support what J. F. Burrows points out: 'that exact evidence, often couched in the unfamiliar language of statistics, does have a distinct bearing on questions of importance in the territory of literary interpretation and judgement' (Burrows, 1987, p. 2). However, the study also suggests that traditional critical interpretation has a real bearing on how we understand the meaning of those statistics.

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