

A Defence of the Digital Humanities Analysis of Literature: A Corpus-Stylistic Approach to the Bible-Related Words in the Fiction of Elizabeth Gaskell

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1. Introduction

The purpose of my research is to find out any theoretical patterns of Elizabeth Gaskell's Christianity through a statistical analysis of the structures of her entire texts. The attempt shall be made from four perspectives—her reference to God, Christ, the Bible, and church. This paper is intended as an introduction to my project, and focuses on Gaskell's use of the Bible. Its objective is to find out any general tendencies of her use of the Bible through a qualitative verification of the results of a quantitative analysis of the structures of her oeuvre.

Gaskell's concern with the Bible are reflected in her letters (*Letters* 89, 274-75, 518-20, 587-88, 648, 734), especially in her letter to her eldest daughter Marianne dated 19 Oct 1858, in which her Unitarian disbelief in the Trinity and her belief in the Bible are recorded in her report of "a long theological talk" with Charles Bosanquet (*Letters* 520). In answer to the religious Oxford graduate (*Letters* 647)'s statement "any one who seeks in the Bible for their religion, & find it there, I feel in communion with," Gaskell says, "So do I" (*Letters* 520). This experience is also reported to C. E. Norton in a letter dated 16 Apr. 1861 where she affirms that she believes in the Bible and that what she believes is "Arian" (*Letters* 648, Whitehill 78), or denial of the divinity of Christ.¹ This feature of Gaskell's biblical concern is pointed out by Arthur Pollard as well: her "religious reference is mainly to Scripture and hardly at all to ecclesiastical institutions" ("Faith and Family" 1).

We must admit that some of Gaskell's references to the Bible are made not through the Bible-related words, but through direct quotations from biblical episodes. For instance, in *Mary Barton*, the labourer John Barton compares the gap between the rich and the poor to "a great gulf" (OWC 8; John 16.26), alluding to the biblical parable of Dives and Lazarus (Luke 16.19-26),² but there are no Bible-related words—Bible(s), Scripture(s), Testament, and Gospel(s)—used in

1 "Of, pertaining to, or adhering to the doctrine of, Arius, a presbyter of Alexandria in the 4th c., who denied that Jesus Christ was *consubstantial*, or of the same essence or substance with God" ("Arian," def. 2).

2 Michael David Wheeler remarks from the viewpoint of the Unitarian disbelief in hell that John Barton's citation of the parable is misapplication ("Unitarianism" 35-36). Dives is the Latin word for "rich man," "whence commonly taken as the proper name of the rich man" in the parable in Luke 16 ("Dives," def. 1).

his comparison. Rev. John Jenkyns and his wife Molly, parents of Debora, Matty, and Peter, in *Cranford* are compared to King Ahasuerus and Queen Esther (Esth. 8.3) with no use of the Bible-associated words (OWC 53). In *North and South*, Margaret Hale voices the passage in John 14.1 or John 14.27, “Let not your heart be troubled,” at the dawn after the night of her mother’s death,³ yet no insertion of the Bible-related words is made in her utterance (OWC 251). Also in *North and South*, Margaret’s meditation of the meaning of life—“I begin to understand now what **heaven** must be—and, oh! the grandeur and repose of the words— ‘the same yesterday, to-day, and for ever’ [Heb. 13.8]. Everlasting! ‘From everlasting to everlasting, Thou art **God**’ [Ps. 90.2]” (OWC 400; emphasis added)⁴—is introduced with no employment of the Bible-connected words, although, in this case, it is done in conjunction with the words “heaven” and “God.” Finally, in *Ruth*, the narrator makes a reference to the “Hills from whence cometh our help”⁵ with no use of Bible-related words when she describes the eyes of a gargoyle in a church look upwards as if its gaze expressed its belief in God’s help (OWC 282). Although due attention must be paid to the examples of this type, our research chiefly takes a statistical analysis of the texts, because more accurate data as well as more factual information for the best objective detection of any structural pattern of Gaskell’s Christianity should be able to be collected by this computer-assisted method than by any conventional critical methods.

After the explanation of the purpose of my research in Section 1, Section 2 surveys previous studies of Gaskell’s Christianity and reviews essential principles of Unitarianism. Section 3 explains the Digital Humanities methodology together with its merits and demerits, and emphasizes complementing distant reading with close reading should be one of the best solutions to minimize its demerits. Section 4 shows two samples of quantitative analysis, and elucidates her use of the Bible-related words from the viewpoint of their contexts and connotations. Section 5 makes a conclusive remark on this introductory research, and displays a summary table of its outcome. An investigation is made into the formal patterns of the Gaskell author construct’s⁶ use of the Bible-related words, or her view of the Bible, based on the data acquired through a statistical analysis of her corpus, especially in terms of the biblical verses most frequently referred to.

3 Mary H. Kuhlman refers to this scene to show Margaret as an educated heroine (“Education” 15).

4 This quotation is referred to by Andrew Sanders to discuss Margaret’s spiritual resolve (“Liberalism” 50).

5 This quotation expressing the belief that help comes from the Lord is associated with the biblical verse “I will lift up mine eyes unto the hills, from whence cometh my help” (Ps. 121.1).

6 The author construct, or the urauthor, “is not the historical producer of the text, but a mental construct resembling the historical producer as closely as possible in all relevant ways. . . . The urauthor is our vehicle for gaining access to the meaning, the intended communication, of the author himself” (William Irwin 61-62). In other words, the author construct, an intentionalist-hermeneuticists’ term coined to distinguish a historical or living author from a functional author who has constructed a text, denotes the author who emerges only through careful reading of the structures of a text.

2. Previous Studies on Gaskell's Religion

Gaskell's religion has long been a target of critics' concerns. Inseparability between literature and theology in the interpretation of Gaskell's works has been pointed out by some critics. For example, Wheeler states "In a period of 'sacred poems for mourners' and of sermons which had complex 'literary' structures [i.e. the Victorian period], the 'literary' and the 'theological' are inextricably mixed, and are not to be violently separated and compartmentalized" ("Unitarianism" 26). Wheeler claims in his other article, "As in *Mary Barton*, biblical texts have a shaping effect in *Ruth*. Unless the reader responds to the literary and biblical quotations and references in *Mary Barton* and *Ruth*, he will miss many of the novels' most imaginative effects" ("MB&RU" 312). As for *Ruth*, he argues that the "most important scenes in the novel are underpinned with biblical quotations," and explains that this is why he attempts "to discuss her use of biblical quotations and references in the novel" ("RU&Bible" 148). Monica Correa Fryckstedt attempts to interpret *Mary Barton* from a theological viewpoint: "the religious ideas expressed in *Mary Barton* are identical with the official Unitarian stance" (88), and claims, "In order to illustrate these two *leitmotifs* ['a challenge to the rich' and 'a plea for the poor,' which run through the novel] Gaskell resorts to a device common in the mid-nineteenth century novel and so much part of the spirit of the time—Biblical themes" (88-89). Considering Gaskell's "empathy" is "her forte from her very beginning as teller of tales" ("Lore, Learning and Wisdom" 14), W. A. Craik asserts religious education among characters is a major theme in *Mary Barton* and *North and South* ("Lore, Learning and Wisdom" 31). The process of Sylvia's change from "rigid denial of Christian forgiveness and . . . revulsion with Philip's flat and conventional reiteration of principles" to "apology for her hardness of heart" is sketched by Andrew Sanders ("Religious Experience" 19-21). Mary Lou Brooks Howell argues "an overall unity exists in Mrs Gaskell's works in that they consistently express her Unitarian view of life" (11), and that "The ethical considerations and religious implications in Mrs. Gaskell's works comprise the core and purpose of all that she wrote" (22). "'The Heart of John Middleton' is a good example of the way Elizabeth Gaskell managed to blend religion and literature" (68) is Benjamine Toussaint-Thiriet's observation. The centrality of Christian morality in the Unitarian author's oeuvre is stressed by Merryn Williams.

"Goodness," in *Wives and Daughters* as in her other works, is "the only enduring thing in this world" [OWC 229]. Firmly believing as she did in objective standards of good and evil, she judged both men and women on a moral basis. "The only duty of women" is not obedience, or good housekeeping, and certainly not to catch a husband, it is to struggle seriously in all circumstances to do right. (118)

The review of previous criticism on Gaskell's religion above show that critics' concerns have lain on her Christianity expressed in the storylines rather than in her structures.

A brief survey of the historical development of Unitarianism and a research into Gaskell's application of its principles to her fiction are conducted by Kay Millard ("Religion" 1-13). In her biography of our target author, Jenny Uglow gives a comprehensive survey of Unitarianism, its doctrines, and Gaskell's Unitarian faith (*EG* 5-10).⁷ So do Angus Easson in his book (*Elizabeth Gaskell* 4-17), and Coral Lansbury in hers (11-15). Emma Louis Carroll's detailed exploration into the Unitarian history and creed (5-19) is also helpful to know Gaskell's religious background. As for the basic understanding of her faith, it would perhaps be sufficient for the purpose of this study to quote Wheeler's outline of "the more pervasive beliefs of Unitarians living in the 1840s and 1850s" ("Unitarianism" 26-27; See also "*RU&Bible*" 149).

- (a) Their crucial rejection of the doctrines of the Trinity and the divinity of Christ⁸
- (b) God is merciful in nature.⁹
- (c) No sinner is damned to everlasting punishment after death.
- (d) The New Testament offers men and women a system of ethics on which everyday morality should be based and through which the conscience is trained.¹⁰
- (e) Charitable conduct is the outward mark of the true Christians.¹¹

In addition to Wheeler's outline, two more typical aspects of Unitarianism are provided by Millard (5).

- (f) It was outside the Establishment; it was a community of like-minded people who were often known to each other, if not actually related, but it had the flavour of a society apart.

7 For instance, "Unitarianism was a very open church, which asked of its members only a belief in the one God, an acceptance of the divine mission of Jesus and a reliance on the scriptures (although the Bible too was subject to reason and historical criticism). . . . No one was 'chosen' and there was no elect" (Uglow, *EG* 5).

8 "Essentially, Unitarians had two main principles: that 'God is unipersonal', and that their 'sole rightful authority' was the Bible, when 'free criticism' was applied to it" (Carroll 9). "The Unitarian rejected the divinity of Christ and with it belief in the Trinity. . . . Christ was a man, albeit the best of men, and could not be worshipped" (Lansbury, *Social Crisis* 12). Unitarianism "honoured Jesus and his teachings without worshipping him. . . . It said that there was one God, and one only" (Millard 5). "The nature of Jesus remained a matter of debate—he could be a lesser form of God, a man with a divine authority or, indeed, a human being, divinely chosen, yet physically vulnerable and morally fallible. Unitarians refused to accept the notion of original sin or the doctrine of atonement: Jesus was revered as a teacher and example, not a vehicle of grace" (Uglow, *EG* 5).

9 Unitarianism "emphasised the love of God, rather than the anger or judgementalism of God" (Millard 5).

10 For Unitarians, the Bible is their sole rightful authority (Carroll 9). Unitarianism "placed emphasis on reading the Bible with understanding in the light of one's God-given reason" (Millard 5). Carroll insists that Gaskell is "a believer in conscience as an indicator of what is right, the 'still small voice' within' is man's inner guide to truth" (20). To know truth, or what is right, the importance of education is stressed among Unitarians: "Education as a means toward understanding the world and its people and problems was always important to Mrs. Gaskell as to all Unitarians as a means to discover truth" (Howell 224).

11 In support of this belief, Fryckstedt observes "The concept of good works—action rather than creed—is momentous in Unitarianism. . . . We are all part of a community and bound to do something for its welfare" (77). So does Lansbury: "Elizabeth Gaskell never doubted that she was born with the right and the ability to change society" (15).

- (g) Freedom of conscience: “It said that every person should have liberty of conscience in matters of religion and should not be persecuted for his or her beliefs. It said that man-made creeds were not binding on the conscience of any believer.”¹²

Gaskell’s articulation of her own Unitarian faith or morality can be detected in some of her letters.¹³ The spirit of Principle (a)—denial of the Trinity—is voiced in her letter to her eldest daughter Marianne dated May-June 1854.

It [the Anglican Litany (Uglove, *EG* 133)] seems to me so distinctly to go against some of the clearest of our Saviour’s words in which he so expressly tells us to pray to God alone. . . . I know it is wrong not to clear our minds as much as possible as to the nature of that God, and tender Saviour, whom we can not love properly unless we try and define them clearly to ourselves. . . . Then the one thing I *am* clear and sure about is this that Jesus Christ was not equal to His father; that, however divine a being he was *not* God; and that worship as God addressed to Him is therefore wrong in me. (*Letters* 860)

The essence of Principle (e)—altruistic action—is found in the following quotation taken from her letter dated Feb. 1850, where she manifests her view that God’s calling is given to each of us human beings.

I do believe we have all some appointed work to do, whh no one else can do so well; Wh, is our work; what *we* have to do in advancing the Kingdom of God; and that first we must find out what we are sent into the world to do, and define it and make it clear to ourselves, (that’s *the* hard part) and then forget ourselves in our work, and our work in the End we ought to strive to bring about. (*Letters* 107)

The essence of Principle (g)—liberty of conscience—is found in the following citation from the letter dated 5 Jan 1849, which expresses her belief that what she described earnestly in *Mary Barton*, based on her own conscience, should be approved by God in the end.

I have such firm faith that the earnest expression of anyone’s feeling can only do good in the long run,—that God will cause the errors to be temporary [,] the truth to be eternal, that I try not to mind too much what people say either in blame or praise. (*Letters* 70)

Gaskell’s conscience in her writings is highlighted by John Chapple also: “Unitarian in a deeper sense, she laid bare social and moral evils and yet showed that reconciliation and redemption could spring out of human suffering” (“Unitarian Dissent” 175).

One of the most significant summaries of the inseparability between literature and theology in the interpretation of Gaskell’s works would be the following Wheeler’s.

12 In relation to Millar’s aspect (g) “Freedom of Conscience,” Uglove articulates her view of Unitarian’s freedom of thought: Unitarians “believed in freedom of thought and stressed the role of reason in the quest for truth” (*EG* 6).

13 I owe much to Fryckstedt (81) in identifying the following three quotations from Gaskell’s letters.

Gaskell . . . in her novels expresses best what she perhaps perceived from the start: that ‘works’ are the outward and visible sign of true belief within. From her novels and letters one gains the impression of a deeply religious woman, whose personal faith in a benevolent God raised her spiritual life above sectarian divisions, and whose conscience led her to act and write in love and charity with her neighbours. In her novels, biblical quotations and references rarely seem artificial embellishments. Rather, they emerge naturally from a fund of texts with which she was familiar, and which had deep personal significance for her. (“Unitarianism” 31)¹⁴

Wheeler’s statement made on the basis of his extensive knowledge about and profound research into Gaskell’s religion should probably be agreeable to most of the readers of her works, and therefore should be verifiable even by a statistical analysis of the structure of her oeuvre. If literary works are the outward and visible sign of the author’s true belief within, Gaskell’s (or Gaskell construct’s to be more precise) construction should mirror her faith. Wheeler’s view of her works as reflections of her faith is shared by Millard: “Elizabeth Gaskell witnessed to her faith in her writings, and fulfilled her potential as a writer, speaking her truth to those who sometimes found it uncomfortable to hear” (10). So is it by Toussaint-Thiriet: “her works were the parables through which she expressed her belief in God’s love and tried to teach men to help one another in a true spirit of Christian charity” (66). For Howell, who shares Wheeler’s view as well, the key to the interpretation of Gaskell’s fiction is Christian love: “The didactic, moralistic element is present in her works as a conscious effort to present the practice of Christian love as the key to social improvement and family harmony” (12).

If these critics’ views are correct, Gaskell’s deliberate incorporation of her Christian faith into her texts should be able to be verified by the Digital Humanities methods whose principal purpose is to unearth any structural pattern hidden in the texts and the way it is incorporated.

3. Digital Humanities Analysis of Structures

Because of the rapid development of computers, application of computer-assisted analysis to the interpretation of literature has gradually become a concern of literary critics. Michael Toolan observes, “A growing number of scholars are now working on corpus-informed analyses of literary texts” (“Narrative Progression: First Steps” 106). Alluding to this tendency, Shawn Graham observes, “Digital text analysis has a long tradition in what is now called ‘digital humanities’” (“Mining the Open Web”). As is shown in the above survey in Section 2, however, few Gaskell scholars have ever attempted to employ Digital Humanities methods to the exploration of her Christianity, to my limited knowledge, presumably because most of them have ever taken so-called traditional, or humanist, approaches to the interpretations of her works, and showed little interest in their overall designs that the mechanical quantification of

14 Wheeler makes a similar statement in his other article (“*MB&RU*” 25-26).

their formal elements should disclose. To approach her works from this scientific perspective is one of the primary objectives of this study. The idea has started from my sincere and humble desire to find out the true (or absolute, definite) interpretation of a text if there is such an interpretation. It should hardly be detectable with traditional readings of a text which primarily depend upon each critic's personal, or humanist, reading of the text, even if there were.

It is universally acknowledged that reading is "an activity of a subjective nature" (Mieke Bal 4). Critics' careful reading based on their keen instinct provides us with insightful interpretations of texts which have made notable contribution to the enrichment of our life. One of the inevitable problems of such conventional readings, notwithstanding, would be that it is almost impossible to pinpoint the true interpretation of a literary text. This problem is pointed out by C. Ruth Sabol, who suggests the application of stylistic comparison between texts, a Digital Humanities method, as a possible solution:

In interpreting the language of any given text, literary scholars and critics have, in the past, relied heavily on intuitive value judgements rather than on considerations of encoded potentialities or stylistic constants in a text. Intuitive judgments are not necessarily imprecise or incorrect; in fact, they are often extremely insightful. But because they are linked to psychological processes and cultural conditioning, intuitive judgments vary among readers; thus, one text is subject to many different interpretations or, more commonly, a slowly emerging interpretation based upon an accumulation of intuitive judgments of literary scholars over a period of many years. A more objective method of interpretation involves analysing and comparing the stylistic constants which mark particular features in two different but similar works. (47)

Distant reading is a computer-assisted reading of the units of an e-text, as opposed to close reading of a narrative itself (Franco Moretti, "Conjectures" 57). Kathryn Schulz defines it as "understanding literature not by studying particular texts, but by aggregating and analyzing massive amounts of data" (1). It has been conducted since more than a decade ago by some literary as well as history scholars of the rising scholarship, now called "Digital Humanities" (Kirschenbaum, "What Is Digital Humanities"). Its fairly objective method focuses on large-scale, systematic, and quantified accounts of texts, and its principal aim is to "reveal patterns overlooked in close reading" (Hayles 75). Distant reading is a macro approach to be complemented with close reading, a micro approach, in order to discover the true meaning of a text, as it inevitably disregards the context of a word and the distinction between parts of speech. Accordingly, this research conducts close reading on the outcome of distant reading to identify the meaning of Gaskell's Christian keywords.

Many critics have argued that there is no absolute interpretation of a text which is scarcely identifiable even by the author him/herself. Terry Eagleton, a typical anti-intentionalist critic, insists that we "can never . . . come to know in some absolutely objective way" what

an author has actually in mind, and that any “such notion of absolute objectivity is an illusion” (60). Nowadays, in addition, few critics seem to endorse the assertion of intentionalist hermeneuticists who consider a literary text has “one and only one correct interpretation” (P. D. Juhl 13, 238) that “Any interpretation that exactly and completely captures the author’s intended communication would be a definitive interpretation” (Irwin 62).

Keeping aside this controversial question¹⁵ for the time being, let us focus on the significance of the quantitative analysis of the structure of a literary text, because my research takes a structuralist approach, or applies corpus-linguistic techniques—such as text mining, classification, statistics, effect size,¹⁶ and topic modelling¹⁷—to the interpretation of Gaskell’s texts. This corpus-stylistic method might probably be one of the few effective means to contribute to the discovery of a definitive interpretation of a text, since it uncovers the overall scheme of a text in a fairly objective manner, and, therefore, helps us discover some of its hidden structures which are presumably invisible in the traditional readings of a text.

The application of statistics to the interpretation of literary texts to find out their latent structures, which “employs methods and approaches of corpus linguistics and links them with concerns in literary stylistics and literary criticism” (Michaela Mahlberg, “Digital Forum” 295), is now often referred to as “corpus stylistics” (Svenja Adolphs 64; Mahlberg, *Dickens’s Fiction* 5; ---, “Digital Forum” 295). The purport of this computer-assisted method is succinctly summarized in David I. Holmes’s statement: “The statistical analysis of a literary text can be justified by the need to apply an objective methodology to works that for a long time have received only impressionistic and subjective treatment” (18).

This computer-based study has already had some tradition—for instance, Karl Kroeber’s *Styles in Fictional Structure* (1971); Anthony Kenny’s *The Computation of Style* (1982); J. F. Burrows’s *Computation into Criticism: A Study of Jane Austen’s Novels and an Experiment in Method* (1987); Masahiro Hori’s *Investigating Dickens’ Style* (2004); Moretti’s *Graphs, Maps,*

15 To suggest a solution to this contentious question is one of the primary aims of my paper: “Chronologies and Statistics: Objective Understanding of Authorial Meaning.” *English Studies* 87 (2006): 327-56.

16 Effect size is the “% difference of the frequency of a word in the study corpus when compared to that in the reference corpus” (Gabrielatos and Marchi 9), or a method for detecting frequency difference between the study corpus and its reference corpus. It can be calculated by the following formula (Gabrielatos and Marchi 12): $(\text{NormFreq in SC} - \text{NormFreq in RC}) / \text{NorFreq in RC} \times 100$, NormFreq = normalised frequency (per million words), SC = study corpus, RC = reference corpus. In other words, effect size is a computer-generated indicator of a study-corpus author’s unique use of vocabulary when compared with a reference-corpus authors.

17 Topic modelling is “a method for finding and tracing clusters of words (called ‘topics’ in shorthand) in large bodies of texts” (Miriam Posner, “Very Basic Strategies”). A document is considered to be “a mixture of topics” (Steyvers & Griffiths 4). A topic in a document is a set of words mathematically generated by a topic-modelling program that occur simultaneously and “in statistically meaningful ways” (Graham, Weingart, and Milligan, “Getting Started”). “Topic models are a suite of algorithms that uncover the hidden thematic structure in document collections” (Blei, “Topic Modeling”). “Topic modeling algorithms . . . analyze the texts to find a set of topics—patterns of tightly co-occurring terms—and how each document combines them” (Blei, “TM & DH”).

Trees (2005); and Mahlberg, *Corpus Stylistics and Dickens's Fiction* (2013). "Over the past decade there have been a number of studies that have highlighted the potential of a corpus approach for the interpretation of literary texts," observes Adolphs (64). Uniqueness of my research, if any, would lie in the application of the Digital Humanities methodology to the interpretation of literary texts not from a linguistic angle, but from a literature perspective.

This Digital Humanities method, however, is susceptible to the same criticisms that have been raised "in relation to stylistics in general, particularly with regard to the selective attention to particular features (Fish 1996), and the status of literary interpretations generated on the basis of a purely linguistic analysis" (Adolphs 64). One of the harshest attackers of corpus stylistics would be Stanley Fish, who "has provided the most root-and-branch challenge to stylistics" (Hugh Craig 277), as it removes, according to Fish, the creative activities of literary critics (110-11):

I have been arguing all along that the goal of the stylisticians is impossible, but my larger objection is that it is unworthy, for it would deny to man the most remarkable of his abilities, the ability to give the world meaning rather than to extract a meaning that is already there. (105)

According to Fish, "Stylistics was born of a reaction to the subjectivity and imprecision of literary studies. For the appreciative raptures of the impressionistic critic, stylisticians purport to substitute precise and rigorous linguistic descriptions, and to proceed from those descriptions to interpretations for which they can claim a measure of objectivity. Stylistics, in short, is an attempt to put criticism on a scientific basis" (94). Then he advances his merciless criticism of stylisticians for their antihumanism: meanings "are left with patterns and statistics that have been cut off from their animating source, banks of data that are unattached to anything but their own formal categories, and are therefore, quite literally, meaningless" (104). Fish is also critical of structuralists for the same reason: "the structuralists dislodge man from his privileged position as the originator of meanings, and locate meaning instead in the self-sufficient operation of a timeless formalism" (113). According to him, therefore, both stylistics and structuralism are useless as the means of finding the absolute interpretation, or the interpretation intended by the author construct: "the value a formal feature may acquire in the context of a reader's concerns and expectations is local and temporary; and there is no guarantee that the value-formal feature correlation that obtains once will obtain again" (111). Fish considers stylisticians' methods should be effective should they be used under the condition of the "dehumanization of meaning," that is, should stylisticians "be content with the description of formal patterns and admit that value-free operation of those patterns has always been their goal" (107). But he knows "they are not so content and insist on leaping from those patterns to the human concerns" which, according to him, "their procedures exclude" (107), because, he also knows, "the lure of 'solid science' and the promise of an automatic interpretive procedure is so great" (99).

In response to Fish's criticism, Craig first makes its succinct summary:

A central problem for Fish is the assumption that meaning resides within the text rather than being created as it is read. He argues that the formal features described by stylisticians are meaningless except in relation to the reader's perception of them within a reading situation. . . . Fish is speaking as a humanist: he sees stylistics as an attempt to make interpretation mechanical and thus to exclude the human. . . . The urgency in his analysis comes from his distrust of the claims of stylistics to a special 'scientific' validity and of what he sees as its underlying antihumanist motivation, the exclusion of the human factor in reading and interpretation. (277-78)

Craig then articulates his defence of computational stylistics, first by emphasizing its purpose is to find out general tendencies of the formal features which are "not otherwise accessible . . . to the naked eye" (281), and second by explaining it is virtually impossible to achieve this goal without humanist approaches.

A well-founded computational stylistic works with tendencies rather than rules; the semantic operation of language is so variable that the relationship of feature to meaning can never be fixed. (278)

The computational varieties of stylistic analysis and authorship studies require some considerable immersion in traditional humanities disciplines . . . in humanities computing generally . . . and statistical [sic]. . . . (281)

The fundamental significance of this digital approach to the interpretation of a literary text lies in its potentiality of discovering some structural devices which are mostly unnoticeable by traditional readings of a text.

The dehumanization of meaning, should there be any such problem in corpus stylistics, could be minimized by close reading of the target text and a further examination of its context. The decisive interpretation should be best identified when this quantitative analysis and the conventional qualitative investigation complement each other, as Mahlberg remarks: "the value of applying corpus methods is defined through the links that can be made between quantitative findings and qualitative analysis" ("Digital Forum" 295). This verification of statistical data by humanist reading, or complementation of distant reading with close reading, should be able to offer one of the most effective solutions to Fish's argument: "It is not my intention flatly to deny any relationship between structure and sense, but to argue that if there is one, it is not to be explained by attributing an independent meaning to the linguistic facts, which will, in any case, mean differently in different circumstances" (99).

This statistical research enables us to take a bird-eye-view of a text which is difficult in traditional, personal, and humanist criticism. Its methodological potentiality has been stressed by many digital humanists. For example, Mahlberg insists the "computer-assisted quantification of linguistic phenomena . . . makes it possible to compare individual texts against general reference corpora" ("Digital Forum" 295). Stephen Ramsay states "text analytical

procedures (including that most primitive of procedures: the keyword search) has the potential to draw unexpected paths through a documentary space that is distinguished by its overall incomprehensibility” (78). According to Adolphs, “The use of corpus linguistic techniques in this area is still relatively new and more research is needed to assess the full potential of this approach” (77). Craig’s statement clarifies that the potentiality of the Digital Humanities methods has increased through testing: “Well-tested methods can now provide multiple approaches to a given problem, so that results can be triangulated and cross-checked. . . . It is worth noting . . . that the lively debate provoked by computational work in stylistics and authorship is an indication that these activities are playing a significant part in a much wider contemporary discussion about the relations of the human and the mechanical” (287-88).

One of the crucial functions of Digital Humanities approaches, or corpus-stylistic analyses of literature, is, in my view, to verify the validity of a humanist interpretation by examining the entire structure of a literary text, or quantification of its formal elements. The methodological significance lies in the preposition that textual meaning can be conveyed principally through the vehicle of formal elements, or, to be more precise, that the structure of fiction is designed by its author for the most effective transport of its theme or authorial meaning to the reader. Stressing the importance of verifying a humanist interpretation by formal evidence, or quantification of structural elements, David L. Hoover claims that the investigation into structural patterns is aimed at to solve the questions of interpretation, meaning, and aesthetics:

[M]ost stylistic and interpretive observations rest upon patterns, and, therefore, upon repetition. . . . Many stylistic and interpretive patterns . . . are far more pervasive or far more subtle, and they require more sophisticated, more powerful, and more explicit quantification. (518-19)

Statistical stylistics or stylometry is the broadest of the areas in which quantitative analysis intersects with literary study. . . . Its central concerns are closest to those of literary studies in general, with a special emphasis on the patterns that comprise style and how those patterns are related to issues of interpretation, meaning, and aesthetics. (525)

Few would disagree how robust an interpretation discovered through a critic’s insightful reading of a literary text would become should it be verified by the evidence of structural designs which remain permanently unaltered in principle once a work is produced. The Digital Humanities method is unique in helping critics avoid involving themselves into too personal an interpretation of a literary text.

4. Two Samples of Quantitative Analysis

This section explains two examples of quantitative analyses of Gaskell's texts.

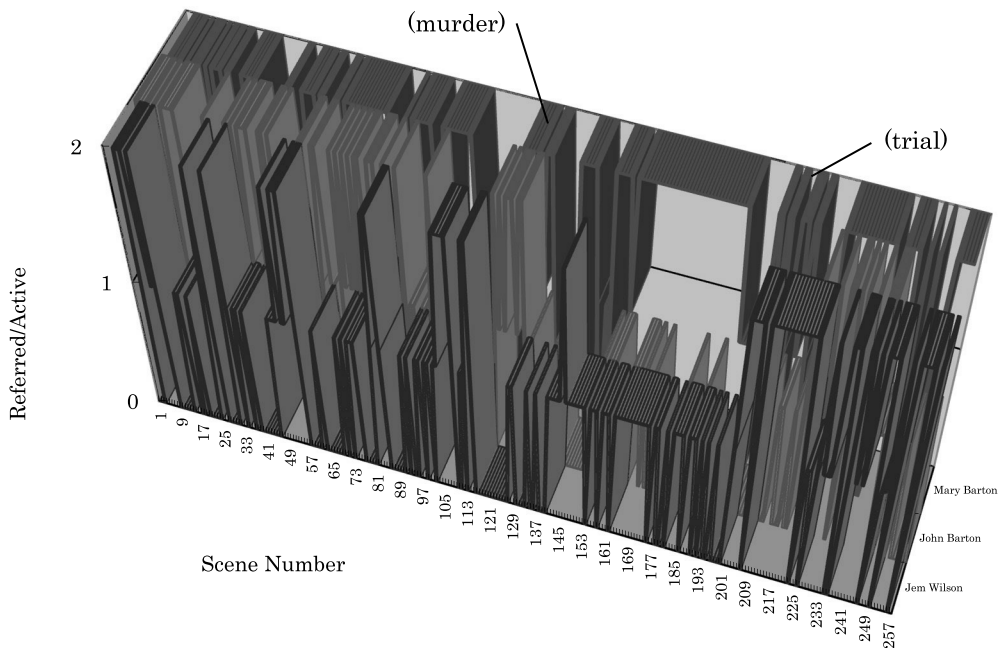


Fig. 1. Image of Plot Flow in *Mary Barton*

First to be introduced is a statistical analysis of the structure of *Mary Barton*, an example of a literature student's quantitative approach to a literary text. This was initially intended to draw the reader's attention to the intentionalist-hermeneuticists' view of the discrepancy between the historical, living, or actual author and his/her author construct. Their distinction of these two types of authors is invented because the textual form may not necessarily reflect the actual author's intention as in the case that the plot sometimes develops into the direction which is not originally intended (Irwin 63), or as in the case of "an author's unconscious intention" (Irwin 42).

One of the typical examples where the meanings of the actual author and his/her author construct do not necessarily match is found in *Mary Barton*. Gaskell the real author confesses in her defence of her so-called "industrial" novel that "John Barton" is the original title and he is her "hero" (*Letters* 70). Nonetheless, a statistical investigation into the whole structure uncovers the appearance rate of Mary is much higher than her father, and that Mary's love plot is prevalent throughout the story while her father's industrial plot is suspended in the middle (Fig. 1).¹⁸ The interpretation of the novel's protagonist should vary according to how John's

18 First, the whole story is divided into 257 scenes in accordance with the shift of time or place, and then the three main characters' state of appearance—active, only referred to by other characters, or inactive—is

disappearance from the storyline (only as short as 10 days, but as long as more than one third of the total pages) is interpreted. The above inquiry into the frequency of appearance of the main characters in *Mary Barton*, however, shows fairly objectively the centrality of Mary, not of her father, which was brought to light for the first time by this statistical analysis of the text's structures.

The second example of showing the potentiality of a quantitative analysis of literary texts is a structural examination of critics' hypothesis of the gradual decrease of didacticism in Gaskell's works. The following is Carroll's succinct summary of the common classification of her major works:

Her writing career spanned three decades, and a wide variety of literary styles. *Mary Barton* (1848) and *North and South* (1854-5) have been termed 'Condition of England' novels, and both works, along with *Ruth* (1853), 'social problem' novels. *Cranford* is a gentle pastoral, *Sylvia's Lovers* (1863) is a historical novel, and *The Life of Charlotte Brontë* (1857) a biography,¹⁹ while *Wives and Daughters* (1865) a study of provincial life in the tradition of Jane Austen. In addition to these major works, Gaskell was prolific in the writing of short stories and articles. (19)

examined scene by scene. Two points are given if a character is active, one is given if referred to, and none if inactive. John Barton, a Trade Unionist, disappears from the main stage from his murder of Harry Carson, an industrial master, to the end of the trial of Jem Wilson, his daughter Mary's lover. For the details of methodological explanation, the following articles might be of some help. Tatsuhiko Ohno, "Chronologies and Statistics" 327-56; ---, "Is *Mary Barton* an Industrial Novel?" 14-20.

- 19 *The Life of Charlotte Brontë* may generally be considered as a biography, but is often discussed as if it were fiction, since it is full of fictional elements. For instance, Edgar Wright, regarding the book as the work showing Gaskell's artistic development, states that *LCB* "is vital in Mrs. Gaskell's development, for it forced her to concentrate on the individual, her surroundings and background in an objective manner" (15). Margaret Ganz spotlights the narrator's strong commitment to the depiction of her subject: "the work has the permanent distinction of having been the very first to reveal the highly dramatic life of a novelist. . . . [Gaskell] was deeply committed to the moral values exemplified by the life she was depicting" (182). Easson elucidates the author's purpose of writing the book: "Gaskell wished above all to do justice to Charlotte Brontë . . . so that others might come to know her as she was. The idea of 'right understanding' is stressed throughout, Charlotte having been condemned, by those who neither knew nor understood, as a coarse woman, obsessed by love, where Gaskell knew her to be devoted to duty and tried by suffering. The book develops from this need for understanding" (*EG* 150). Indeed, Gaskell herself states her two intentions for writing this book in her letter and in the book. First, in her letter to George Smith her publisher dated 31 May 1855, she writes "It seems to me that her death was as sad as her life. Sometime, it may be years hence—but if I live long enough, and no one is living whom such a publication would hurt, I will publish what I know of her, and make the world (if I am but strong enough in expression,) honour the woman as much as they have admired the writer" (*Letters* 345). This distinction between the two types of Charlotte is clarified in the work: "Henceforward Charlotte Brontë's existence becomes divided into two parallel currents—her life as Currer Bell, the author; her life as Charlotte Brontë, the woman" (*LCB* 271). Secondly, the narrator herself clarifies her intention to write *LCB* which is, to quote her own words, to "show what a noble, true, and tender woman Charlotte Brontë really was" (*LCB* 419). In addition, to examine Gaskell's formal features of Christianity in her entire works is one of the principle purposes of this research. Accordingly, *LCB* shall be treated as biographical fiction, and incorporated into this study as a target of research.

Critics have pointed out Gaskell's didacticism especially in her early novels like *Mary Barton*, *Ruth*, and *North and South*,²⁰ and claims it decreases as her artistic techniques increase.²¹

To examine the appropriateness of this reading, an investigation was made into the frequency of occurrence of the Christian vocabulary ("god," "almighty," "christ," "saviour," "redeemer," "lord," "heaven," "holy ghost/spirit," "bible," "bibles," "scripture," "scriptures," "testament," "gospel," "gospels," and "church") in each of her works which were arranged in the order of their publication dates.²² Table 1 was created to examine the transition of the words' frequency in accordance with the publication dates of Gaskell's works by word count and per million words. Fig. 2 is a visualization of the result of its examination by word count; Fig. 3 that per million words. The calculation of the latter was made according to the following formula.

$$\frac{\text{Total Number of Occurrences of the Christianity-Related Words in a Work}}{\text{Total Number of Its Word Token}} \times 1,000,000$$

Were her 19 years of literary career (1847-65) from the publication of her debut novel *Mary Barton* to that of her uncompleted last novel *Wives and Daughters* divided by the unit of approximately six years, it could be divided into three stages (See Table 1). The first stage would be seven years (1847-53) when 24 works out of 52 were published, including the three short stories "Libbie Marsh," "The Sexton's Hero," and "Christmas Storms and Sunshine," with which her "real entrée into the literary world came" (Foster 111), her so-called "social-problem novels" *Mary Barton* and *Ruth*, and the classic story of everyday life *Cranford*, but here it shall

20 For instance, "The success was moral rather than financial, since like *Mary Barton*, *Ruth* is a novel with a purpose, Gaskell in the first half of her career being as concerned with the didactic as the aesthetic function of the novel" (Easson, *EG* 109). "That is also why, unsatisfying though it is in its rather obvious didacticism, the reconciliation at the end is fully in tune with Mrs Gaskell's attitude throughout the novel [*Mary Barton*]" (Pollard, "Faith and Family" 4).

21 "All of these stories [*MB*, *RU*, *NS*, "Libbie Marsh's Three Eras," and "Lizzie Leigh"] contain injections of religious didacticism. Yet the element of 'message' steadily diminishes as the novelist of the individual and his relationships becomes more aware of her natural bent as a social observer" (Wright 14); "The concluding stage in Mrs. Gaskell's development is the dropping of the didactic element" (Wright 47). "In Mrs Gaskell's case, it [the effect of a journey to Italy] meant leaving for ever the moralizing novels with a social purpose to which she had devoted the first half of her literary career. . . . Her books did, indeed, change from her first novel, *Mary Barton*, with serious intensity of purpose, to the last, the sparkling delightful *Wives and Daughters*, written to amuse, not to instruct or reform" (Aina Rubenius 86-87). Rubenius is right in saying "One indication of this [the diminution of didacticism] is that the Bible quotations so profusely used in *Mary Barton* to emphasize moral exhortations have almost entirely disappeared in *Wives and Daughters*" (87). According to my investigation, the Bible-related words appear 22 times in *Mary Barton*, while 6 times in *Wives and Daughters*. The "great novella ["Cousin Phillis"] takes its place between the two great novels of the artist's maturity [*Sylvia's Lovers* and *Wives and Daughters*], in which her moral and political didacticism is totally assimilated to character, feeling and setting" (Barbara Hardy, "The Art of Novella" 27).

22 76 examples of "Lord" attached to "Lord Cumnor" and 62 to "Lord Hollingford" are excluded from the total frequency of occurrence of "lord" in *Wives and Daughters*. So are 18 instances attached to "Lord Ludlow" from that in *My Lady Ludlow*.

be expanded to 17 years from 1837 to 1853 to take in “The Sketches among the Poor, No. 1” and “Clopton Hall,” two study works which were published in 1837 and 1840 respectively before her literary debut. The next six years (1854-59) constitute the second stage when 17 out of 54 works appeared, including *North and South*, *The Life of Charlotte Brontë*, and *My Lady Ludlow*, along with the popular short stories like “The Half-Brothers,” “Lois the Witch,” and “The Crooked Branch.” The third stage, or last six years (1860-65), produces *A Dark Night’s Work*, *Sylvia’s Lovers*, and *Wives and Daughters*, besides the famous idyllic story “Cousin Phillis.”

The survey of the frequency of occurrence of the Christian vocabulary by word count betokens correctness of the critics' hypothesis because the frequency decreases as the stage increases: 941 times in Stage 1, 730 in Stage 2, and 492 in Stage 3. The survey per million words also betokens its correctness, since the frequency survey produces a similar result: 42,201 times in Stage 1, 21,915 in Stage 2, and 7,031 in Stage 3. It seems, therefore, that these Digital Humanities analyses of the Christian vocabulary in Gaskell's oeuvre provide an example of objective confirmation of critics' subjective observation.

Stage	Period	ID	Publication Date	Genre	Works	WC	PMW
1	1837-53	1	18370101	p	Sketches among the Poor No. 1	1	829.1873964
		2	18400101	s	Clopton Hall	3	2483.443709
		3	18470101_n.d	s	Two Fragments of Ghost Stories	0	0
		4	18470705	s	Libbie Marsh's Three Eras	24	2140.181915
		5	18470904	s	The Sexton's Hero	18	3979.659518
		6	18480101	s	Christmas Storms and Sunshine	5	1076.194576
		7	18481018	n	Mary Barton	230	1390.517877
		8	18490701	s	Hand and Heart	10	1215.657671
		9	18490701	s	The Last Generation in England	0	0
		10	18500201	s	Martha Preston	11	1964.987496
		11	18500330	s	Lizzie Leigh	44	3336.366394
		12	18501116	s	The Well of Pen-Morfa	29	3144.654088
		13	18501214	s	The Moorland Cottage	53	1247.440394
		14	18501228	s	The Heart of John Middleton	54	5281.690141
		15	18510201	s	Mr Harrison's Confessions	8	266.9959617
		16	18510707	s	Disappearances	1	238.1519409
		17	18511213	n	Cranford	56	773.6195726
		18	18520101	s	Bessy's Troubles at Home	5	606.1340769
		19	18520619	s	The Shah's English Gardener	0	0
		20	18521225	s	The Old Nurse's Story	46	4691.962464
		21	18530101	n	Ruth	293	1778.970504
		22	18530122	s	Cumberland Sheep Shearers	1	162.2849724
		23	18531119	s	Morton Hall	19	1103.688644
		24	18531119	s	Trants and Stories of the Huguenots	11	1964.285714
		25	18531217	s	My French Master	7	719.9424046
		26	18531225	s	The Squire's Story	12	1805.054152
Sub-Total						941	42201.07158

2	1854-59	27	18540201	s	Modern Greek Songs	5	681.9421713
		28	18540520	s	Company Manners	0	0
		29	18540902	n	<i>North and South</i>	132	704.785601
		30	18550825	s	An Accursed Race	18	2747.672111
		31	18551006	s	Half a Long-Time Ago	8	438.1880922
		32	18560101	s	The Half-Brothers	5	950.209046
		33	18561213	s	The Poor Clare	21	914.9130833
		34	18570301	n	<i>The Life of Charlotte Brontë</i>	236	1323.537659
		35	18580101	s	The Doom of the Griffiths	11	748.1975241
		36	18580601	s	An Incident at Niagara Falls	11	5549.949546
		37	18580619	n	<i>My Lady Ludlow</i>	123	1558.876088
		38	18581127	s	Right at Last	2	250.9725185
		39	18581207	s	The Manchester Marriage	13	1112.63266
		40	18590101	s	Round the Sofa	1	260.3488675
		41	18591008	s	Lois the Witch	114	3088.928629
42	18591225	s	The Crooked Branch	30	1584.032948		
Sub-Total						730	21915.18655
3	1860-65	43	18600201	s	Curious, If True	3	445.8314757
		44	18610105	s	The Grey Woman	5	210.6593638
		45	18620501	s	Six Weeks at Heppenheim	11	697.2174685
		46	18630124	n	<i>A Dark Night's Work</i>	53	772.6848612
		47	18630201	n	<i>Sylvia's Lovers</i>	203	1030.749858
		48	18630201	s	Shams	3	557.1030641
		49	18630321	s	An Italian Institution	1	289.7710808
		50	18631101	s	Cousin Phillis	39	946.7398165
		51	18631115	s	Crowley Castle	17	1183.431953
		52	18631128	s	The Cage at Cranford	0	0
		53	18640401	s	French Life	11	374.748748
		54	18640801	n	<i>Wives and Daughters</i>	146	522.393133
Sub-Total						492	7031.330822
Total						2163	71147.58895

**Table 1. Frequency of Occurrence of the Christian Vocabulary in Gaskell's Works
by Word Count and per Million Words**

Notwithstanding, a few critics take a different view of Gaskell's didacticism from the above critics': i.e. her interest in Christian morality prevails throughout her entire works, early or late. For instance, "I would suggest that her religion pervades all of her writings, and that the influence of Unitarianism in her writing is not confined to the social problem novels" (Carroll 24). A "preoccupation with education and upbringing" is "a theme of Elizabeth's writings from her earliest stories to her final novel" (Uglow, *EG* 5). Carroll's assertion is drawn from her analysis of the image of gardens in Gaskell's texts which "could both educate and encourage individual thought" (25, 28); Uglow's remark is inserted into her explanation of the history of Unitarianism (*EG* 5)—both are based on their insightful readings. Can their readings of Gaskell's didacticism be verified by any objective support of corpus-stylistic analysis? Figs 2 and 3 might be seen as indicating the data which support their interpretations, because the Christian vocabulary appears constantly even in her works of the later years, and also because a

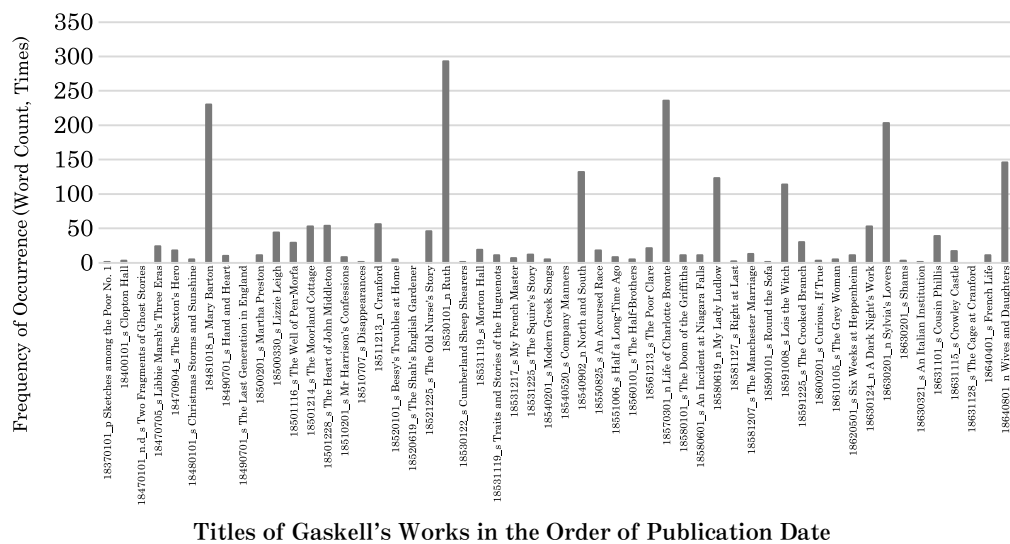


Fig. 2. Frequency of Occurrence of the Christian Vocabulary in Gaskell's Works in the Order of Publication Date (Word Count)

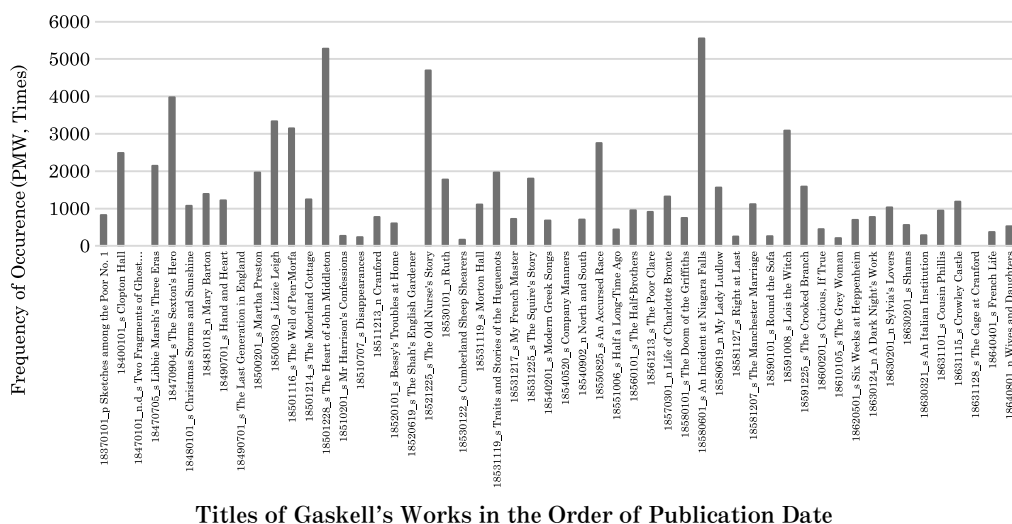


Fig. 3. Frequency of Occurrence of the Christian Vocabulary in Gaskell's Works in the Order of Publication Date (per Million Words)

few works in Stage 3 record high frequencies of its occurrence. A valid solution to this question should be able to be found when a more comprehensive analysis is attempted to her Christian vocabulary. This verification of the result of distant reading with close reading is another target of my research.

5. A Summary Table

As the charts above indicate, visualization of structural elements offers an innovative hint for the interpretation of texts which is hardly discoverable only by close reading.

The result of my research is demonstrated in the following Table 2. It was created chiefly by the four processes. First, the 167 examples of Gaskell's Bible-related words (104 examples of "bible"; 3 of "bibles"; 20 of "gospel"; 1 of "gospels"; 22 of "scripture"; 5 of "scriptures"; and, 12 of "testament") are classified into the 17 groups according to the context in which they are used and/or the connotation of each word. For instance, (a) Lizzie's mother tells her son Will about goodness of Susan Palmer he loves: "She's not one to judge and scorn the sinner. She's too deep read in her New **Testament** [T002] for that" ("Lizzie Leigh," P&C, vol. 1, 146). The example in this citation was classified into the "moral guide" group, since the New "Testament" is introduced as Susan's moral source. (b) *Mary Barton's* narrator remarks that the Bible was John Carson's study book when he was young: "Years ago, the **Gospel** [G007] had been his task-book in learning to read" (*MB*, OWC 436). Hence, this instance was grouped into the "daily study" taxon. (c) The "Bible" in the following quotation, where Libbie Marsh comforts Mrs Hall, who lost her only son, is categorized into the "eternal life" group, because Libbie's utterance is based on her belief that Frank's soul is still alive.

"Oh! dear Mrs. Hall," said Libbie, herself drenched in tears, "do not take on so badly; I'm sure it would grieve him sore if he were alive, and you know he is—**Bible** [B002] tells us so; and may be he's here, watching how we go on without him, and hoping we don't fret over much." ("Libbie Marsh," P&C vol. 1, 64)

The result of our taxonomy of the Bible-related words is shown in Fig. 4.

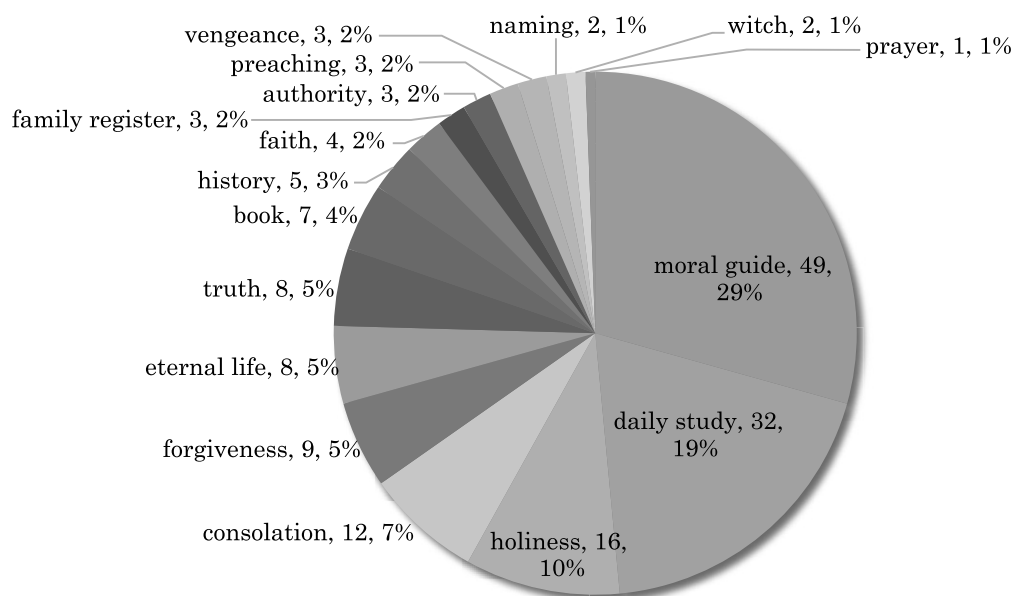


Fig. 4. 17 Connotations of the Bible-Related Words in Gaskell's Works

The pie chart discloses that the word “bible” and its equivalents are referred to most frequently as (a) a source of moral guide (49 instances / 29%), followed by (b) a book for daily study (32 instances / 19%), (c) a holy and precious book (16 instances / 10%), (d) a source of consolation (12 instances / 7%), (e) a guide for forgiveness (9 instances / 5%), (f) a book promising eternal life (8 instances / 5%), (g) a book teaching the truth of the world (8 instances / 5%), and so on. The data should provide a hint for the further analysis of the Gaskell construct’s meanings in her employment of the Bible-related words.

Secondly, an investigation is made into characters to identify who is most closely associated with each example, then, into the title of the work in which the character appears. For instance, in the case of the above quotation from “Libbie Marsh’s Three Eras,” Libbie is the character who is most closely connected with the Bible-related word since she is the utterer of the word. Fourthly, when a Bible-related word was considered to have biblical reference, its identification was carried out. In the case of the above citation, 1 John 5.11, Tit. 1.2, John 5.39, and 1 John 5.13 have close association with the Bible-related word, as they all contain reference to “eternal life.”

Table 2 thus created should be a helpful source for the detailed scrutiny of Gaskell’s Christianity.

ID	RAW ID	HIT	TITLE	CHARACTER	CHARACTER'S APPEARANCE	CATEGORY	CATEGORY'S APPEARANCE	BIBLE TEXT	BIBLE TEXT'S REFERENCE
1	10	B010	<i>Mary Barton</i>	Ben Davenport	1	faith	4	1 Chron. 29.10	1
2	108	S001	<i>Mary Barton</i>	Jane Wilson	2	consolation	12	Gen. 3.21	1
3	15	B015	<i>Mary Barton</i>	Jane Wilson	2	moral guide	49	Deut. 14.21	1
4	156	G010	<i>Mary Barton</i>	Job Legh	1	moral guide	49	Luke 6.27	2
5	18	B018	<i>Mary Barton</i>	John Barton	8	moral guide	49		
6	19	B019	<i>Mary Barton</i>	John Barton	8	moral guide	49		
7	20	B020	<i>Mary Barton</i>	John Barton	8	moral guide	49		
8	21	B021	<i>Mary Barton</i>	John Barton	8	moral guide	49		
9	22	B022	<i>Mary Barton</i>	John Barton	8	moral guide	49		
10	8	B008	<i>Mary Barton</i>	John Barton	8	moral guide	49	Gen. 3.19	2
11	154	G008	<i>Mary Barton</i>	John Barton	8	moral guide	49		
12	155	G009	<i>Mary Barton</i>	John Barton	8	moral guide	49	Luke 6.27	2
13	17	B017	<i>Mary Barton</i>	John Carson	4	forgiveness	9	Luke 23.34	4
14	152	G006	<i>Mary Barton</i>	John Carson	4	forgiveness	9	Luke 23.34	4
15	153	G007	<i>Mary Barton</i>	John Carson	4	daily study	32		
16	157	G011	<i>Mary Barton</i>	John Carson	4	truth	8		
17	14	B014	<i>Mary Barton</i>	Mary Barton	5	eternal life	8	Rev. 7	4

18	9	B009	<i>Mary Barton</i>	Mary Barton	5	eternal life	8	1 Cor. 15.53-54	1
19	16	B016	<i>Mary Barton</i>	Mary Barton	5	moral guide	49	Isa. 30.18	1
20	11	B011	<i>Mary Barton</i>	Mary Barton	5	daily study	32		
21	12	B012	<i>Mary Barton</i>	Mary Barton	5	daily study	32		
22	13	B013	<i>Mary Barton</i>	Sally Leadbitter	1	eternal life	8	1 Pet. 1.24	2
23	93	B093	<i>Sylvia's Lovers</i>	Alice Rose	6	consolation	12		
24	84	B084	<i>Sylvia's Lovers</i>	Alice Rose	6	daily study	32		
25	87	B087	<i>Sylvia's Lovers</i>	Alice Rose	6	daily study	32		
26	88	B088	<i>Sylvia's Lovers</i>	Alice Rose	6	daily study	32		
27	134	Ss005	<i>Sylvia's Lovers</i>	Alice Rose	6	holiness	16		
28	125	S018	<i>Sylvia's Lovers</i>	Alice Rose	6	moral guide	49		
29	89	B089	<i>Sylvia's Lovers</i>	Bell Robson	3	book	7		
30	83	B083	<i>Sylvia's Lovers</i>	Bell Robson	3	daily study	32		
31	82	B082	<i>Sylvia's Lovers</i>	Bell Robson	3	moral guide	49	Eph. 6.1-3	1
32	96	B096	<i>Sylvia's Lovers</i>	Clarinda Kinraid	1	holiness	16		
33	95	B095	<i>Sylvia's Lovers</i>	Hester Rose	2	consolation	12		
34	128	S021	<i>Sylvia's Lovers</i>	Hester Rose	2	faith	4	Mark 10.27	1
35	86	B086	<i>Sylvia's Lovers</i>	Jeremiah Foster	1	daily study	32		
36	85	B085	<i>Sylvia's Lovers</i>	Philip Hepburn	2	book	7		
37	90	B090	<i>Sylvia's Lovers</i>	Philip Hepburn	2	forgiveness	9	Luke 17.4	1
38	92	B092	<i>Sylvia's Lovers</i>	Sylvia Robson	6	book	7		
39	94	B094	<i>Sylvia's Lovers</i>	Sylvia Robson	6	book	7		
40	127	S020	<i>Sylvia's Lovers</i>	Sylvia Robson	6	holiness	16		
41	91	B091	<i>Sylvia's Lovers</i>	Sylvia Robson	6	moral guide	49		
42	126	S019	<i>Sylvia's Lovers</i>	Sylvia Robson	6	moral guide	49		
43	145	T011	<i>Sylvia's Lovers</i>	Sylvia Robson	6	daily study	32	Old Testa- ment	6
44	62	B062	<i>The Life of Char- lotte Brontë</i>	Charlotte Brontë	14	consolation	12		
45	115	S008	<i>The Life of Char- lotte Brontë</i>	Charlotte Brontë	14	daily study	32	John 3.8	1
46	65	B065	<i>The Life of Char- lotte Brontë</i>	Charlotte Brontë	14	faith	4		
47	60	B060	<i>The Life of Char- lotte Brontë</i>	Charlotte Brontë	14	holiness	16		
48	61	B061	<i>The Life of Char- lotte Brontë</i>	Charlotte Brontë	14	holiness	16	John 4.14	1
49	67	B067	<i>The Life of Char- lotte Brontë</i>	Charlotte Brontë	14	holiness	16		
50	63	B063	<i>The Life of Char- lotte Brontë</i>	Charlotte Brontë	14	moral guide	49		
51	162	G016	<i>The Life of Char- lotte Brontë</i>	Charlotte Brontë	14	moral guide	49	Mark 12.30-31	1
52	116	S009	<i>The Life of Char- lotte Brontë</i>	Charlotte Brontë	14	moral guide	49	Lev. 26.16	1
53	66	B066	<i>The Life of Char- lotte Brontë</i>	Charlotte Brontë	14	daily study	32		
54	144	T010	<i>The Life of Char- lotte Brontë</i>	Charlotte Brontë	14	daily study	32	Old Testa- ment	6

55	143	T009	<i>The Life of Charlotte Brontë</i>	Charlotte Brontë	14	daily study	32	Old Testament	6
56	68	B068	<i>The Life of Charlotte Brontë</i>	Charlotte Brontë	14	truth	8		
57	161	G015	<i>The Life of Charlotte Brontë</i>	Charlotte Brontë	14	truth	8		
58	64	B064	<i>The Life of Charlotte Brontë</i>	Narrator LCB	2	moral guide	49	1 Cor. 12.25	1
59	142	T008	<i>The Life of Charlotte Brontë</i>	Narrator LCB	2	naming	2	Old Testament	6
60	40	B040	<i>Ruth</i>	Faith Benson	1	daily study	32		
61	41	B041	<i>Ruth</i>	Henry Bellingham	2	book	7		
62	42	B042	<i>Ruth</i>	Henry Bellingham	2	naming	2		
63	109	S002	<i>Ruth</i>	Jemima Bradshaw	4	moral guide	49	Job 42.14	4
64	110	S003	<i>Ruth</i>	Jemima Bradshaw	4	moral guide	49	Job 42.14	4
65	111	S004	<i>Ruth</i>	Jemima Bradshaw	4	moral guide	49	Job 42.14	4
66	112	S005	<i>Ruth</i>	Jemima Bradshaw	4	moral guide	49	Job 42.14	4
67	158	G012	<i>Ruth</i>	Narrator RU	1	moral guide	49	Matt. 26	1
68	37	B037	<i>Ruth</i>	Ruth Hilton	3	moral guide	49		
69	36	B036	<i>Ruth</i>	Ruth Hilton	3	daily study	32		
70	43	B043	<i>Ruth</i>	Ruth Hilton	3	daily study	32		
71	44	B044	<i>Ruth</i>	Thurstan Benson	3	eternal life	8	Rev. 7	4
72	38	B038	<i>Ruth</i>	Thurstan Benson	3	moral guide	49	1 Pet. 5.8	1
73	39	B039	<i>Ruth</i>	Thurstan Benson	3	preaching	3	a psalm	1
74	55	B055	<i>North and South</i>	Bessy Higgins	3	daily study	32	Acts 2.17	1
75	54	B054	<i>North and South</i>	Bessy Higgins	3	eternal life	8	Rev. 7	4
76	51	B051	<i>North and South</i>	Bessy Higgins	3	history	5	Luke 7.25	1
77	139	T005	<i>North and South</i>	Hannah Thornton	1	daily study	32	Old Testament	6
78	131	Ss002	<i>North and South</i>	Margaret Hale	4	consolation	12	Job 3.17	2
79	53	B053	<i>North and South</i>	Margaret Hale	4	eternal life	8	Rev. 7	4
80	58	B058	<i>North and South</i>	Margaret Hale	4	holiness	16		
81	52	B052	<i>North and South</i>	Margaret Hale	4	moral guide	49	Luke 1.1-8	1
82	160	G014	<i>North and South</i>	Mr Oldfield	1	truth	8		
83	50	B050	<i>North and South</i>	Narrator NS	1	daily study	32		
84	57	B057	<i>North and South</i>	Nicholas Higgins	1	moral guide	49		
85	56	B056	<i>North and South</i>	Richard Hale	1	moral guide	49	Matt. 25.24	1
86	140	T006	<i>North and South</i>	Susan, Margaret Hale's old friend	1	daily study	32	New Testament	1
87	124	S017	"Lois the Witch"	Captain Holderness	3	authority	3	2 Kings 24.4	1
88	75	B075	"Lois the Witch"	Captain Holderness	3	daily study	32		
89	120	S013	"Lois the Witch"	Captain Holderness	3	holiness	16	Exod. 22.18	3
90	123	S016	"Lois the Witch"	Cotton Mather	1	holiness	16		

91	119	S012	"Lois the Witch"	Elder Hawkins	2	holiness	16	Jer. 13.10	1
92	121	S014	"Lois the Witch"	Elder Hawkins	2	prayer	1	Luke 17.13	1
93	133	Ss004	"Lois the Witch"	Hannah Benson	1	daily study	32		
94	122	S015	"Lois the Witch"	Lois Barclay	1	witch	2	Exod. 22.18	3
95	78	B078	"Lois the Witch"	Manasseh Hickson	1	daily study	32		
96	77	B077	"Lois the Witch"	Narrator LtW	1	authority	3		
97	76	B076	"Lois the Witch"	the Hicksons	1	preaching	3		
98	71	B071	<i>My Lady Ludlow</i>	Lady Ludlow	4	family register	3		
99	72	B072	<i>My Lady Ludlow</i>	Lady Ludlow	4	family register	3		
100	69	B069	<i>My Lady Ludlow</i>	Lady Ludlow	4	moral guide	49		
101	74	B074	<i>My Lady Ludlow</i>	Lady Ludlow	4	moral guide	49	1 Sam. 15.23	1
102	117	S010	<i>My Lady Ludlow</i>	Margaret Dawson the narrator	1	moral guide	49		
103	132	Ss003	<i>My Lady Ludlow</i>	Miss Galindo	2	holiness	16		
104	118	S011	<i>My Lady Ludlow</i>	Miss Galindo	2	moral guide	49	Gen. 3.19	2
105	107	Bs003	<i>My Lady Ludlow</i>	Mr Gray, young clergyman	1	moral guide	49		
106	70	B070	<i>My Lady Ludlow</i>	old Job Horton	1	daily study	32	apocrypha	1
107	73	B073	<i>My Lady Ludlow</i>	Sally the maid	1	consolation	12		
108	27	B027	"The Heart of John Middleton"	John Middleton	8	daily study	32		
109	31	B031	"The Heart of John Middleton"	John Middleton	8	forgiveness	9	Luke 23.34	4
110	32	B032	"The Heart of John Middleton"	John Middleton	8	forgiveness	9	Luke 23.34	4
111	138	T004	"The Heart of John Middleton"	John Middleton	8	history	5	Old Testament	6
112	28	B028	"The Heart of John Middleton"	John Middleton	8	daily study	32		
113	29	B029	"The Heart of John Middleton"	John Middleton	8	vengeance	3	Ezek. 25.14	2
114	30	B030	"The Heart of John Middleton"	John Middleton	8	vengeance	3	1 Sam. 15.32-33	1
115	137	T003	"The Heart of John Middleton"	John Middleton	8	vengeance	3	Ezek. 25.14	2
116	4	B004	"Libbie Marsh's Three Eras"	Anne Dixon	1	eternal life	8	1 Pet. 1.24	2
117	1	B001	"Libbie Marsh's Three Eras"	Franky Hall	1	book	7		
118	3	B003	"Libbie Marsh's Three Eras"	Libbie Marsh	3	consolation	12	John 14.2	4
119	147	G001	"Libbie Marsh's Three Eras"	Libbie Marsh	3	consolation	12	John 14.2	4
120	2	B002	"Libbie Marsh's Three Eras"	Libbie Marsh	3	eternal life	8	1 John 5.11	1
121	5	B005	"Libbie Marsh's Three Eras"	Margaret Hall	1	consolation	12	John 14.2	4
122	105	Bs001	"Libbie Marsh's Three Eras"	Narrator LMTE	1	consolation	12	John 14.2	4
123	129	S022	"Cousin Phillis"	Betty the nurse	1	moral guide	49	Ps. 12.3	2
124	98	B098	"Cousin Phillis"	Betty the servant	1	moral guide	49	Ps. 12.3	2

125	99	B099	"Cousin Phillis"	Ebenezer Holman	1	daily study	32		
126	165	G019	"Cousin Phillis"	Edward Holdsworth	1	moral guide	49		
127	97	B097	"Cousin Phillis"	Paul Manning	1	book	7		
128	146	T012	"Cousin Phillis"	Paul Manning the narrator	1	history	5	Gen. 24.15-20	1
129	7	B007	"The Sexton's Hero"	Gilbert Dawson	4	moral guide	49		
130	148	G002	"The Sexton's Hero"	Gilbert Dawson	4	moral guide	49		
131	149	G003	"The Sexton's Hero"	Gilbert Dawson	4	moral guide	49		
132	151	G005	"The Sexton's Hero"	Gilbert Dawson	4	moral guide	49	1 John 3.15-16	1
133	150	G004	"The Sexton's Hero"	Jonas the old clerk	1	moral guide	49		
134	6	B006	"The Sexton's Hero"	the vicar	1	moral guide	49		
135	101	B101	<i>Wives and Daughters</i>	Betty the cook	1	history	5	1 Sam. 25.18	1
136	100	B100	<i>Wives and Daughters</i>	Edward Coxe	1	holiness	16		
137	102	B102	<i>Wives and Daughters</i>	Hyacinth Clare	1	moral guide	49	Amos 4.12	1
138	104	B104	<i>Wives and Daughters</i>	Lady Harriet	1	moral guide	49		
139	166	G020	<i>Wives and Daughters</i>	Miss Phoebe	1	truth	8		
140	103	B103	<i>Wives and Daughters</i>	Squire Hamley	1	moral guide	49	Job 14.14	1
141	23	B023	"Hand and Heart"	lame Harry's daughter	1	holiness	16		
142	135	T001	"Hand and Heart"	Mrs Fletcher	1	moral guide	49	Matt. 6.3	1
143	24	B024	"Hand and Heart"	old Harry	2	truth	8		
144	130	Ss001	"Hand and Heart"	old Harry	2	truth	8		
145	163	G017	"The Crooked Branch"	Hester Huntroyd	1	forgiveness	9	Luke 15.11-32	4
146	79	B079	"The Crooked Branch"	Nathan Huntroyd	3	consolation	12		
147	80	B080	"The Crooked Branch"	Nathan Huntroyd	3	consolation	12		
148	167	Gs001	"The Crooked Branch"	Nathan Huntroyd	3	forgiveness	9	Luke 15.11-32	4
149	25	B025	"Lizzie Leigh"	Anne Leigh	2	forgiveness	9	Luke 15.11-32	4
150	26	B026	"Lizzie Leigh"	Anne Leigh	2	forgiveness	9	Luke 15.11-32	4
151	136	T002	"Lizzie Leigh"	Susan Palmer	1	moral guide	49	Matt. 7.1-2	1
152	159	G013	"Morton Hall"	Bridget Sidebotham the narrator	1	preaching	3		
153	45	B045	"Morton Hall"	Ethelinda Sidebotham	2	daily study	32		
154	46	B046	"Morton Hall"	Ethelinda Sidebotham	2	daily study	32		
155	49	B049	"The Squire's Story"	an old woman in Bath	1	daily study	32		
156	47	B047	"The Squire's Story"	Robinson Higgins	2	daily study	32		

157	48	B048	"The Squire's Story"	Robinson Higgins	2	moral guide	49	1 Pet. 4.8	1
158	33	B033	<i>Cranford</i>	Matilda Jenkyns	2	holiness	16		
159	35	B035	<i>Cranford</i>	Matilda Jenkyns	2	holiness	16		
160	34	B034	<i>Cranford</i>	Mrs Jamieson	1	daily study	32		
161	113	S006	"The Poor Clare"	a countryman	1	witch	2	Exod. 22.18	3
162	114	S007	"The Poor Clare"	the clergyman	1	authority	3		
163	141	T007	"An Accursed Race"	Narrator AAR	1	history	5	2 Chron. 26.23	1
164	59	B059	"Half a Long-Time Ago"	Susan Dixon the heroine	1	faith	4	Ruth 1.17	1
165	164	G018	"Six Weeks at Heppenheim"	Narrator SWaH	1	truth	8		
166	81	B081	"The Grey Woman"	Anna Scherer the Grey Woman	1	family register	3		
167	106	Bs002	"Traits and Stories of the Huguenots"	Narrator TaSotH	1	holiness	16		
TOTAL					167		167		89

Table 2. Biblical Texts in Gaskell's Fiction

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デジタル人文学による文学研究の可能性を探る： エリザベス・ギaskellのキリスト教性に関するコーパス文体論的分析

大野 龍浩

概要：

作品を電子テキストにした集合体（コーパス）を使って、その全体構造を統計的に明らかにする「デジタル人文学」。この手法を文学研究に援用することの意義を検証するために、エリザベス・ギaskell（1810-65）による「聖書」関連用語の使用状況を科学的に分析する。その序論に当たる部分が本稿である。

第1項で本稿の目的と概要を述べたあと、第2項では、ギaskellのキリスト教描写に関する先行研究を渉猟しながら、彼女の信仰のよりどころである「ユニテリアニズム」の主要原則を整理する。

第3項では、批評家の主観や直感で文学作品を解釈する伝統的な文学批評法の問題点を指摘したあと、その解決策の一つとして「遠読」（distant reading）——つまり、ビッグ・データをコンピュータ解析してその全体像を客観的に明らかにしていく読み方——の有効性を指摘し、その究極の目的は「絶対解釈」——つまり、原作者が意図した解釈——を客観的に論証することにあると述べる。さらに、文学テキストの量的分析の意義、その具体的な方法論としての「コーパス文体論」、それに対する Stanley Fish の批判と Hugh Craig の擁護を検証し、テキストの量的分析と質的分析の相互補完によってこそ、その絶対解釈が見い出せる可能性のあることを提示する。

第4項では、作品構造の量的分析を行った成果として2例を紹介。第一は、*Mary Barton* の主要3人物の登場頻度についてのグラフで、作品構造が Mary と Jem をめぐる恋愛の行方に焦点があることを示していることから、労使関係を描く「社会問題小説」との伝統的な読み方の妥当性に疑問を呈した。第二は、Bible 関連単語の登場頻度を基準に Gaskell の全作品を出版年順に並べたグラフで、彼女のキリスト教に関する関心が初期作品から晩年の作品まで一貫して続いていることを視覚化した。

第5項で、ギaskellの Bible 関連単語がどのような context で用いられているかを調査・分析した結果を表にまとめて示すことで、今後の研究発展のための資料とした。