Historical Analysis of British Legal Discourse from 1677 to 2001

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Abstract

This article investigates the historical change of lexico–grammatical features of British legal discourse over 300 years based on Biber (1988). Three historical corpora of approximately 1,000,000 words each are compiled for this investigation: the 17th Century British Legal Corpus (1677–1728), the 19th Century British Legal Corpus (1866–1873), and the 21st Century British Legal Corpus (2000–2001). I tagged them, ran through a factor analysis to obtain the factor scores of the five dimensions, and normalized the frequency counts of 128 lexicl–grammatical features in the same way as was done in Biber (1988). Among the five dimensions Biber proposed I focused my attention on dimension 1 because it is the most powerful and important dimension to understand the historical change of British legal discourse.

I have compared the historical change of the 21 positive and 5 negative linguistic features and the mean dimension scores, and found that the mean dimension score went up in the 19th Century British Legal Corpus, then it went further down in the 21st one. This makes a sharp contrast to the historical change of scientific discourse investigated by Atkinson (1996). This difference is partly due to the U.K legal history and some aberrant linguistic features like nonprasal coordination. The details are discussed on this phenomenon.

1. Introduction

　　Historical studies of languages have been a core part of language studies. In 1786 William Jones made a famous speech in which he said that Sanskrit, Greek, and Latin were related to each other and might have the common original language, and that Gothic, Celtic, and Old Persian might be in the same language family (Crowley, 1997). In 1818 Rasmus Rask compared grammatical similarities between Icelandic language and Germanic languages. Jakob Grimm, Herman Grassmann, and Carl Verner intensively studied sound correspondences among Indo–European languages, and they clarified how the sounds, particularly the consonants, had shifted in Indo–European languages (Campbell, 1998; Robins, 1997). In 1870's and 80's the neogrammarians, or "Junggrammatiker" in German, tried to explain language change based on "the assumption that language change must have order and thus be amenable to systematic investigation." (Bynon, 1977: 24) Osthoff and Brugmann (as cited in Campbell, 1998: 18) claimed that "sound laws suffer no exceptions." In 1913 Ferdinand de Saussure distinguished synchronic study of language from diachronic study of language in his *Course in General Linguistics* (1959) for the first time in the history of modern linguistics.[1] His thoughts on language heavily influenced other linguists in the 20th century. However, Crowley (1997: 209) criticized Saussure as follows:

> Saussure proposed a very rigid distinction between diachronic and synchronic descriptions, and expressed the point of view that historical information was totally irrelevant in a synchronic analysis of a language.

　　In the advent of computer science in the second half of the 20th century, synchronic and diachronic studies of language have been greatly changed. In 1959 Randolph Quirk started to compile *the Survey of English Usage Corpus*. In 1961 *the Brown Corpus* was completed by Francis and Kučera. Many corpora have been compiled since then which include: *the London–Lund Corpus of Spoken English*, *the Lancaster–Oslo/Bergen Corpus* (*the LOB Corpus*), *the British National Corpus*, and *the Bank of English*. All these corpora are designed for synchronic studies of the English language. In 1988 Biber compiled a corpus of 960,000 words consisted of 15 written genres of 324 texts adopted from *the LOB Corpus*, two genres of 16 texts from his own corpus, and six spoken genres of 141 texts taken from *the London–Lund Corpus*. He chose 67 grammatical and lexical features, and used factor analysis to identify the co–occurring linguistic variables to analyze register variations. Biber (1988) explains his theoretical assumption as follows:

> …the factor analysis identifies groups of linguistic features that co-occur frequently in texts. The interpretation of the factors is based on the theoretical assumption that these co-occurrence patterns indicate an underlying communicative function shared by the features; that is, it is assumed that linguistic features co-occur frequently in texts because they are used for a shared set of communicative functions in those texts. (p. 101)

Biber identified seven textual dimensions, the three of which have grammatical and lexical features with salient positive and negative weights that occur in a complimentary way.

Since the late 1980's various diachronic corpora have been compiled for historical language studies. In 1993 Biber and Finegan compiled *A Representative Corpus of Historical English Registers*. They say that the purpose of their corpus is "to analyze historical change in the range of written and speech-based registers of English from 1650 to the present" (2001: 68). In 1984 *the Helsinki Corpus* was started to compile for diachronic and dialectal studies.[2]

Based on or related to these two historical corpora, many researches have done to explore the diachronic developments as well as the synchronic varieties of English around the world. To name some which are directly related to my present paper: Nevalainen and Raumolin–Brunberg (1993) discuss Early Modern English, particularly focusing on "the social and economic conditions in Early Modern England" (p.53); Peitsara (1993) investigated the development of the *by*–agent phrase in English passive clauses; Denison (1994) built a corpus of Late Modern English prose to research "the syntax of English over the last two centuries" (p. 7); Görlach (1994) built a corpus of 19th–century English to investigate "an author's choice of lexical and syntactic/stylistic variants" (p. 19); Kytö (1991, 1993, 1994) built a corpus of early American English; Schmied (1994) compiled a complementary corpus to *the Helsiki Corpus* (1640–1710) to study "historical socio–stylistic variation" (p. 81); Wright and Hope designed *the Cambridge–Leeds Corpus of Early Modern English* (*c. 1600–1800*); Wright (1994) designed a communicative corpus of eighteenth century texts to investigate "social network and change in eighteenth century English" (p. 95); McDermott (1994) designed a corpus of source texts for Johnson's *Dictionary* "not just to trace the quotation, but to see how much 'editing' Johnson has done to it" (p153).

The specific discourses are more often taken up for corpus based diachronic analysis recently. One of the typical genres is scientific/medical discourse. As Cannon (1978) mentioned, "science was becoming more of a profession in England" (p. 146) and the professional scientific writing style started developing accordingly (Cannon, 1978; Dalitz & Nauenberg, 2000; Halliday & Martin, 1993; Halliday, 2004). Two medical English diachronic corpora, namely *Corpus of Middle English Medical Texts* and *Corpus of Early English Medical*

Writing, were complied around the 21st century. Taavitsainen and Pahta (2004: xv) say, "Surprisingly, late medieval scientific writing has several features in common with characteristics of present–day scientific writing." Atkinson (1996, 1999, 2001) randomly chose 10 scientific articles (6000 words to the maximum for each article) from *Philosophical Transactions of the Royal Society of London* [abbreviated as *PTRS*] every 50 year interval from 1675 to 1975, and compiled diachronic scientific corpus of 250,000 words in total, and investigated how scientific discourse has changed in the sociohistorical context. Scientific discourse and legal discourse have developed independently of each other, but interestingly these two genres have gone through the same or similar linguistic progress over the 300 years. I would like to compare my research results with Atkinson's if necessary or worth doing so in my present paper.

　　This paper is in the same course as those corpus based diachronic studies of language change I introduced above. The purpose of my research is to investigate how legal discourse[3] in the United Kingdom has changed for last 300 years. I will focus on the diachronic change observed on dimension 1 of Biber (1988) because dimension 1 reveals some crucial aspects to understand the diachronic change of legal discourse in the UK.

2.　Method

　　I have compiled three historical corpora of the UK legal discourse. The first legal corpus contains 419 Judgments of the House of Lords (1,003,552 words) delivered between 1677 and 1728. I will call it the 17th Century British Legal Corpus. The second corpus contains 185 Judgments of the House of Lords (1,005,705 words) delivered between 1866 and 1873, and I will call it the 19th Century British Legal Corpus. The third one contains 241 Judgments of the House of Lords (1,002,577 words) delivered in 2000 and 2001, and I will call it the 21st Century British Legal Corpus. For the detailed discussion on these three legal corpora, and the reasons I have chosen the Judgments of the House of Lords for my data, see Torikai (2006, 2009a, 2009b).

　　My three British legal corpora were tagged, run through a factor analysis obtaining factor scores for five factors, and the frequency counts of 128 grammatical and lexical features were normalized basically in the same way as was done in Biber's 1988 survey.[4]

3.　Results

　　The research results are shown in Appendix A and B. I ordered the mean dimension scores of 23 genres and my three British Legal corpora from the highest to the lowest on the five dimensions with the mean dimension scores of Atkinson's scientific discourse[5] for

the sake of contrast (see Appendix A).

The five mean dimension scores of my three legal corpora as well as their standard deviations, minimum and maximum mean dimension scores, and their ranges are listed in Appendix B.

4. Discussion

As Appendix A shows, the five mean dimension scores of my three historical British legal corpora followed different historical transitions on the five dimensions. The mean dimension scores of legal discourse on dimension 1 increased from the 17th century to the 19th century, then it went down far below in the 21st century corpus. In contrast, scientific discourse shows that their mean dimension scores are constantly decreasing on dimension 1. The specific research questions the present paper need to answer are; how we should interpret this diachronic change of legal discourse on dimension 1, and what grammatical and lexical features contributed to these changes.

Dimension 1 is named "Informational versus Involved Production" by Biber (1988). Biber (1988) explains the characteristics of this dimension as follows:

> Dimension 1 are characterized by frequent occurrences of private verbs, *that*–deletions, present tense, contractions, second person pronouns, etc. …together with markedly infrequent occurrences of nouns, prepositions, long words, more varied vocabulary, and attributive adjectives…. (p. 129)

Biber (1988) says that traditional concept of "basic oral/literate distinction" can not explain this dimension well, rather "underlying communicative function" attributes to this distinction. He explains as follows:

> Highly interactive, affective discourse produced under real–time constraints, whether spoken or written, has a high score on this dimension; highly informational discourse produced without time constraints has a markedly low score on this dimension. (p. 135)

Legal discourse, or Judgments of the House of Lords in my present paper, is a typical discourse "produced without time constraints." Thus, we would predict that their mean dimension scores always stay low over 300 years on dimension 1. But the research results in Appendix A show that the mean dimension score in the 17th century was –8.3, which is between present day humor (–7.8) and popular lore (–9.3). Then, it went up to –4.8 in

the 19th century, which is between today's broadcasts (–4.3) and science fiction (–6.1). Then, it went down to –13.7 in the 21st century corpus, which is between contemporary biographies (–12.4) and press reviews (–13.9). These research results make an interesting contrast with those by Atkinson.[6]

In order to examine what linguistic features were closely related to the diachronic shift of legal discourse, I have listed all 21 positive and 5 negative features on dimension 1 for comparison.[7] The normalized frequency counts of these features per 1000 word text length and their standard deviations are shown in Table 1.

Table 1 shows that 19 positive features out of 21 in the 19th century corpus had increased their normalized frequency counts and three out of five negative features had decreased their normalized frequency counts. These linguistic changes all contributed to increase the mean dimension score of dimension 1 from the 17th century corpus to the 19th century corpus. This diachronic linguistic change is closely associated with legal history in England. The Judgments issued in the 17th century and 18th century, which I collected for the present research, were not written by the Law Lords who delivered them but by the private law reporters as Baker (2007: 180) explains, "Law reporting was a matter of private enterprise," In addition, under the Common Law system like in England oral interaction in the courtroom was traditionally much more important than written communication. Both parties exchanged oral arguments before the Judge and the Judge delivered the court decision orally to the parties (Garner, 2004; Gibbons, 2003). Consequently, the original legal discourse the private law reporter contacted in the courtroom was spoken discourse produced by the parties and the Judge. Then, the law reporter summarized the arguments and decision into written discourse, and published it as *The Reports*. This legal tradition in England made the Judgments in the 17th century corpus not very informative according to Biber's criterion. This is why the mean dimension score of the 17th century corpus is not very low compared with those of the Biber's 23 genres.

In the 19th century corpus Judgment had gone through a dramatic linguistic change. Most of the positive features on dimension 1 went up as Table 1 reveals. Judgments became much less informative. This linguistic change is also closely related to the legal history in England. 1865 is an epoch making year in British legal history. The Judgment was for the first time in England checked by the Law Lord who sentenced it to make sure it accurately conveyed the arguments and his opinion. Baker (2007) explains this change as follows:

> …until 1865, when the Council of Law Reporting was set up to produce the *Law Reports*. With the introduction of shorthand, and the submission of texts to the

Table 1. Normalized Frequencies of the Positive and Negative Features on Dimension 1

Features	weights	17 Brit. L. D.		19 Brit. L. D.		21 Brit. L. D.	
		Norm	Std.D	Norm	Std.D.	Norm	Std. D
private verbs	0.96	3.44	1.92	7.87	2.76	7.79	2.62
that deletion	0.91	1.17	0.98	1.97	1.20	0.91	0.64
contractions	0.90	0.59	2.06	0.02	0.22	0.01	0.05
non-past tense	0.86	27.75	10.67	61.08	9.69	60.86	11.5
second person pronouns	0.86	0.11	0.65	2.87	2.51	0.68	0.91
do as pro-verbs	0.82	0.12	0.34	0.30	0.31	0.26	0.37
demonstrative pronouns	0.76	1.60	1.57	4.61	2.02	3.29	1.34
emphatics	0.74	1.10	0.90	1.57	0.93	0.85	0.60
first person pronouns	0.74	1.02	2.33	13.92	5.53	8.01	4.20
be state	0.71	1.87	1.56	3.32	1.46	2.92	1.55
pronoun *it*	0.71	8.38	4.23	14.37	3.89	12.89	3.53
causative subordination	0.66	0.87	1.00	0.89	0.62	0.86	0.70
discourse participles	0.66	0.07	0.25	0.74	0.62	0.03	0.08
indefinite pronouns	0.62	0.83	0.79	2.19	1.26	1.60	0.94
hedges	0.58	0.06	0.18	0.09	0.19	0.08	0.15
amplifiers	0.56	1.25	1.01	3.20	1.75	1.12	0.80
sentence relatives	0.55	6.15	2.24	13.4	3.43	12.19	3.57
WH questions	0.52	0.36	0.45	0.56	0.51	0.20	0.27
possibility modals	0.50	3.64	2.04	6.71	2.37	5.93	2.28
nonphrasal coordination	0.48	39.01	9.19	21.39	2.78	6.635	2.32
WH clauses	0.47	0.10	0.26	0.26	0.35	0.24	0.27
			44.62		44.40		38.69
nouns	-0.80	270.40	27.23	246.02	20.88	267.99	18.51
word length	-0.58	4.46	0.14	4.47	0.10	4.69	0.11
prepositions	-0.54	139.94	13.48	138.23	10.89	137.27	11.45
type/token ratio	-0.54	49.87	4.26	49.51	3.20	49.27	4.53
attributive adjectives	-0.47	17.15	5.27	23.80	5.58	39.33	8.48
			50.38		40.65		43.08

judges for correction, the identities of reporters have become less important and reports, though not anonymous, are cited as if they were; (p. 184)

This discoursive transition of Judgments, namely from a written summary of spoken legal discourse to verbatim and faithful to the opinions of Law Lords, are well represented on the changes of linguistic features in Table 1. The frequency of the first person pronoun

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suddenly jumped up to 13.92 from 1.02, which strongly indicates that Law Lords expressed their opinions in their own words. Private verbs, non past tense, sentence relatives, and possibility modals had been more than doubled, and mental verbs[8] also increased in the 19th century corpus. All of these linguistic features are typically used when people think or argue within themselves or express their opinions and comments. Demonstrative pronouns, pronoun *it*, and indefinite pronouns also increased at least twice in the 19th century corpus. They are commonly used to refer back to the entities introduced in the previous discourse for cohesion. The second person pronouns had increased from 0.11 to 2.87, discourse particles from 0.07 to 0.74, and amplifiers from 1.25 to 3.20. They all contribute to make the legal discourse more interactive. However, contractions decreased from 0.59 to 0.02 and nonphrasal coordination decreased from 39.01 to 21.39, and attributive adjectives increased from 17.15 to 23.80, which all had an effect of making the 19th century legal discourse more informative.

The following two text samples are the Judgments in part delivered in 1696 and in 1885. The above three groups of linguistic features which contribute to increase the dimensin score are thick underlined and the group of linguistic features which contribute to decrease the dimension score are double underlined.

Text Sample 1   Judgment delivered in 1696

On the other Side it was urged, That the said Decree is agreeable to the Law and supported by many Resolutions in the Court of Exchequer, that there was a Reason for Tithe in this Case; because these Cattle, tho' formerly used to the Plough, they ceased now to belong to it, and consequently Tithes became due. That there's a Difference in the Nature of the Thing; for when they Feed in order to Labour, the Parson hath a Tenth of the Benefit produced thereby; but when they are fatted only for Sale, 'tis otherwise. That this was a settled and allowed Difference in the Exchequer; That while the Oxen are working, no Tithe shall be paid for their Feeding, because there are Tithes of other Things arising by the Labour of such Cattle; but when they do no Work, and are turned off to be fatted and are graz'd, there Tithes shall be paid for the Herbage which they Eat, they being no way beneficial to the Parson in any other Tithes: And many Cases in scacc' were cited to warrant this Distinction; and 'twas said, That none could be alledged to the contrary: Wherefore 'twas prayed, That the Decree might be affirmed; and it was affirmed.

Text Sample 2   Judgment delivered in 1885

I do not think that this evidence is admissible. I do not wish to decide anything

more than is necessary, and therefore I say nothing about this being a step removed from Archibald Fraser. This is a woman who says that her father, who is dead, told her that the Honourable Archibald Fraser had told him something. I do not wish to say anything about that at all. But supposing it to be evidence (a point which it is not necessary to consider) that the deceased Archibald Fraser, then in possession of the Lovat estates, did say all that is said here, I think it would be quite inadmissible, because it would not tend to prove anything of the sort that is stated. He is stated to have said that one of the heirs had committed a fault, a crime, for which he fled his country, and that he went to Wales and worked in a mine there; and he added that when his (that is Archibald Fraser's) bones were as dry that they might be turned into whistles, the heirs of this man who left the country might come back as claimants. He certainly does not state there anything to point to that heir, his uncle, being the person who would come in before him. If he had meant to say that it was a family tradition that Alexander Fraser, the elder brother of Simon, and the uncle of the deceased man who is speaking, had fled to Wales and committed a fault and killed a man, he would have said that that man would have come in before him, Archibald Fraser; but this statement is merely that heirs would probably turn up hereafter, and I think that this is clearly not admissible evidence.

Text Sample 1 has 208 words, and Text sample 2 has 295 words. The normalized scores of the discussed 11 positive linguistic features on dimension 1 per 1000 text length are listed in Table 2. The comparison of these two sample texts clearly backs up the research results shown in Table 1.

Scientific discourse, on the other hand, reveals an interesting contrast with the legal discourse on dimension 1. Atkinson (1996, 1999, 2001) pointed out in his rhetorical analysis that "an author centered approach" to the discourse was one of the prominent characteristics of the 17th century scientific discourse. Atkinson (1999) explained it as follows:

The "author–centered" approach is well–represented in the PTRS of 1675. Most

Table 2. Normalized Scores of the Sample Texts from the 17th and 19th Century Corpora

	Priv V	N-past	1st Pron	Poss Mdl	Dem Pron	Pron it	Indef Pron	2nd Pron	Amp	Contrct	nonphrsl	attrib adj
1719	0	57.69	0	14.42	0	14.42	9.62	0	0	24.04	43.27	14.42
1885	20.33	61.02	20.33	6.78	13.56	16.95	27.12	0	3.39	0	23.73	6.78

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articles have a prominent authorial persona, which is indexed linguistically through the frequent use of first person pronouns and, to a lesser extent, active-voice verb constructions. (p. 76)

The author-centered approach in scientific discourse gradually decreased and was replaced by the object-centered approach. This diachronic shift coincided with the increase of passive constructions, particularly agentless passives in scientific discourse.[9] In legal discourse, however, the opposite linguistic phenomenon has been taking place last 300 years. Judgments are becoming more author-centered due to the judicial reason I mentioned above. The frequency of first person pronouns drastically increased, and passive constructions, particularly agentless passives, are constantly decreasing as Table 3 indicates. This passive decrease is the main factor to lower the mean dimension score of legal discourse on Biber's dimension 5, which sharply contrasts with the increase of the same score of scientific discourse on dimension 5.[10]

The next research question we need to answer is: although the mean dimension score of the 21st corpus is 5.35 points lower than that of the 17th century corpus, why are the normalized frequency counts of 13 positive features higher than those of the 17th corpus, and why are 3 negative features lower than those of the 17th corpus. Theoretically, a greater number of the normalized scores of positive features in the 21st century corpus should be lower than those in the 17th century corpus, and a greater number of normalized negative feature scores need to be lower than those of the 21st century's.

One possible answer we can think of is that a certain linguistic feature which is peculiar to the 17th century legal discourse affect in a way to push up the dimension 1 mean score higher, which makes the 17th century legal discourse look statistically more involved than it is. One possible linguistic feature which may function in that way is nonphrasal coordination.[11] The normalized score of nonphrasal coordination in the 17th century is 39.01. Considering that the mean score of nonphrasal coordination in Biber's whole 23 genres is 4.47, and that the highest is 14.9 of spontaneous speech, followed by 9.5 of face-to-face conversations and 9.1 of interviews, the 17th century legal discourse employs nonphrasal coordination very frequently, actually 8.73 times as frequently as

Table 3. Diachronic Change of Passive Constructions in Legal Discourse

	17th Brit. L. D.	19th Brit. L. D.	21st Brit. L. D.
all passives	32.53	28.5	25.34
agentless passives	26.91	22.4	18.54
postnominal passives	3.22	3.14	3.9
by passives	2.39	2.97	2.9

Biber's whole 23 corpus. In addition, the mean normalized score of nonphrasal coordination decreased almost to half (21.39) in the 19th century corpus and became nearly one sixth (6.64) of the 17th century in the 21st century corpus. This historical transition strongly indicates that extremely frequent use of nonphrasal coordination in the 17th century is a particular style of 17th century legal discourse.[12]

In order to see more general historical transition unaffected by this one aberrant linguistic feature, I re–computed the dimension 1 score for the three historical corpora without nonphrasal coordination. The result is shown in Table 4.

The recalculated mean dimension scores of the 17th century legal corpus are decreased greatly, as we expected, from –8.34 to –15.55, which is between press reportage (–15.1) and official documents (–18.1) in Biber's 23 genres. The same scores of the 19th century lowered from –4.79 to –8.25, which was in the same place where the original mean score of the 17th century occupied. The same 21st century score slightly went down from –13.69 to –14.08, which locates between press reviews of –13.9 and academic prose of –14.9. The maximum mean dimension scores all decreased. Obviously, the maximum dimension score of the 17th century dropped most from 4.65 to –1.1, and the same score of the 21st century dropped least. Consequently, all the Judgments in the 17th century are now in the informative side of the scale. These new results agree with the numerical differences of the normalized linguistic features between the 17th century and 21st century corpus better. However, we need to notice that although these two legal corpora are very similar quantitatively or in terms of the multidimensional analysis, it does not mean that they are also qualitatively so. For example, contractions in the 17th century are commonly *'tis* (contracted form of *it is*) or *'twas* (contracted form of *it was*) as seen in Text Sample 1. They are obsolete even in present legal discourse. Verbs and other linguistic features are also different. (See the details in Torikai 2006)

Table 4 strongly suggests that the 17th century and 21st century legal discourse is very similar from the viewpoint of multidimensional analysis; they are equally informative and more informative than the 19th century legal discourse. This historical shift makes an interesting contrast with Biber and Finegan (2001). They compared historical shift of two different groups of registers; drama, sermons, diaries, letters, and fiction which are characterized by them as "speech based registers" or "personal or non–expository written

Table 4. Adjusted Mean Dimension Scores of Legal Discourse on Dimension 1

	N	Mean	Std. Dev.	Minimum	Maximum
17th C, Brit. L. D.	419	-15.55	3.02	-22.57	-1.1
19th C. Brit. L. D.	185	-8.25	3.78	-16.6	3.97
21st C. Brit. L. D.	241	-14.08	2.8	-20.36	-4.4

registers", and medical research writing, scientific research writing, legal prose,[13] and news reportage, which they characterized as "expository written registers" (p. 75). They explained the historical transition of the latter group, in contrast with the former, as follows:

> The readership for these registers has become consistently more specialized, requiring extensive background training to be able to comprehend these texts effectively. Correspondingly, the linguistic characteristics of these specialist registers have evolved to become consistently more sharply distinguished from spoken and popular written registers. (p. 82)

Biber and Finegan (2002) revealed that the mean dimension scores of American legal opinions from 1750 to 1990 on dimension 1 gradually decreased from somewhere around −15 to around −18 last 250 years. Given that is true, British legal discourse has been always less informative than American legal prose on dimension 1 on both original and recalculated figures (except the recalculated mean dimension scores of the 17th century, viz. −15.55). This is an interesting topic to investigate in my further research.

5.　Conclusion

I have investigated diachronic transition of British legal discourse over 300 years. My research framework is based on multidimensional analysis proposed by Biber (1988). I focused on dimension 1 and analyzed how Judgments of the House of Lords have changed in terms of the linguistic features on dimension 1. I checked all the 21 positive and 5 negative linguistic features and observed how they have changed historically. I have found that the shift of the mean dimension scores on dimension 1 generally reflects the historical change of all the 26 linguistic features except nonphrasal coordination. This is an aberrant linguistic feature which is particular in the 17th century legal discourse. I have also found that legal discourses in the 17th century and the 21st century are very similar in terms of dimension 1, and that the 19th century legal discourse is less informative than other two. I compared British legal discourse with British scientific discourse examined by Atkinson, and found that the mean dimension scores of scientific discourse constantly decreased last 300 years but legal discourse has developed in a different pattern and has been almost always less informative than scientific discourse.

Notes

1) Saussure claimed as follows:

> *Synchronic linguistics* will be concerned with the logical and psychological relations that bind together coexisting terms and form a system in the collective mind of speakers. Diachronic linguistics, on the contrary, will study relations that bind together successive terms not perceived by the collective mind but substituted for each other without forming a system. (p. 99–100)

2) Kytö (1996) explains about the Helsinki Corpus as follows:

> *The Helsinki Corpus of English Texts: Diachronic and Dialectal* is a computerized collection of extracts of continuous text. It is the result of a project commenced in 1984 and directed by Matti Rissanen and Ossi Ihalainen at the University of Helsinki. The Corpus contains a diachronic part covering the period from c. 750 to c. 1700 and a dialect part based on transcripts of interviews with speakers of British rural dialects from the 1970's. The aim of the Corpus is to promote and facilitate the diachronic and dialectal study of English as well as to offer computerized material to those interested in the development and varieties of language. The material is intended for both mainframe and microcomputer use.

3) I will take up the Judgments of the House of Lords as a typical example of legal discourse in my present paper, and use the term "legal discourse" solely to designate the Judgments of the House of Lords.

4) In Biber (1988) 67 grammatical and lexical features were originally analyzed and 7 dimensions were identified, but in the later model which I used for my present paper some more features were added to increase the analytical accuracy and the last two dimensions were deleted because they are not powerful enough to distinguish the register difference.

5) See Atkinson (1999: 111) for the historical transition of mean dimension scores of scientific discourse.

6) He describes his research result as follows:

> In the present study, scientific research writing in the *PTRS* starts in 1675 slightly above the mean…for all genres analyzed by Biber (1988) on Dimension 1, then grows steadily more informational over time without exception, until it reaches an extreme value in 1975 of –17.2. This score approaches those of the two most informational genres identified by Biber (1988) — official documents and natural science academic prose. (p. 55)

7) In Biber (1988) dimension 1 has originally 25 positive linguistic features with higher than .30 weights and 9 negative linguistic features with lower than –30 weights. But two of the 25 positive features i.e., all adverbs and conditional subordination, and two of the negative features i.e., place adverbials and agentless passives, are not used to calculate the mean dimension scores of dimension 1 because they are used to calculate on other dimension scores, and two positive features i.e., analytic negation and final preposition,

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are deleted for the present research.

8) In Biber (1988) verbs are classified into four categories (public verbs, private verbs, suasive verbs, and seem/appear) based on Quirk et al. (1985). But in this paper, in addition to the original four categories, seven more categories (activity verbs, communication verbs, mental verbs, verbs of facilitation or causation, verbs of simple occurrence, verbs of existence or relationship, and aspectual verbs) are added based on *Longman Grammar of Spoken and Written English* (Biber et al., 1999). Mental verbs occurred in the three historical corpora as follows:

Table 5 Mental Verbs in the three Historical Corpora

	17 Brit. L. D.		19 Brit. L. D.		21 Brit. L. D.	
Features	Norm	Std.D	Norm	Std.D.	Norm	Std. D
mental verbs	8.79	3.42	12.29	3.44	13.25	3.67

9) Atkinson (2001) explained it as follows:

Generally speaking, the place of the author is seen to change across time in the *PTRS*, from one in which he or she occupies a central position in the text, to one in which the author is "effaced" or "distanced." This phenomenon can be related to the crucial role a strong authorial persona played in the rhetoric of early modern scientific writing…, and to the gradual replacement of that early modern rhetoric with one that emphasized an impersonal or "object–centered" orientation. (p. 76)

10) This is an interesting theme to discuss from the viewpoint of plain English movement, but due to the limit of pages I will not go into the details in this paper. See Torikai (2009a) for detail.

11) Nonphrasal coordination includes coordinate conjunctions of *and*, *but*, and *(n)or*.

12) In personal communication with Douglas Biber, he pointed out that the frequent count of nonphrasal coordination in the 17th century legal corpus is overwhelming and it may form a special style of legal discourse of those days. He also mentioned that such a high frequent count of nonphrasal coordination influences the mean dimension score and makes it disproportionately high.

13) Legal prose in Biber and Finegan (2001) consists of 57 texts of American legal opinions issued during the following three periods; 1750–1799, 1850–1899, 1950–1990.

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Appendix A

Dimension 1		Dimension 2		Dimension 3		Dimension 4		Dimension 5	
Tel.Conv.	37.2	Romantic F.	7.2	21 Brit. L. D.	10.1	Pro. Lt.	3.5	Sci. Disc. 1925	8.8
F-to-F Conv.	35.3	Mystery F.	6.0	19 Brit. L. D.	8.6	P. Editorials	3.1	Sci. Disc. 1975	7.7
Personal Lt.	19.5	General F.	5.9	Official Doc.	7.3	Romantic F.	1.8	Sci. Disc. 1875	7.5
Spont. Sp.	18.2	Science F.	5.9	Pro. Lt.	6.5	Hobbies	1.7	Sci. Disc. 1825	7.4
Interviews	17.1	Adventure F.	5.5	Sci. Disc. 1825	6.5	Personal Lt.	1.5	17 Brit. L. D.	7.2
Romantic F.	4.3	Biographies	2.1	Sci. Disc. 1875	4.5	Interviews	1.0	19 Brit. L. D.	6.8
Prep. Sp.	2.2	Spont. Sp.	1.3	Sci. Disc. 1975	4.4	General F.	0.9	Ac. Prose	5.5
1675 Sci. Disc.	1.1	Humor	0.9	P. Reviews	4.3	19 Brit. L. D.	0.8	21 Brit. L. D.	5.3
Adventure F.	0.0	Prep. Sp.	0.7	Sci. Disc. 1775	4.3	Tel.Conv.	0.6	Official Doc.	4.7
Mystery F.	-0.2	P. reportage	0.4	Ac. Prose	4.2	17 Brit. L. D.	0.5	Sci. Disc. 1675	4.7
General F.	-0.8	Personal Lt.	0.3	Religion	3.7	21 Brit. L. D.	0.4	Sci. Disc. 1775	4.5
Pro. Lt.	-3.9	Popular Lore	-0.1	Sci. Disc. 1925	3.4	Prepared Sp.	0.4	Sci. Disc. 1725	3.6
1725 Sci. Disc	-4.2	17 Brit. L. D.	-0.6	17 Brit. L. D.	2.8	Spont. Sp.	0.3	Religion	1.4
Broadcasts	-4.3	F-to-F Conv.	-0.6	Sci. Disc. 1725	2.4	Religion	0.2	Hobbies	1.2
19 Brit. L. D.	-4.8	Religion	-0.7	Popular Lore	2.3	Official Doc.	-0.2	P. Reviews	0.8
Science F.	-6.1	19 Brit. L. D.	-0.8	Sci. Disc. 1675	2.3	F-to-F Conv.	-0.3	P. reportage	0.6
Religion	-7.0	P. Editorials	-0.8	P. Editorials	1.9	Humor	-0.3	Pro. Lt.	0.4
1775 Sci. Disc.	-7.3	Sci. Disc. 1675	-0.8	Biographies	1.7	Popular Lore	-0.3	P. Editorials	0.3
Humor	-7.8	Sci. Disc. 1725	-1.0	Spont. Sp.	1.2	Sci. Disc. 1675	-0.3	Popular Lore	0.1
17 Brit. L. D.	-8.3	Interviews	-1.1	Hobbies	0.3	Ac. Prose	-0.5	Humor	-0.4
Popular Lore	-9.3	Sci. Disc. 1775	-1.3	Prep. Sp.	0.3	Biographies	-0.7	Biographies	-0.5
P. Editorials	-10.0	21 Brit. L. D.	-1.5	P. reportage	-0.3	Mystery F.	-0.7	Broadcasts	-1.7
1825 Sci. Disc.	-10.0	P. Reviews	-1.6	Interviews	-0.4	P. reportage	-0.7	Prep. Sp.	-1.9
Hobbies	-10.1	Sci. Disc. 1825	-2.1	Humor	-0.8	Science F.	-0.7	Interviews	-2.0
1875 Sci. Disc.	-12.3	Tel.Conv.	-2.1	Science F.	-1.4	Sci. Disc. 1825	-0.8	Adventure F.	-2.5
Biographies	-12.4	Pro. Lt.	-2.2	General F.	-3.1	Adventure F.	-1.2	General F.	-2.5
21 Brit. L. D.	-13.7	Ac. Prose	-2.6	Mystery F.	-3.6	Sci. Disc. 1775	-1.7	Science F.	-2.5
P. Reviews	-13.9	Sci. Disc. 1875	-2.7	Personal Lt.	-3.6	Sci. Disc. 1875	-2.0	Spont. Sp.	-2.6
Ac. Prose	-14.9	Sci. Disc. 1925	-2.8	Adventure F.	-3.8	Sci. Disc. 1725	-2.7	Personal Lt.	-2.8
P. Reportage	-15.1	Hobbies	-2.9	F-to-F Conv.	-3.9	P. Reviews	-2.8	Mystery F.	-2.8
1925 Sci. Disc.	-15.6	Official Doc.	-2.9	Romantic F.	-4.1	Sci. Disc. 1925	-2.9	Romantic F.	-3.1
1975 Sci. Disc.	-17.2	Broadcasts	-3.3	Tel.Conv.	-5.2	Sci. Disc. 1975	-3.0	F-to-F Conv.	-3.2
Official Doc.	-18.1	Sci. Disc. 1975	-3.3	Broadcasts	-9.0	Broadcasts	-4.4	Tel.Conv.	-3.7

Appendix B

17th Century British Legal Corpus						
Variable	N	Mean	Std. Dev.	Minimum	Maximum	Range
Dim. 1	419	-8.34	3.36	-19.74	4.65	24.39
Dim. 2	419	-0.60	1.21	-4.15	4.88	-9.03
Dim. 3	419	2.75	2.26	-2.45	10.32	-12.77
Dim. 4	419	0.52	2.10	-4.97	6.63	-11.60
Dim. 5	419	7.21	2.17	1.32	13.70	-12.38

19th Century British Legal Corpus						
Variable	N	Mean	Std. Dev.	Minimum	Maximum	Range
Dim. 1	185	-4.79	3.83	-13.33	8.16	21.49
Dim. 2	185	-0.81	1.20	-3.61	3.61	7.22
Dim. 3	185	8.59	2.46	1.06	17.19	16.13
Dim. 4	185	0.79	1.74	-3.19	6.27	9.46
Dim. 5	185	6.83	1.76	-0.08	13.00	13.08

21st Century British Legal Corpus						
Variable	N	Mean	Std. Dev.	Minimum	Maximum	Range
Dim. 1	241	-13.69	2.98	-20.65	-2.42	18.23
Dim. 2	241	-1.51	1.10	-4.74	4.20	8.94
Dim. 3	241	10.08	2.53	4.80	17.58	12.78
Dim. 4	241	0.37	1.85	-3.17	9.90	13.07
Dim. 5	241	5.30	1.48	1.56	9.64	8.08

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