

Emotional Imprints: Exclamation Marks in N.F.S. Grundtvig's Writings

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Abstract. Undertaking a distant reading of exclamation marks in the digitized and annotated N.F.S. Grundtvig data, this paper targets a trait of an overall romanticist, emotionalizing trend in a corpus of 19th century literature: It proposes to analyze the use of exclamation marks as a deposition of heightened attention to emotional experience and intention in printed matter and typesetting in the writings of the Danish poet, priest and politician N.F.S. Grundtvig (1783-1872), who is widely regarded as the central figure in the 19th century Danish religious development and cultural nation building process. By way of Topic Modeling (Latent Dirichlet Allocation) this paper sketches the temporal as well as semantic contexts of the exclamation marks.

Keywords: N.F.S. Grundtvig, 19th Century, Exclamation Marks, Letter-Spacing, Typography, Emotional History, Topic Modeling (LDA).

1 Introduction

Less is more. This is the 'methodo-logic' undergirding this study. Using Ockham's razor on methodological considerations, we have sought to trim our research design. That is: in this paper we want to demonstrate how a relatively simple set-up, in terms of computational capacity, can tweak out valuable information and answer hermeneutically complex research questions at a domain-specific level – in this case within the study of N.F.S. Grundtvig (1783-1872), emotional history and 19th century typesetting. Using the relatively commonplace procedure of Topic Modeling (Latent Dirichlet Allocation), the contribution of this study is, in terms of content, found in the field of Grundtvig scholarship. But, in terms of methodological meta-reflections, it targets any computational humanist seeking to calibrate subject matter with material objects and procedures.

2 Emotional History, Grundtvig and Exclamation Marks

The 19th century is oftentimes presented as the entry into modernity: A period in which fundamental political and psychological phenomena, dominating the world today, were established. Among these phenomena were the cultivation and secularization of the private emotional experience [1]. As is well established in scholarly literature, particularly the beginning of the period – the eve of the Romantic era – testifies to a significant expansion in the vocabulary used for registering and describing such experiences [2].

Handbooks on Romanticism thus hold entries with suggestive titles such as ‘The Subjective Turn’; anthologies on the matter are rich with chapters on ‘emotionalization’ [3,4].

Building on and expanding our paper “Emotional Imprints: Letter Spacing in N.F.S. Grundtvig’s Writings” [5] the current paper deals with yet another specific trait, or perhaps more precisely, yet another specific material consequence of the overall romanticist emotionalizing trend: it deals with the deposition of heightened attention to subjective emotional experience and/or intention in printed matter and typesetting. As the romantic movement worked its way through languages, authors and printers seemed ever keener on engraving texts with emotion. Thus, typographical strategies to convey feelings and intents were advanced [6]. As we have shown in our previous study this is not least the case with the writings of the Danish poet, pastor and politician N.F.S. Grundtvig, who is widely regarded as the central figure in the 19th century Danish nation building process [7] and in the construction of a modern Danish Christianity [8].

Grundtvig was deeply (though complexly) indebted to the romantic movements [9] – not least in respect to the emotionalization of texts. In his colossal amount of published writings, he was paradoxically committed to promoting the kind of open-ended and sensitive communicative style often associated with oral communication, creating layers of emphasis and emotional imprints. Not least through the typographical use of exclamation marks. Numerous Grundtvig readers will have noticed the vast amount of exclamation marks in his writings. However, scholars have mentioned them only in passing. Therefore, in the following, we want to take the first steps towards a more systematic study of this specific stylistic trait by delving into the temporal distribution of exclamation marks and, by way of Topic Modeling (Latent Dirichlet Allocation), by plotting their most salient semantic environment in the complete collection of Grundtvig’s published writings.

3 Emotional Imprints as Proxy for Grundtvig’s Core-Content

In scholarly literature it is widely acknowledged that Grundtvig sought to stimulate the process of assembling a Danish collective-emotional consciousness based on 1) a horizontal-contemporary axis incorporating the different strata within the socially heterogeneous “Folk” [10] and on 2) a vertical-temporal-historical axis connecting present-day Danes with forefathers and legendary characters. In social historian Benedict Anderson’s words, the emotional fabric intended by this attempted interlacing was an ‘imagined community’ [11].

Today Grundtvig is celebrated for his efforts: “N.F.S. Grundtvig founded Danish democracy”; “N.F.S. Grundtvig established the Church of Denmark (*folkekirken*)”; “N.F.S. Grundtvig is the founder of the Danish school system”; “N.F.S. Grundtvig revived the pre-Christian Nordic tradition”; “N.F.S. Grundtvig is the most important writer of Christian hymns in Denmark”. These are surprisingly recurrent statements in Danish public media deeming his intellectual activity more culturally important than the work of his world-famous contemporaries Søren A. Kierkegaard (1813-1855) and H.C. Andersen (1805-1875).

One reason for Grundtvig’s continuing relevance, measured in current political and cultural media attention, seems to have been the introduction of emotional categories

to domains where they hitherto had been irrelevant: A) In the relationship between the individual and the Danish people, Grundtvig encouraged individuals to feel part of the collective national entity, Denmark [14]; B) In the relationship between the individual and the church, Grundtvig encouraged individuals to take part in and feel part of congregational life [14]. Following this line of thought, one could expect that national-ethnic terms as well as Christo-religious terms – the two domains representing Grundtvig’s supposed core-content – would be highlighted in his writings.

However, of late, historian J.F. Møller has convincingly argued the case, that the Grundtvig legacy and reception history distorts specific core features of the Grundtvig writings – not least pertaining to Grundtvig’s skepticism towards democracy [15]. Perhaps distortion is at play in our material as well? Perhaps the believed emotional imprinting strategy of exclamation marks will indicate unanticipated centers of semantic gravitation in Grundtvig’s writings? Before finding out and delving into Grundtvig’s writings, we need to consider the material at hand as well as the context surrounding the typographic trait of exclamation marks.

3.1 N.F.S. Grundtvig’s Published Writings. Hard Facts

Grundtvig was a polyglot and polymath, who wrote on a variety of different subjects. Therefore, the Grundtvig dataset is enormously varied in terms of genre and content. It covers books, essays and poems on Danish history, Nordic mythology and Church history, political and philosophical texts, as well as linguistic studies of Old Icelandic and Old English. In the general public, however, he is better known for his hymns, of which he wrote close to 1,600.

In *toto* the Grundtvig corpus comprises 37.000 pages, published from 1804 to 1872: This material has been OCR prepared and is being furnished with XML markup by the staff of the Grundtvig Study Centre, Aarhus University. As a part of this process, the bulk of the collected writings born in the blackletter typeface Fraktur has been transformed into the Roman typeface Antiqua, more familiar to a modern audience. The exclamation mark, however, is an unproblematic constant in both typefaces.

3.2 A Short History of the Exclamation Mark

The origin of the *punctus exclamativus* or *punctus admirativus* in western punctuation history is blurred. Tentative consensus seems to be that humanists and so-called ‘dicitaminists’ in the early renaissance milieu sought to revive oratorical ideals imbued in the concept of writing in Antiquity [16], but lost in the reading history of the Early Middle Ages. In other words, the exclamation mark was born an ‘oratorical tool’ guiding readers to add emphasis to a given sentence. In the 1360s the Italian poet Iacopo Alpoleio da Urbisaglia claimed to be its inventor [16]; Italian humanist and man of letters Coluccio Salutati (1331-1406) is said to have revived or promoted the sign in the years around 1400 [16]. Widespread usage of the sign, however, had to wait until the 16th century in Central European languages, when the printing press had revolutionized text and book production [17]. In Danish, however, the spread seems to be somewhat delayed [18, 19]; though no thoroughgoing study as of yet has solidified the claim, the

private-portable *hymnbooks* seems to be an important distribution channel for exclamation marks in a period where literacy levels of the general population in (Protestant) Denmark slowly began to climb: in the late 1600 and early 1700 [cf. 20]. In text material produced in the era of the Romantic movement – the late 18th and early 19th century – exclamation marks were suddenly all over the place. Not least in N.F.S. Grundtvig’s writings.

4 Exploring Grundtvig’s Exclamation Marks

We wish to establish 1) whether N.F.S. Grundtvig’s use of exclamation marks changes significantly over time. Assuming that exclamation marks can be taken as Grundtvig’s signals of heightened attention, we furthermore wish to profile and determine 2) the semantic topics most likely clinging to or calling for exclamation marks in his writings. This exploration is taken as a proxy for an emotional indication of the (intended) core-content in Grundtvig’s writings.

4.1 The Grundtvig Data

Grundtvig’s collected writings are available in XML ($N = 1073$) following the TEI guidelines. Currently 42% are richly annotated, but the process of enriching the data is ongoing. The project’s scheduled completion date is in 2029. The data set has a median document size of four pages and contains 3.968.841 word tokens distributed over 115.240 word-types. The data for the current study are available at: <https://github.com/centre-for-humanities-computing/grundtvig-data>. The data is available in this format through an agreement with Grundtvig Study Centre. Furthermore, we have developed a custom XML parser available to facilitate third-party data exploration. The parser is available at: <https://github.com/centre-for-humanities-computing/GrundtvigParser>.

4.2 Distribution of Exclamation Marks

Weaning in early and late publications, the distribution of exclamation marks in Grundtvig’s writings falls in 5-6 temporal ‘islands’ of 1,000-2,000 marks published pro anno (Figure 2). Certain years stand out: In 1815, 1818, 1827 the level rises to 4,000-5,000 pro anno (Figure 2); 1837, however, holds the most impressive spike: Just above 7,000 marks in one year alone (Figure 2).

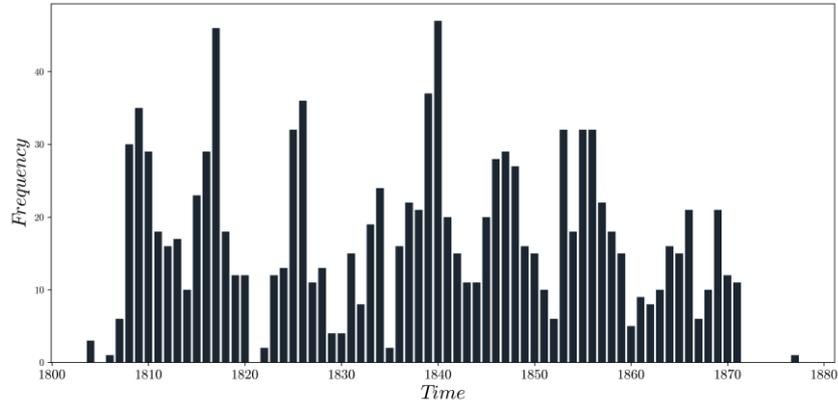


Figure 1. Distribution of Grundtvig's Published Writings

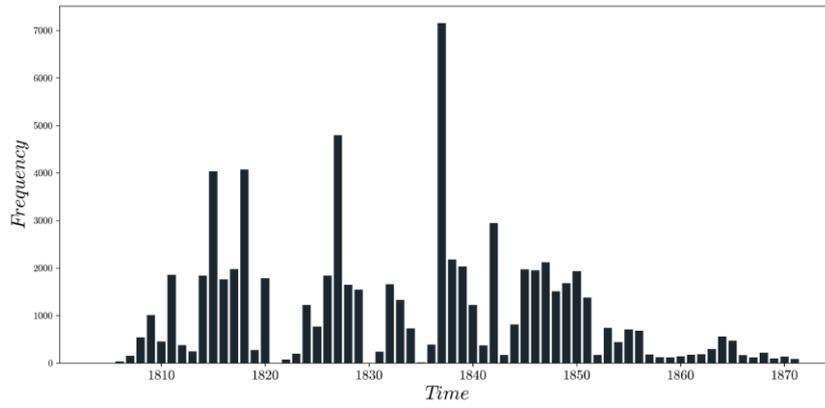


Figure 2. Distribution of Exclamation Marks in Grundtvig's Published Writings

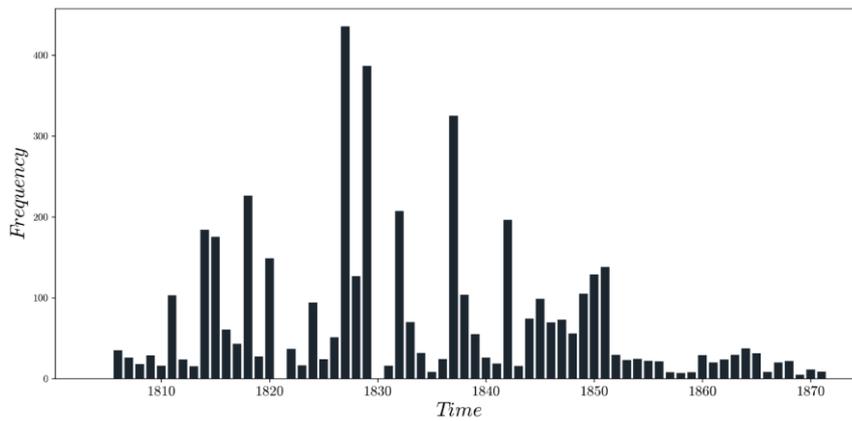


Figure 3. Distribution of Exclamation Marks in Grundtvig's Writings Relative to Publications

Though no significant co-relation between publishing house and the quantum of exclamation marks in Grundtvig’s writings has been detected [cf. 5], a brief stop to pick up a couple of points on publishing ‘management’ of exclamation marks within two particular publications is relevant at this stage. The 1838 *In Living Memory (Mands Minde)* lectures were published posthumously in 1877 by N.F.S.’s son Svend Grundtvig (1824-1883). In our material we have categorized it a 1838 product. It is, however, well known that Svend Grundtvig censured and adjusted the orthography and punctuation of his father leaving out letter-spacings and exclamation marks that were part of the original manuscript [21]. In other words, the 1838 score would in all likelihood be higher had it not been for Grundtvig Jr.’s handling of the scripts.

Yet a relevant if curious and minor detail: In the 1807 essay “On Religion and Liturgy” (“Om Religion og Liturgie”) the editor leaves critical voice-over-like comments in footnotes and parentheses in the body of the text containing three exclamation marks (!!!). It seems to be a strategy akin to the editorial textual meta-comment ‘sic’/‘sic!’ (short for ‘sic erat scriptum’) originally assuring readers that nothing has been distorted in transcription or in the typesetting process. In this instance the editor, however, unorthodoxly uses the exclamation marks to signal his bafflement over and skepticism towards the line of young Grundtvig’s arguments [22].

4.3 Profiling of Exclamatory Environment: Topic Modeling (LDA) Procedure and Semantic Overview

The corpus was split into sentences; sentences that ended in exclamation marks were extracted for further analysis. In order to create larger document sizes, the sentences were concatenated into groups of three exclamation sentences. These merged sentences were passed through a pre-processing pipeline consisting of removal of whitespace, punctuation, numbers (excluding 4-digit numbers; in order to maintain numbers representing years). The sentences were subsequently lowercased, lemmatized and tokenized.

The tokenized inputs were stripped of words carrying low semantic weight, i.e. stop-words, and were further filtered so that each document only contained words present in at least five other documents, but in no more than half the total document count. These steps attempt to ensure that only semantically weighty words appear in our topic model. Twenty Latent Dirichlet Allocation (LDA) [23, 24] models were trained on the documents, and their coherence scores were measured in order to determine the optimal number of topics. A topic count of 5 was deemed optimal based on the results of the analysis (Figure 4, Figure 5); for the analysis we found that a relevance metric at $\lambda = 0.8$ [23] was optimal.

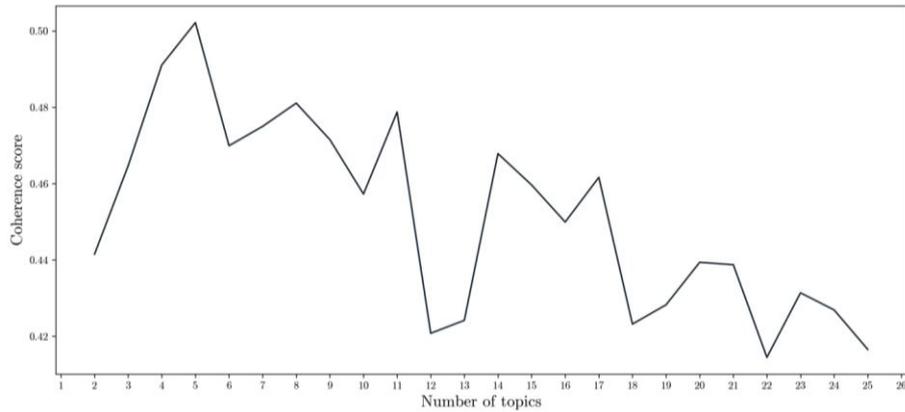


Figure 4. Coherence Metric in the Grundtvig Exclamation Sub-Corpus

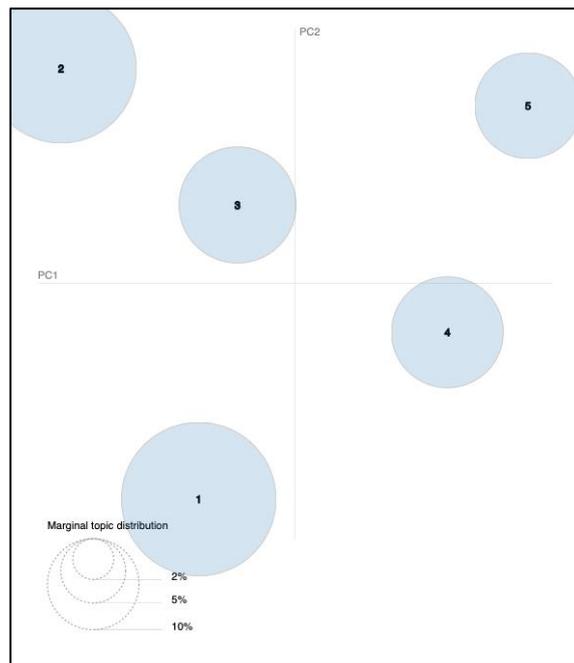
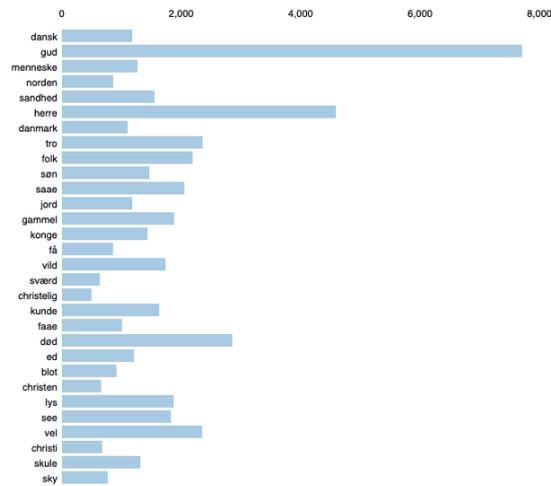


Figure 5. Inter-Topic Distance Map (via multidimensional scaling)

The five topics semantically invite for a further sub-division into two main topics: A) a ‘Christo-religious topic’ (1, 2, 3) and B) a ‘national-ethnic topic’ (4,5). We will analyze A and B below. Here allow for a couple of observations corroborating and nuancing this sub-division:

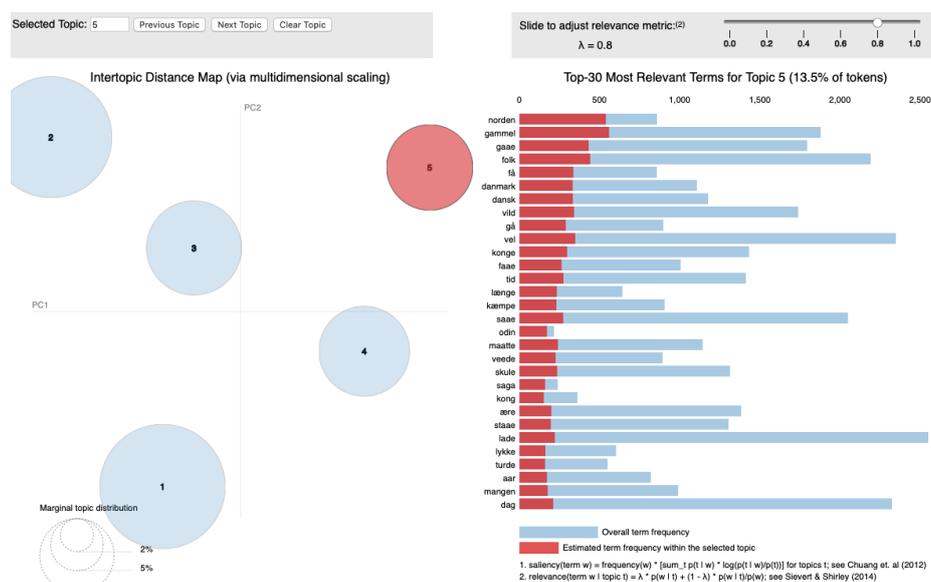
The term most likely to occur in the vicinity of an exclamation mark is: ‘God’ (‘Gud’). The overall term frequency in the exclamation corpus is just below 8,000. First runner up is: ‘Lord’ (‘Herre’) with an overall term frequency just below 5,000. ‘Death’ (‘Død’) is second runner up with approximately 3,000; ‘Vel’ – a Danish equivalent to the English ‘Well’ connoting something explicitly benign as *well* as something additional, a surplus of a sort – comes in fourth with close to 2,500 occurrences. ‘Danish’ (‘Dansk’), ‘the North’(‘Norden’), ‘Denmark’ (‘Danmark’) are also represented. In other words: As is evident from the top-30 list (Figure 6) on the one hand a Christo-religious and on the other a national-ethnic cluster seem to be at play. This dual picture is relatively clear; and in being so, it differs slightly from the more thematically diffuse image arising of the full Grundtvig corpus (Figure 7).



Translation top-to-bottom: danish, god, human, the north, truth, lord, denmark, faith, people, son, saw, earth, old, king, got/few, wild, sword, christian, could, got/few, death, oath, just, christian, light, see, well, christ, should, cloud/shy.

Figure 6. Top-30 Most Salient Terms in the Grundtvig Exclamation Corpus

to reflect a Protestant work ethic – the concept famously coined by German sociologist of religion Max Weber in the early 1900s [cf. 25]. In any case Grundtvig was part of a broad 19th century, romantic tendency to idealize peasants and the peasantry – and to rank hard physical outdoor labor over the lifestyle of a clerk spend reading and writing indoors. A kind of manifest the 1839 poem and song “A common and merry vigorous Life on Earth” (“Et jævnt og muntert virksomt Liv paa Jord”) sums up this mentality – one that seems to have left its imprint on the verbs in the word list of topic 4, we suggest.



Translation top-to-bottom: the north, old, go, people, get, denmark, danish, wild, go, well, king, get, time, long, giant, saw, Odin, could, beacon, should, saga, king, honor, stand, let, happiness/fate, dare, year, many, day.

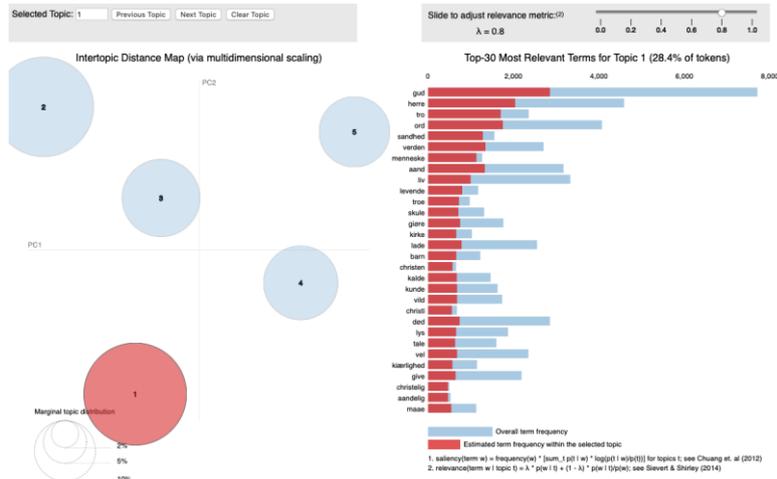
Figure 9. Topic 5: The North

Topic 5 is preoccupied with the ‘old’ pre-Christian Nordic past of ‘Denmark’ and the Danish ‘people’; ‘many’ ‘days’ and ‘years’ of roaming ‘giants’ and a reigning ‘Odin’; a past mediated by ‘Saga’, the demi-goddess personification of Nordic history and an important agent in a variety of Grundtvig’s writings such as the somewhat autobiographical *New Year’s Morning* (*Nyaars-Morgen*) written in 1824.

4.5 Analysis B: The Christo-Religious Topics

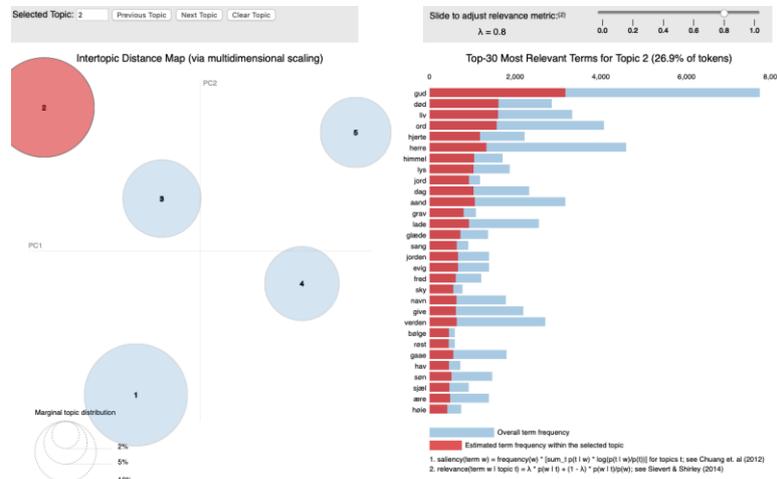
Even though topic 1, 2, and 3 all seem to be carriers of Christian discourse, a division of labour is detectable in the finer nuances of the individual word lists. In fact, it seems that topic 1 tends to deal with ‘lived religion’ and church life (Figure 11); topic 2 gravitates towards ontological matters – the composition of the universe and the concept of

time (Figure 12); topic 3 more vaguely seems to hold elements dedicated on the one hand to ‘mystical’ experience and on the other to Old Testament narratives (Figure 13).



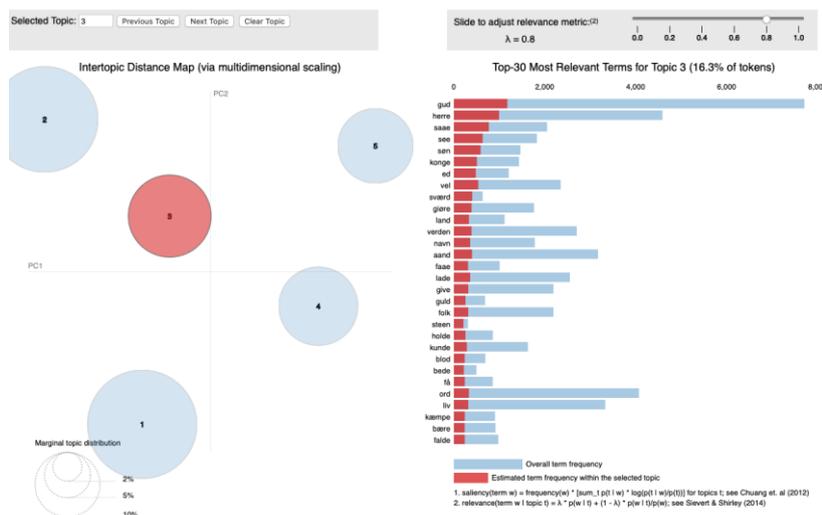
Translation top-to-bottom: god, lord, faith, word, truth, world, human, spirit, life, alive, faith, should, do, church, let, children, call, could, wild, christ’s, death/dead, light, speak/speech, well, love, give, christ-like/christian, spiritual, may.

Figure 11. Topic 1: Lived Religion



Translation top-to-bottom: god, death/dead, life, word, heart, lord, sky, light, earth, day, spirit, grave, let, joy, singing/song, the earth, eternal, peace, cloud/sky, name, give, world, wave, voice, go, sea, son, soul, honor, high.

Figure 12. Topic 2: Ontology and Time



Translation top-to-bottom: god, lord, saw, see, son, king, oath, well, sword, do, land/country, world, name, spirit, receive, let, give, gold, people, rock, hold, could, blood, pray, get, word, life, giant, bear/yeild, fall.

Figure 13. Topic 4: Mysticism and Old Testament

Figure 11 displays a semantic conglomerate held together by ‘god’-the-‘lord’ and by human ‘faith’ and congregational life in ‘church’. Figure 12 exhibits a semantic tissue held together by naked facts of the ‘earth’, the ‘sea’, the ‘sky’, ‘life’ and ‘death’ – perhaps with a soft drift towards the ‘eternal’ ‘peace’ of the after-life? A bit ambiguous, Figure 13 might help us catch Grundtvig’s preoccupation with the mystical-cognitive experiences of revelatory insight (cf. ‘saw’, ‘see’) [26]; it might also carry signals of Grundtvig’s partiality towards narrative strategies of the Old Testament and the archaic-benign worldview preoccupied with divine blessing and abundance on earth contained within it (‘land’, ‘receive’, ‘gold’ etc.) [27, 28].

5 Concluding Remarks: The *Punctum Admirativus* of Grundtvig’s Hymns and Songs

What arises from these five topics is a semantic profile more akin to the one found in Grundtvig’s poetic writings in hymns and songs than to the sum of his writings – to his prose. Building on the plot of the distribution of Grundtvig’s exclamation marks (Figure 2) and noticing the uncontested peak in 1837 – the publication year of Grundtvig’s song and hymn compilation *Glockenspiel for the Danish Church (Sang-Værk til den Danske Kirke)* containing 401 individual texts – we thus suggest that Grundtvig’s exclamation marks are overrepresented in hymns and songs. Certain features of the five topics found within the Grundtvig exclamation sub-corpus corroborate this, a main one being the conspicuous lack of an anti-German agenda in topic 4 concerned with things Danish – a topic otherwise often drawing in negative reflections of the neighboring country in Grundtvig’s prose [cf. 5]. On this basis we propose that what we see in Grundtvig’s

deployment of exclamation marks is a continuation of a religious exclamation usage in material supporting Christian worship ('lovsang') such as hymns. In other words: He draws mainly on the 'venerational' aspects of the exclamation mark imbued in its former title *punctus admirativus*. This at least explains the over-all 'positive' bend of the semantic clusters oriented towards the Christo-religious sphere (1,2,3) and the national-ethnic sphere (4,5) respectively.

An additional closing remark: The clear-cut topical division – into a Christo-religious cluster and a national-ethnic one – is in itself worth highlighting: as was the case for our latter-spacing study [5], this corroborates the mainstream twofold Grundtvig reception history. Again this is a non-trivial finding, making it possible to suggest a limit to the implications of the views held by J.F. Møller – that legacy and reception have distorted the core-content of Grundtvig's work [12]: At least this is not evident from the current exploration at scale of Grundtvig's exclamation marks as emotional imprints and signals of core-content very much consistent with the 'Grundtvig myth' and public reception.

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