Additional Details: Methods

Situational Analysis

The registers of prayers and talks from General Conference were compared using a situational analysis. Situational analysis is a method that outlines the differences between two registers in terms of their situational parameters in order to explain the linguistic differences between the two[1]. For this study, the parameters of participants, relations among participants, channel and circumstance, setting, communicative purpose, and topic were compared.

Corpus Creation

Two corpora were created for this analysis: one consisting of talks and one of prayers. In order to create the corpus of talks, the official website for the Church[2] was scraped using the Beautiful Soup,[3] time,[4] requests[5], re,[6] and os[7] libraries in Python.[8] The resulting GenTalks corpus consisted of separate talks with a total of 952,751 word tokens from 2010-2019.

Unfortunately, transcriptions for the prayers performed at General Conference meetings are not available on the Church's website. Therefore, the prayers were extracted by using the Church's official YouTube[9] channel, General Conference, which does contain the complete prayers.[10] The majority of the sessions from 2015-2019 were closed-captioned on YouTube. So, the texts of the prayers of those sessions were extracted using the YouTube transcript feature and were manually reviewed for accuracy. The rest of the prayers were transcribed using a second

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1 Biber and Conrad, "2 Describing the Situational Characteristics of Registers and Genres."
2 "The Church of Jesus Christ of Latter-Day Saints."
3 Richardson, "Beautiful Soup."
4 "Time."
5 Reitz, "Requests."
6 "Re — Regular Expression Operations — Python 3.10.4 Documentation."
7 "Os — Miscellaneous Operating System Interfaces — Python 3.10.4 Documentation."
8 Van Rossum and Drake, "Python 3 Reference Manual."
9 "YouTube."
10 "General Conference - YouTube."

process. Speechnotes.co,[11] a website for automated transcription, was used for the remaining prayers that were not closed-captioned. The transcriptions contained many errors, both due to varying audio quality and dialectical differences, where accents other than Standard American had the most issues, which were manually corrected by the first author. The resulting ENglish Orisons by Saints Corpus (i.e., ENOS Corpus) consists of 209 prayers with 36,345 words.

Linguistic Analysis

A keyness analysis was conducted using AntConc where the talks made up the reference corpus and the ENOS Corpus was the target. Log-Likelihood was used as the keyness statistic with an alpha level of $p < 0.05$ (with a Bonferroni correction). Keyness is a statistical (log-likelihood) measure for how "key" or specific to the target corpus a word is[12]. It compares the actual frequency to the expected frequency to accept or reject the null hypothesis that a given word's frequency is a result of random chance to find words. To further reduce noise in the results, words that occurred less than 50 times and/or had a keyness statistic less than 20 were also removed.

The resulting keyword lists were divided it into categories using Thematic Analysis methods.[13] The categories were based around functional aspects of the words identified through the keyness analysis using Braun & Clark's methodology[14], as follows:

- Phase 1: familiarize with data – this was done through the process of creating the corpus.
- Phase 2: generate initial codes — these were generated via the keyword analysis
- Phase 3: search for themes — this phrase was performed by organizing and reorganizing codes into theme-piles until all of the codes were sorted (see Braun and Clark's method[15])

11 "Speechnotes."

12 Gabrielatos, "Chapter 12: Keyness Analysis: Nature, Metrics and Techniques."

13 Braun and Clarke, "Using Thematic Analysis in Psychology," 2006.

14 Braun and Clarke.

15 Braun and Clarke, "Using Thematic Analysis in Psychology," 2006.

- Phase 4: review themes — once a set of candidate themes was created, a dual-criteria for judging categories was used to determine the cohesiveness, meaningfulness, and distinctness of themes by checking each code in each theme for internal homogeneity and external heterogeneity.[16] This involved two steps: (1) reviewing at the level of the coded data extracts and (2) reviewing each theme in relation to the dataset separately, to ensure relevance of each theme, and together, so that they reflect the dataset as a whole (see Braun & Clark[17])
- Phase 5: define and name themes — based on the codes that made up the theme, short descriptions of themes were created, and the themes were labelled according to those descriptions.
- Phase 6: produce the report — the report is included in the results section.

Lastly, in order to understand the nature of any formulaic language in the data specific to prayers, an n-gram analysis was also conducted. N-gram are frequently reoccurring sequences of words. An n-gram list was generated using AntConc[18], and the results were filtered to show only sequences of 3-7 words, which occurred 20 or more times. This range was chosen because shorter n-grams provide less interpretable context and longer n-grams were extensions of those found in the 3-7 range. Overlapping n-grams in the 3-7 range which primarily occurred in the context of a larger n-gram were also deleted. For example, “name of Jesus Christ amen” and “of Jesus Christ amen” both occurred 126 times, meaning that “of Jesus Christ amen” was only used part of the larger phrase. So, “of Jesus Christ amen” was deleted from the list and only “name of Jesus Christ amen” was analyzed. The frequency range between the two near-identical n-grams was only deemed significant if it was five or less. N-grams were also combined when they only

16 Patton, Qualitative Evaluation and Research Methods, 2nd Ed.

17 Braun and Clarke, “Using Thematic Analysis in Psychology,” 2006.

18 Anthony, “AntConc.”

differed in the presence/absence of contracted forms, such as in the n-grams “we are grateful for” and “we’re grateful for.”

Additional Details: Results and Discussion

Situational analysis results

This situational analysis comparing the registers of talks and prayers is shown in Table 1.

Table 1. Situational analysis of talks and prayers

Parameter	Talks	Prayers	Comparison
Participants			
Addressor	Church leader, on behalf of institution leadership	Church leader, on behalf of institution membership	Similar
Addressees	Church membership	God	Different
Relations Among Participants			
Interactiveness	Monologic	Largely asynchronous interaction	Different
Social roles	Addressor in power; somewhat large difference of power	Addressee in power; very large difference of power	Different
Personal relationship	More impersonal	More personal	Different
Channel & Circumstance			
Mode	Spoken	Spoken	Same
Medium	Live broadcast	Live broadcast	Same
Production circumstance	Revised/edited	Generally unplanned	Similar
Setting			
Time	General Conference sessions, 2010-2019	General Conference sessions, 2010-2019	Same
Place	Conference Center	Conference Center	Same
Communicative Purpose			
General Purposes	Edify, inform	Invocation/benediction of a meeting; show deference	Different
Specific Purposes	Teach; inspire; call to action	Thank; request; honor/worship	Different
Topic			
Domain	Religion	Religion	Same
Specific Topic	Varies	Varies	Same

Since the prayers and talks were all offered in the same General Conference sessions from the setting, mode, medium, and domain were the same. The speakers came from the same

population, that being the leaders of the Church, which makes up a sub-group of the general Church membership. This is significant because, as Yaeger-Dror[19] discovered, subgroups within larger religious groups tend to have differing linguistic patterns. Therefore, drawing speakers from a specific religious subgroup is more important than taking them from the same general religious community. The similarities between the two registers make them useful for direct comparison as well as discovering key linguistic features specific to prayers.

However, talks and prayers are distinctly different in terms of addressees, relations among participants, production circumstances, and purposes. Prayers are interactions with God, with the congregation as expected listeners, while talks are directed to the congregation itself. Prayers are much less planned out than talks, which makes them more cognitively demanding, especially when under the pressure of speaking in front of a large audience. Likewise, prayers are more focused on requests and expressions of gratitude, while talks are meant to teach and inspire. These situational characteristics of prayer are critical in interpreting the keyness analysis results.

Keyness results

The keyness analysis resulted in a total of 70 keyword types (i.e., different keywords) and 19,630 keyword tokens (i.e., instances of keyword types in the data), over half of the total tokens from the target corpus, signifying that most words in the target corpus were frequently repeated. Using thematic analysis, the keywords were divided into eight categories (see Table 2) based around the functions of the words that comprise them. Each functional category is motivated by a specific situational parameter. The relationship between the situational, linguistic, and functional aspects of each category will be explained below category by category.

[19] Yaeger-Dror, "Religious Choice, Religious Commitment, and Linguistic Variation."

Table 2. Overall results of register analysis

Situational parameter	Functional category	Keyword types	Keyword tokens
Communicative purpose	Requesting	10	1464
Communicative purpose	Thanking	5	787
Communicative purpose	Requesting/thanking	11	1876
Communicative purpose/interpersonal	Term of reference	17	2785
Interpersonal	Leave taking	5	1444
Interpersonal	Personal pronominals	6	5052
Shared context	Reference to current time/place	13	2062
Real-time processing	Clausal elaboration	6	4160
	TOTAL	70	19630

Requests

This category is characterized by words used to accomplish requests in prayers. One of the primary acts performed in Church prayers is that of requesting. Results for this category are shown in Table 3. Requests are frequently done by using declarative forms that include "ask", "pray" and in imperative forms that include "please" as in the following examples.

"We **ask** a special blessing to be with those speaking to us" (p-110.txt)

"**Please bless** all of us, Father, that we will follow the prophets" (p-6.txt)

Because deference is important, requests are often made by using modals ("wilt", "may", "might") and the requests are made "humbly". Specifically, prayers often request for "help" or for God to "bless" us. Consider the following examples taken from the corpus, where these types of features are used together to form requests.

Table 3. Requests keywords

Keyword	Keyness	Freq.
pray	1203.7	369
bless	629.6	201
ask	325.8	142

wilt	257.1	56
might	213.6	125
humbly	207.4	59
may	172.3	228
please	138.0	77
upon	51.0	105
help	26.3	102

Note. For this and all subsequent tables outlining keywords, the Keyness column indicates the value of the keyness statistic (log likelihood) produced for that word and the Freq. column indicates the raw frequency in the target corpus.

In general, direct requests like "we pray that" and "we ask that" are negatively polite because they ask someone to do something that they might not have done otherwise without giving them an easy "out."[20] This means that the speakers are infringing on the addressee's desire to be unimpeded. Therefore, it is interesting that the prayer givers appear to be impolite with a being whom they perceive to be omnipotent. However, they also see God as a Father figure, and less politeness is generally required with family members. The combination of traditionally impolite (declaratives and imperatives) and polite (politifiers, such as modals, "please", and "humbly") language suggests that speakers talk to God with the assumption that their relationship is both hierarchal and familial.

Thanking

This category is characterized by words used to accomplish giving thanks in prayers (see Table 4). Thanking in prayers is accomplished both by direct means using declaratives (e.g., "we thank thee for…/we express our gratitude for…") as well as by stating the prayer giver's feelings (e.g., "we are thankful/grateful for…"). This is a very narrow set of means by which thanks are accomplished. In other circumstances, thanks in English are most frequently accomplished by the formulaic expression "(thank you/thanks) for …" (Cheng, 2010; A Corpus-Based Approach to

[20] Brown and Levinson, *Politeness*.

the Study of Speech Act of Thanking, *Concentric: Studies in Linguistics*, *36*(2), 257-274.), which we did not observe at all in this corpus. Instead, "we" is always overtly expressed and you is substituted "you" for "thee". We will return to the use of pronominals in discussing the "personal pronominals" category.

Table 4. Thanking keywords

Keyword	Keyness	Freq.
grateful	1682.1	392
thank	662.7	169
thankful	323.8	66
gratitude	235.9	91
express	215.2	69

Requesting and thanking

There were also a number of words used for both requesting and thanking (see Table 5).

Table 5. Requesting and thanking keywords

Keyword	Keyness	Freq.
for	1192.6	1128
hearts	215.7	134
messages	196.2	67
love	138.5	229
blessings	99.6	99
blessing	83.6	68
hear	78.3	57
gospel	23.7	94

The word "for" was particularly interesting. It appeared in the majority of cases for both requesting and thanking as in the following examples:

"We are grateful **for** a living prophet" (p-64.txt)

"Finally, we pray **for** a blessing upon the widows" (p-31.txt)

The rest of the words in this category were things that were requested and thanked for. Consider the following two sentences where "messages" are part of what is being asked and what gratitude given for:

"and pray that their **messages** will be received" (p-31.txt)

"We're grateful for their **messages** and for the spirit" (p-24.txt)

Note how a pattern within prayers is to request something and then to thank God that it has been received. This is a very common pattern that arose in the data for many types of things that were both requested and for which gratitude was given—things in both this and the "term of reference" category (e.g., "love", "blessings", "gospel", "Monson", "Son").

Term of reference

Words in this category are words used to refer to personages. In prayers, holy figures (members of the Godhead and leaders of the church) are frequently referenced in prayers. These are all frequently the object of requests and thanks, but are used in other ways as well. Note that many of the words in this category that are not nouns are words that are used in combination with nouns to form terms of reference for holy figures (e.g., "Beloved Son", "holy prophets", "living Christ"). This variation in the terms of reference for deity signifies the complex nature of those personages as well as the complex relationship that prayer-givers have with them. For instance, for terms of reference for God, we observed instances of "Heavenly Father, "Father in Heaven", "God", "God, the Father", and "Lord" with variants with "dear" in front of many of them. For Jesus Christ, there were even more highly frequent variants. Note that in the case of references to God the Father, this are used in the greeting part of prayers (as in "dear Father in Heaven") and in leave taking (as in "in the name of thy Son, Jesus Christ, amen").

Table 6. Term of reference keywords

Keyword	Keyness	Freq.
Father	748.1	502
Son	490.4	253
beloved	246.3	112
dear	228.1	108
Jesus	211.0	329
Monson	203.4	104
heaven	194.1	124
prophet	162.6	138
prophets	154.0	87
Christ	162.5	336
Thomas	152.8	76
Spirit	108.1	147
Heavenly	102.4	131
living	51.5	66
apostles	53.8	58
President	36.9	123
holy	20.8	91

Thomas S. Monson, the prophet of the Church of Jesus Christ of Latter-day Saints, led the Church for most of the 2010-2019 period. Prayer-givers often asked for blessings to be bestowed specifically upon the president of the Church, which is why “Thomas” and “Monson” are also keywords.

Leave taking

This category is characterized by the method used by prayer givers for ending a prayer. In linguistic terms, the act of ending and interaction is known as leave taking.[21] Virtually all prayers were ended using almost the same wording “in the name of (Thy Son), (even) Jesus Christ, amen”. Variants of this ending might include “our Savior” or “our Redeemer”.

Table 7. Leave taking keywords

Keyword	Keyness	Freq.

21 Locher and Graham, “1. Introduction to Interpersonal Pragmatics.”

amen	520.4	207
name	317.0	225
things	32.8	102
say	25.0	50
in	22.9	860

Personal Pronominals

This category is characterized by words that stand in place of terms of people[22]. The six words that form this category are all first- or second-person: the three first-person pronominals, being "we", "our", and "us", and the three second-person pronominals being "thee", "thy", and "thou". It is interesting to note that the possessive forms "ours" and "thine" are missing as are all of the forms of the second-person pronominals more common in contemporary English ("you", "your", "yours").[23] It is interesting to note that in Early Modern English "thou" and its corresponding forms were considered more familiar and, therefore, less formal than "you" and its corresponding forms.[24] The singular second-person pronouns could be used in prayers for a sign of closeness. However, if they are perceived as more formal in contemporary language, their use in prayers could indicate a show of respect. Prayer givers could also be using these pronouns simply because it is the traditional or stylistic.

Table 8. Frequencies of Pronominal Keywords

Keyword	Keyness	Freq.
thy	3335.5	726
we	3165.7	2287
thee	2337.0	506
our	504.5	875
thou	355.1	157
us	275.2	501

22 Note that this category includes both personal pronouns and possessive determiners.
23 Barber, Beal, and Shaw, *The English Language: A Historical Introduction*.
24 Barber, Beal, and Shaw.

The high rate of use of first- and second-person pronouns suggests that one of the purposes of prayers is to establish a connection between the speaker and God. This is especially evident in sequences of words like "**we** thank **thee** for" (n = 114) and "**we** ask **thee** for" (n = 59).

Reference to current time/place

Words in this category refer to the times in place, especially deictically or in relation to the time and place where the words were spoken (see Table 9). Demonstratives ("this", "these", and "those") were frequently used to refer to the current time and place as in "this session" (n = 54), "these latter days" (n = 13), and "those who will speak" (n = 11). Other words in this category refer directly to the current setting: "session", "general conference", "today", "here", etc. Other words in this category are words that reference the people not physically but virtually in attendance "throughout" the "world". "have" is also included in this category because it is most used as present perfect aspect, which grammatically relates the past events, which have persisted up to the current time as in the following example, which relates a past event to the immediate context:

"we are grateful for the messages that we have just heard" (p-203.txt)

Table 9. Reference to current time/place keywords

Keyword	Keyness	Freq.
this	447.2	569
session	411.6	101
conference	397.9	159
throughout	145.3	69
general	104.2	83
here	88.6	67
those	82.2	182
world	62.7	135

these	52.7	130
today	52.5	69
earth	23.4	54
day	21.5	113
have	56.3	331

Clausal elaboration keywords

Perhaps the least transparent category, the clausal elaboration category consists of keywords that have been shown to be features of clausal elaboration[25] (see Table 10). These types of features have been tied to the situational parameter of real-time language use.[26] Because Latter-day Saint public prayers are not scripted beforehand, prayer givers are usually required to come up with the ideas and how to word them in the moment. This is a cognitively challenging endeavor, especially when one is speaking in front of a large audience, increasing affect thereby decreasing cognition. For these reasons, relating ideas usually happens with clausal elaboration features. Consider the following example (keywords in bold):

> "We **are** grateful, Father, for the witness of the Holy Ghost **that** enlightens our minds **and** quickens our understandings, **that** we might comprehend **that** which we have been taught, **that** as we listen **and** act, **that** we might draw closer to Thee, **that** we may become more like Thy Son …" (p-0.txt.)

Note in this example that each keyword relates following idea to the previous one overtly and using many words. By spreading information out over many words, it allows the brain additional time to think of what to say next. From this example, consider the fact that "that which we have been taught" essentially means the same as a single word "teachings", but rather than using the one word option, the prayer giver has opted to use many words instead. This pattern was observed repeatedly in virtually all prayers observed in the corpus. All words in this list function

[25] Biber, Gray, and Poonpon, "Should We Use Characteristics of Conversation to Measure Grammatical Complexity in L2 Writing Development?"
[26] Biber, Variation across Speech and Writing.

similarly, allowing the speaker to space out ideas over more word/time. This indicates that prayer giving in a public is a difficult task with which new members or language learners might struggle.

Table 10. Clausal elaboration keywords

Keyword	Keyness	Freq.
that	257.0	981
re	557.8	122
and	205.3	1921
are	142.5	456
be	122.8	462
who	25.4	218

N-Grams

The most frequent n-grams are displayed in Table 10. Each n-gram is listed with its frequency, which is the count of times that n-gram is found throughout the entire corpus, and its range, which is the number of different prayers in which it occurs.

Table 11. Frequencies of Most Common N-Grams

N-gram	Freq	Range	N-gram	Freq	Range
Jesus Christ amen	201	201	of thy son	94	78
the name of	182	176	we pray for	92	65
we are grateful	253	80	that we may	82	50
in the name of	175	172	that we might	81	47
of Jesus Christ	161	139	thy Son Jesus Christ	79	63
we thank thee	156	83	in heaven we	78	78
name of Jesus Christ	133	131	Heavenly Father we	75	67
name of Jesus Christ amen	126	126	Thomas S Monson	73	73
we are grateful for	184	63	Father in heaven we	72	72
thank thee for	123	73	we are so	72	48
we pray that	122	82	that we have	69	51
grateful for the	120	79	thee for the	66	45
in the name of Jesus	114	113	President Thomas S Monson	62	62

we thank thee for	114	68	we are grateful for the	60	44
in the name of Jesus Christ	113	112	we thank thee for the	59	40
Father in heaven	109	100	we ask thee	59	41
in the name of Jesus Christ amen	108	108	and we pray	57	48
Son Jesus Christ	98	79	are so grateful	55	38

Of the 134 unique words that made up the 40 resulting n-grams, 117 were keywords (87.31%). Every n-gram except for one, "of the twelve," contained at least one keyword, and 38 of them contained at least two keywords, indicating that n-grams comprised mostly of keywords and that prayers are highly linguistically formulaic in nature. Based on Table 9, the n-grams all occur in a wide range of prayers, suggesting that Church prayers in general are made up of many n-grams which are in turn made up of many keywords further indicating that public prayers are cognitively demanding tasks because instead of creating new ways of saying something, prayer givers appear to rely on fixed phrases, which they have likely memorized as chunks. In fact, an entire prayer can be conducted almost entirely of n-grams and keywords (Appendix 1). Thus, learning the keywords from this study and how they are used could be the basis for constructing prayers for those unfamiliar with this particular register in Latter-day Saint English. This is further supported by the fact that, of the 36,345 tokens in the ENOS Corpus, 19,816 (54.52%) are keywords.

Anthony, Laurence. "AntConc." Tokyo, Japan: Waseda University, 2020.

Barber, Charles, Joan C. Beal, and Philip A. Shaw. *The English Language: A Historical Introduction*. 2nd ed. Cambridge Approaches to Linguistics. Cambridge: Cambridge University Press, 2009. https://doi.org/10.1017/CBO9780511817601.

Biber, Douglas. *Variation across Speech and Writing*. Cambridge: Cambridge University Press, 1988. https://doi.org/10.1017/CBO9780511621024.

Biber, Douglas, and Susan Conrad. "2 Describing the Situational Characteristics of Registers and Genres." In *Register, Genre, and Style*, 31–49. Cambridge University Press, 2009. https://doi.org/10.1017/CBO9780511814358.

Biber, Douglas, Bethany Gray, and Kornwipa Poonpon. “Should We Use Characteristics of Conversation to Measure Grammatical Complexity in L2 Writing Development?” *TESOL Quarterly* 45, no. 1 (2011): 5–35. https://doi.org/10.5054/tq.2011.244483.

Braun, Virginia, and Victoria Clarke. “Using Thematic Analysis in Psychology.” *Qualitative Research in Psychology* 3, no. 2 (2006): 77–101. https://doi.org/10.1191/1478088706qp063oa.

———. “Using Thematic Analysis in Psychology.” *Qualitative Research in Psychology* 3, no. 2 (2006): 19. https://doi.org/10.1191/1478088706qp063oa.

———. “Using Thematic Analysis in Psychology.” *Qualitative Research in Psychology* 3, no. 2 (2006): 20. https://doi.org/10.1191/1478088706qp063oa.

Brown, Penelope, and Stephen C. Levinson. *Politeness: Some Universals in Language Usage*. Politeness: Some Universals in Language Usage. New York, NY, US: Cambridge University Press, 1987.

Gabrielatos, Costas. “Chapter 12: Keyness Analysis: Nature, Metrics and Techniques.” In *Corpus Approaches To Discourse: A Critical Review*. Oxford: Routledge, 2018. https://core.ac.uk/download/pdf/227092349.pdf.

“General Conference - YouTube.” Accessed April 12, 2022. https://www.youtube.com/.

Locher, Miriam A., and Sage L. Graham. “1. Introduction to Interpersonal Pragmatics.” In *Interpersonal Pragmatics*, edited by Miriam A. Locher and Sage L. Graham, 1–16. DE GRUYTER MOUTON, 2010. https://doi.org/10.1515/9783110214338.0.1.

“Os — Miscellaneous Operating System Interfaces — Python 3.10.4 Documentation.” Accessed April 12, 2022. https://docs.python.org/3/library/os.html.

Patton, Michael Quinn. *Qualitative Evaluation and Research Methods, 2nd Ed*. Qualitative Evaluation and Research Methods, 2nd Ed. Thousand Oaks, CA, US: Sage Publications, Inc, 1990.

“Re — Regular Expression Operations — Python 3.10.4 Documentation.” Accessed April 12, 2022. https://docs.python.org/3/library/re.html.

Reitz, Kenneth. “Requests.” Python, n.d. https://docs.python-requests.org/en/latest/.

Richardson, Leonard. “Beautiful Soup.” Python, 2007. April.

Speechnotes. “Speechnotes.” Accessed April 12, 2022. https://speechnotes.co/.

“The Church of Jesus Christ of Latter-Day Saints.” Accessed April 12, 2022. https://www.churchofjesuschrist.org/?lang=eng.

“Time.” Python. Python Software Foundation. Accessed April 12, 2022. https://docs.python.org/3/library/time.html.

Van Rossum, G, and F. L. Drake. “Python 3 Reference Manual.” CreateSpace, 2009.

Yaeger-Dror, Malcah. “Religious Choice, Religious Commitment, and Linguistic Variation: Religion as a Factor in Language Variation: Special Issue of Language and Communication.” *Language & Communication* 42 (May 1, 2015): 69–74. https://doi.org/10.1016/j.langcom.2014.12.005.

“YouTube.” Accessed April 12, 2022. https://www.youtube.com/.