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Stille in the Lutheran Baroque

A Musical-Textual Analysis Using Quantitative Methodology

This paper is a presentation of initial results from my on-going research into the musical settings of textual elements, either individual words or phrases, related to the concept of *Stille*¹ in the Lutheran Baroque. I will present the innovative data-driven methodology I developed for the purposes of this project and the criteria for its application before moving on to explore specific patterns of meaning emerging from its application to settings of *Stille* in the works of five early 18th-century German composers. It is my aim to show how a quantitative approach to analysis can be considered a “reverse engineering” of the musical evidence, allowing modern researchers the possibility to access composers’ tacit understanding of specific textual elements. Through the comparison of large quantities of similar settings certain repetitive patterns emerge which act as a Rosetta stone between the languages of music and text, helping to decipher cultural or theological semiotic environments which may not be evident from other primary sources, such as visual depictions or textual descriptions.

There is a deceptively simple starting question at the basis of my research: How was the word *Stille* set to music in the German Baroque? This question is simple, as it suggests a more generalized question: How is any textual element set to music (in this period)? A straightforward approach would be to look at a defined set of musical examples, record what happens when the textual element is set to music, and analyze these findings for common elements. However, problems arise when a textual element has multiple or conflicting meanings. For such figures, it is imperative to differentiate settings with similar linguistic or contextual interpretations before useful patterns can be identified. Although the concept of *Stille* bears many such layers of meaning, it is also an excellent candidate for exploration with quantitative methods. Its setting in music (or even sound) is counterintuitive, as silence is often understood as the presence of a sound-free environment. Composers setting the textual concept of *Stille* are thus put in a position to describe a soundless condition using the musical means of sound, allowing us a unique view into their underlying understanding of the concept. Their setting will be informed by their understanding of the literal properties of *Stille* as well as any additional meaning borne in the composers’ theological or cultural environment.

To inquire into the question of how *Stille* was set to music in the Lutheran Baroque, my research draws on a large-scale database, which I designed and populated from individual analyses of 473 settings of textual elements related to *Stille*. These set-

1 *Stille* is often translated into English as silence, although this translation is problematic, as will be shown below.

tings represent the entirety of *Stille* settings throughout the oeuvres of five important composers working within a similar musical tradition. I first located each time these words were set in the collected works of these composers: Johann Sebastian Bach (1685–1750), Reinhard Keiser (1674–1739), Georg Phillip Telemann (1681–1767), Gottfried Heinrich Stölzel (1690–1749), and Georg Friedrich Händel (1685–1759). The 473 settings, drawn from thousands of works (many of which do not use this terminology), thus represent the maximum possible survey population for analysis. I then analyzed each text setting for the presence or absence of 98 musical and textual factors, including melodic, rhythmic, harmonic, formal, and linguistic elements, as well as special factors related to changes of texture, the use of rests, and figures specific to recitative or aria forms. The nearly 50,000 data points contained in my database represent a significant body of direct empirical observations of the composers' text setting decisions, which cluster into meaning-bearing patterns upon closer analysis. These patterns of representation are often unexpected and are surprisingly consistent across the data observed.

Database structure

It is beyond the scope of this paper to present the data from my database in full. However, the following section will give an overview of the database's structure, with screenshot excerpts (figures 1 and 2) showing a representative selection of the 98 analysis factors. Each row represents a separate setting, while the column headings correspond to factors for which each setting was analyzed. The database can be filtered for any combination of these factors, facilitating complex multi-variable requests as to the frequency of occurrence of a set of user-defined factors, whether within a select group of settings or across the entire database. Regarding the size of the database, the population of samples must be large enough to enable the separation of meaningful patterns of communication from the inevitable statistical noise created by the comparison of massively multi-variable examples. The database then becomes a powerful tool for comparative musical-textual analysis. However, the finite amount of historical compositions presents a natural limitation on the amount of available data. As with any population-based study, survey size is directly related to confidence level and margin of error. The 473 analyzed settings forming the basis of this study represent nearly every occurrence of the target terminology and thus the largest possible data set.

Figure 1 (below) shows general classification and identifying information as well as some of the linguistic factors: the setting's textual element, composer, work title, movement type, work type (e.g. opera, cantata, oratorio, etc.), whether the work is sacred or secular, the language of the text, and date of first performance. Each setting was also grouped into silence types, corresponding to the descriptive or commentary approach of the composer to the individual type of silence at hand. For example, an inability to speak due to innate muteness is a very different type of silence than Jesus' refusal to answer Pontius Pilate's questioning. Jesus' trial would also be an example of a "special narrative": a specific external semiotic environment corresponding to ad-

ditional extra-textual meaning and conventions. The “text important” factor indicates whether the textual element is embedded in a larger text describing the silence itself. The factor “keyword” gives the central term of silence used in the setting’s textual element, whereas the remaining factors detail some of the keyword’s linguistic properties.

	Citation	Composer	Opus	mvmt type	work type	Weltlich/ Geistlich	Language	Date	Silence Type	Special narrative	Text import ant	Keyword	Part of speech	imperative
1														
66	Ihr stumme fische	Keiser	Croesus	aria	opera	W	D	1710	descriptive, stumm			stumm	direct Adj	
	einsamer Stille	Keiser	Masaniello Furioso	aria	opera	W	D	1706	descriptive, non-sound			Stille	noun	
108														

Figure 1: Database excerpt showing general classification elements and linguistic factors.

Figure 2 (below) presents an excerpt from another section of the database recording factors relating to melody and rests. This excerpt is typical of the factors corresponding to musical analysis (rather than textual or formal analyses). Nearly all such factors are recorded in binary form—a factor is either present along with the textual element in question (indicated by the number 1) or absent (left blank). This allows for simplified meta-analysis; after filtering the database for the exclusion of all but a select factor or set of factors, the sum of each column indicates the total occurrence of the selected factors within the database. Filtering the database for the factor “melody: static” would thus only display settings featuring this factor.

	melody: static	melody: large interval down	melody: large interval up	melody: rising 3rd	melody: falling 3rd	melody: half/whole flex on keyword	melody: 3rd flex on keyword	melody: larger flex on keyword	melody: ornament on keyword	melody: appoggiatura on keyword	melody: all vcs unisono	melody: high register	melody: low register	rests within melody	rests within bassline	rests before and after keytext	pause in solovc after keytext	short GP after keytext	long GP after/around keytext
1	1								1								1		
108																			
116	1																		

Figure 2: Database excerpt showing factors relating to melody and rests. In example 116, the factor “melody: static” is marked as present (1).

Criteria for selection of analysis material

In order to produce useful results using quantitative musical-textual analysis, it is important to limit the material under analysis to that emerging from a clearly and narrowly defined cultural environment. The five composers whose oeuvres form the basis of this study all emerged from the same Lutheran compositional tradition, their productive periods overlapped chronologically, and all were personally known to or influenced by the works of the others. The selection of the cultural environment is also

critical to the success of such an analysis. The composers in question must have worked within a tradition of composition relying on a body of communicative conventions. It is important here to differentiate between a more linguistic musical communication (with rational and consistent associations of ideas to clear semantic symbols) and a less categorical communication based on the evocation of emotional states.

In this study I have chosen to focus on text setting within a narrow chronological period in German Lutheran compositional tradition, the early to mid-18th century, following the careers of the five composers under examination. In this tradition music was used as a secondary language supporting verbal communication. Composers in this tradition, per Martin Luther's directive,² had the expression of text as their primary task. Luther's mandate to composers was to bring the text to life, to become the *viva vox evangelii* (the living word of the Gospel) by explaining and elaborating on the meaning and significance of the words. The craft of composition was seen as writing poetry in music (*musica poetica*), using musical text as a special type of emotional communication, making use of all the classical oratory tools of rhetorical persuasion. A composer's skill was acquired rather than inherent, an expertise emerging from the development and consistent application of musical-rhetorical figures and principles.

Texted music of the Baroque era is generally suited to an analysis of musical-textual symbols due to the primary emphasis on the communication of individual words and phrases through musical composition. However, while text and rhetorical principles were influential in the development of French, English, and Italian Baroque music, it was only in Germany that they were enthusiastically adopted and adapted into a system of terminology and methods used as a basis for composition.³

Early 18th-century Germany held a special position in the European musical landscape. The German hybrid system of speculative and practical music, developing out of the evolving theories of music in previous centuries, left them with a highly analytical system of musico-rhetorical composition unparalleled in neighboring countries. Italian and French music was based on oration rather than rhetoric, favoring dramatic gesture and pathos-laden delivery over studied rhetorical form. Ornamentation was the medium of affectual communication, rather than rhetorical devices. Although text continued to be important in Italy and France, it served as a starting point for expressing affect rather than the object of a composition. The Italian style of composition relied on innate qualities such as good taste and inspiration, while the German *musicus poeticus* was a professional who painstakingly learned his craft in Protestant *Kantorschulen*. The German discipline *musica poetica* was unique in Europe, connecting the classical discipline of rhetoric to affective aesthetic musical expression within a teachable analytic framework.⁴

The idea of expressing text developed from literal depictions of words in 16th- and early 17th-century madrigalisms toward a more codified system of affect expression in

2 Walter Buszin, *Luther on Music*, ed. J. Riedel (Saint Paul: Lutheran Society for Worship, 1958), 97.

3 Dietrich Bartel, *Musica Poetica: Musical-Rhetorical Figures in German Baroque Music* (Lincoln: University of Nebraska Press, 1997), ix.

4 Bartel, *Musica Poetica*, 57–59.

17th-century Germany. While Lutheran composers and musicians continued to assign primary importance to the expression of the text, later generations moved away from the 16th-century idea of literal word-for-word text setting toward an expression of the text's general affect, which would move the listeners through the arousal of their passions. The listener, rather than the text, became the object of composition.⁵ The musician and theorist Johann Gottfried Walther (1684–1748) wrote on the subject:

when an affect is to be expressed, composition should focus on that, rather than individual words. Not that words should be disregarded, but words which contradict the affect should not be singularly expressed.⁶

The 18th-century movement toward subjectivity redefined the technical approach to Lutheran composition. Treating a word as an affectual object in itself lost ground to more subjective expression.⁷ Not only the physical image of the word was expressed, but also any additional levels of symbolic or theological meaning. The consequences of this shift can perhaps best be seen in the treatment of expressions of *Stille*. In 17th-century compositions silence is often represented in its most literal form: as a long rest after the key text. This literal depictive representation persists in the works of early 18th-century composers, but is augmented with other more nuanced descriptive devices and compositional techniques, reflecting the composer's understanding and musical interpretation of the term. Whereas 17th-century audiences reacted to the presentation of literal silence, their early 18th-century counterpart was presented with the composer's interpretation.

As the 18th century progressed, accompanied by a general societal shift toward subjectivity, this focus on subjective expression came to overshadow even the text itself, frustrating attempts to analyze the settings of single words. Expression at the single-word level gave way to setting the affect of an entire sentence, paragraph, or movement. What had been an ordered system of consistent musical motives and gestures (*figurae*) designed to evoke specific affects ultimately became a pure musical semiotic, largely independent of individual textual elements. The ideal of later music was to be felt emotionally (*empfunden*) rather than understood rationally. I thus declined to include composers working in the more subjective *Empfindsamkeit* style of the late 18th century in this survey.

Setting text to music: a literal translation

As the textual concept of *Stille* is multifaceted and requires some clarification, I will first explore the idea of translating a textual element to music using a term which is more straightforward, both in its literal sense and in terms of its wider interpretation: waves (*Wellen*).

5 Ibid., 32.

6 Johann G. Walther, *Praecepta der musicalischen Composition*. Ms 1708, new ed., ed. P. Benary, (Leipzig: Breitkopf & Härtel, 1955), 158. Translation in Bartel, *Musica Poetica*, 55.

7 Bartel, *Musica Poetica*, 52.

The word *Wellen* is nearly always used in its principal form as a noun referencing its physical attributes, either alone or in conjunction with allusion to its connotations in other contexts, such as its theological contexts. A wave has a clear physical form which is easily reproducible in music: a repetitive cyclical motion over time. Textual reference to a wave effects a mental image of a physical wave, as its attributes are instantly recognizable to all observers. There is no special extra-textual knowledge required to visualize its physical form.

However, the literal definition of a term is not enough to determine its meaning. A single word is often inextricably linked to a body of related words carrying strong secondary meanings. In the case of *Wellen*, it is nearly impossible to disassociate waves from their relationship with water. Waves, or water, bear a certain theological significance, which is especially important to bear in mind when working with sacred music. Here, a reference to water is often a clear reference to water's baptismal role in Christian theology. Water, and waves by association, can refer to troublesome times or metaphorically to salvation and eternal life. However, even with these additional layers of meaning, waves remain a relatively simple example for musical expression, as their physical form is easily represented in music.

Das zitternde Glänzen der spielenden Wellen

HWV 203

Georg Friedrich Händel



Figure 3: HWV 203.⁸

In the opening measures of his aria *Das zitternde Glänzen der spielende Wellen* (HWV 203 from *Neun deutsche Arien*, 1724–1726) G. F. Händel gives a standard representation of the textual element *Wellen*. In the obbligato voice the figure outlines a narrow melodic range, and stepwise motion is prominent, mimicking the motion of the waves. The repetitive rise and fall of the waves is mirrored in the bass figure and the regular repetition of the figure over several bars. Händel's representation of waves is immediately identifiable to both performers and audience members, as it clearly conveys the physical properties of the waves themselves. This representation is not limited to Händel's particular setting of this textual element, or even his oeuvre, but is found throughout the works of his contemporaries. It is a uniform cultural understanding

8 Georg Friedrich Händel, *Das zitternde Glänzen der spielenden Wellen* HWV 203, ed. Martin Straeton, [http://imslp.org/wiki/9_German_Arias_HWV_202-210_\(Handel,_George_Frideric\)](http://imslp.org/wiki/9_German_Arias_HWV_202-210_(Handel,_George_Frideric)). License: Creative Commons Attribution-ShareAlike 3.0.

of the term *Wellen* which results in this consistency of musical setting. However, not all terms have such an evident meaning. The term *Stille*, for example, requires some amount of contextualization before I explore how it was set to music.

Approaching Stille

A first step in entering a composer's semantic environment, for the purposes of musical-textual analysis, is to negotiate a viable historical understanding of the textual element in question. Approaching the meaning encoded in a particular term entails localizing it within its appropriate linguistic, cultural, and theological contexts. The term *Stille* is problematic in this respect, as it bears several simultaneously overlapping meanings and connotations. *Stille* can exist in several parts of speech, is theologically laden, and its representable form is abstract at best. *Stille* is often translated into English as silence, although the term in German carries significantly more meaning than the English concept of soundlessness.

Stille is a concept expressed using a broad range of synonymic vocabulary. The settings of these terms differ not only according to which term is being set, but also according to whether the setting is sacred or secular, among many other decisive factors. A composer's decisions on how to set a text would have been made taking cultural, theological, and linguistic concerns into account. Linguistic concerns, besides the basic meaning of the word, include its register, part of speech, and any special connotations the word may have. This is of course in addition to any technical factors inherent in the textual element (e.g. syllable count, vowels and consonant groups, etc.).

Stille has multiple definitions, either distinct in meaning or overlapping. The German language has a wide range of vocabulary expressing silence, using both dedicated terms and phrasal constructions to represent different understandings of silence.⁹ Some of these forms are not easily translatable into English, as they are decidedly active concepts (e.g. *schweigen*, which can only be rendered as "to remain silent"). Each expression of the word *Stille* carries a different meaning and thus a different set of possibilities for musical expression. Although I took all forms and expressions of *Stille* into account in the course of my research, due to the scope of this article I will focus on one specific and significant expression: the term *Stille*, used as a noun in a sacred context. In preparation for showing how this term was set to music, I will first provide a brief overview of *Stille* as an early 18th-century Lutheran composer would have understood it.

Stille in emergent Protestant theology

Stille became a point of great theological debate in the emerging and diverging Protestant churches of the Reformation, especially at the intersection of the orthodox Lutheran and the increasingly divergent branches of reformed Protestantism.

9 Compare these various types of silences: *Stille*, *Ruhe*, *stumm*, *schweigen*, *stillschweigen*, *innehalten*, *taub*, *er hat nichts gesagt*, *sein Mund ist geschlossen*.

Some churches, such as those of Huldrych Zwingli or (less strictly) John Calvin, saw music as a purely human creation, a seductive emotional power to be avoided during services. Luther, however, subscribed to the Augustinian view (via Pythagoras and Boethius) that individuals listening to music were experiencing musical-mathematical proof of God's ordered creation.¹⁰ Music thus became an integral element of Lutheran services.

Lutherans and what the historian Diarmaid MacCullough calls the "magisterial" mainstream Protestant reformers of the 16th century (who envisioned reforming the Western church into a new universal and decidedly public body) ushered in "an era of words, relentlessly clarifying the Word of God"¹¹ with their sermon-oriented services and new emphasis on music as a tool of congregational worship. It was "the inauguration of one of the noisiest periods in Christian history since its first two centuries; noise was the characteristic of the mainstream Protestant Reformation."¹² Whereas visual imagery had been an essential facet of the medieval Western church, the pulpit, and therefore the eminence of the sermon, became the dominant visual focus of the new churches. Whereas established codes of artistic visual symbolism had previously enriched a congregation's emotional attachment to a Biblical narrative, this role was now undertaken by musical-textual "*musikalische Mahlereyen*."¹³ A composer's representation of text in music overtook the role of emotional adornment of the Word of God. Some "spiritual" Protestant churches, however, shared Zwingli's priorities regarding the importance of silence in prayer, in contrast to their "noisy" orthodox Lutheran neighbors. Drawing on a body of neo-Platonic and mystic writings, they produced a version of radical Christian quietness. By turning inward to find their justification by faith, they "took up spiritual themes stressed by Erasmus, emphasizing the Spirit over the Word."¹⁴

The Pietists' focus on Spiritualism, stressing the individuality of faith and the mystic role of silence, resonated throughout German-speaking areas and beyond, becoming the major opposition to the Lutheran orthodoxy. In 1686 in Leipzig August Hermann Francke set up a *Collegia biblica*, a very popular series of lectures to university theology students and townspeople, under the guidance of the movement's founder Philipp Jacob Spener. However, after three years of lectures the Pietists attracted the disapproval of the city's orthodox theologians and left Leipzig to found the University of Halle, which quickly became the most important center of the internationally active Pietist movement.

Halle, the city immediately neighboring Leipzig, thus became an influential theological rival, much to the chagrin of the orthodox Lutheran theologians and officials in Leipzig. It was in this politically charged climate that Johann Sebastian Bach was

10 See the concept of Harmony of the Spheres, e.g. Miikka E. Anttila, *Luther's Theology of Music* (Berlin: De Gruyter, 2013), 86.

11 Diarmaid MacCullough, *Silence: A Christian History* (London: Allen Lane, 2013), 129.

12 Ibid.

13 Werner Rackwitz, introduction to *Singen ist das Fundament der Musik in allen Dingen: Eine Dokumentensammlung*, ed. Werner Rackwitz (Leipzig: Philipp Reclam 1981), 37.

14 MacCullough, *Silence*, 143.

engaged as *Thomaskantor*, tasked with producing liturgical music in line with accepted doctrine. His librettists were to present their texts to the church consistory for review, as their “formulations had to be theologically correct and appropriate for the conditions which then obtained in Leipzig—in a period dominated by the conflict between Lutheran orthodoxy and Pietist fractionalism.”¹⁵ It seems, therefore, that Bach’s decisions to set texts with *Stille* exceed a purely theological interpretation. His settings of *Stille* can be seen as a political act, regardless if he presented an orthodox interpretation in line with his employers or one influenced by Pietistic thought.

Gott, man lobet dich in der Stille

It was on this theologically and politically charged background that J. S. Bach composed his cantata “Gott, man lobet dich in der Stille” BWV 120 (God, you are praised in the stillness/silence) over the text to Psalm 65. The exact provenance of the opening aria is unknown. It may have had its first performance in 1729 as occasional music for the election of the Leipzig city council.¹⁶ Viewed in the light of *Stille*’s loaded role in Protestant theology, Bach’s selection of this psalm text for this official function can be read as a political gesture. Whatever his motivation for the choice of text, Bach’s settings of *Loben* and *Stille* are entirely compatible with those of his other works and those of his contemporaries, suggesting a common musical depiction of the condition of *Stille* in a sacred context.

In order to locate Bach’s setting within the larger body of works included in my database, Table 1 (below) gives an overview of the most common factors occurring during all examples of descriptive settings of textual *Stille*. As a brief explanation of the table’s structure: the meta-analysis has first been filtered for the exclusion of settings containing the factors marked (C): (duplicate examples, no reaction to text, imperative, and question). The frequency at which factors (B) are present, when the database is filtered for the most significant factors (or pairs of significant factors) listed in column (A), is given in the corresponding columns on the right-hand side of the table. The relevant sample sizes are also indicated, with the total number of examples pre- and post-filtering shown in the left-hand columns and the number of arias and recitatives listed in the shaded columns at right. Thus, out of the 85 total examples of the factor “melody: low register” included in the entire database, 60 remain after filtering for the above-listed exclusion factors, which represents 71% of the total examples. Of this filtered set, we can see that the factor is accompanied by ‘melody: static’ 53% of the time. At right, the shaded columns show that 42 of the 60 examples are set in arias, with 71% of the 42 aria examples corresponding to a change in texture at the keytext

15 Martin Geck, *Johann Sebastian Bach: Life and Work* (Orlando: Harcourt, 2006), 331.

16 Anselm Hartinger, “BWV 120,” in *Wie schön leuchtet der Morgenstern*, ed. Albert Jan Becking, Jörg-Andreas Bötticher, and Anselm Hartinger (Basel: Schwabe Verlag, 2012), 539–41.

Table 1: Frequency of the presence of factors (A) in the presence of factors (B)																								
Factors (A)			Exclusion factors (C): Database examples filtered for factors: duplicate examples, no reaction to text, imperative, question.																					
Single factors			paired with Factors (B)																					
			% of total database examples represented	remaining examples after filtering for exclusion factors (C)	total database examples of factors (A) including factors (C)	% melody: low register	% melody: static	% melody: large interval down	% melody: appoggiatura on keyword	% longer note value on keytext	% syncopation/rhythmic accent on keytext	% bass: pedal	% active accompaniment	% stable pitch in accompaniment	% rests within bass line	% pause in solo voice after text	% strong beat, keytext stressed	% significant harmony	% cadence on keytext	aria examples	% arias with texture change at keytext	recitative examples	% of recits with new bass note on keytext	% of recits with chord change on keytext
melody: low register		85	60	71	X	53	32	25	30	23	33	35	20	35	47	78	48	35	42	71	18	61	78	
melody: static		146	96	66	33	X	14	16	31	14	26	24	24	26	40	67	36	27	61	75	35	46	49	
bass: pedal		82	49	60	41	5	20	22	33	16	X	31	35	29	39	71	57	18	31	65	18	11	44	
active accompaniment		84	50	60	42	46	14	26	34	28	30	X	28	40	46	76	46	30	47	70	3	67	100	
Combined factors																								
melody: low register AND melody: static		32			X	X	22	19	38	9	28	38	25	41	50	78	53	38	20	53	12	67	67	
melody: static AND bass: pedal		25			36	X	0	16	40	4	X	0	40	20	40	60	56	16	14	79	9	0	22	
melody: low register AND bass: pedal		20			X	45	35	30	35	25	X	45	35	35	40	85	65	35	16	56	4	0	50	

Figure 4: Frequency of the presence of factors (A) in the presence of factors (B)

Whereas many settings of *Stille* contain some combination of the main factors listed in Table 1, Bach's opening aria, "Gott, man lobet dich in der Stille," features an almost "textbook example" of *Stille*. All of the most significant musical factors (factors (A) in Table 1) are present: rests or a pedal tone in the bass line, a sustained note in a low register in the solo voice, a generally reduced texture, and active harmonically-stable figuration in the accompaniment.

Mirroring the rhetorical figure *antithesis*, the juxtaposition of opposing concepts, which is used in the poetry of the psalm text, Bach contrasts the extroverted dramatic gestures of *Loben* (praise) against the introverted static fullness of *Stille*. As the composition unfolds, Bach sets up an affectual counterpoint between the two terms, treating each concept individually at length and then in comparative alternation, clearly emphasizing either *Loben* or *Stille*. The extreme and repeated contrast of the two ideas serves to increase their affectual impact while simultaneously linking them in a duality of opposition.

The aria is scored for alto voice, two obbligato oboes d'amore, strings, and basso continuo. This rich scoring is significant, as the overlapping register of the upper voices offers many possibilities for abrupt or gradual changes in texture. As seen in Table 1, a change of aria texture upon occurrence of a key text (in this case, the word *Stille*) accompanies the other major compositional devices between 65–75 percent of the time. In the transition from measure 18 to measure 19 (see Figure 5 below) Bach takes advantage of the many voices at his disposal, capping off a long melismatic passage over the text *Loben* with an abrupt shift in texture, moving from extreme extroversion in all voices to a sparse, yet intense introversion over the text *Stille*.

Bach's *Stille* figure is generally expressed with a limited ambitus in all voices and a reduction in ensemble texture. In this Bach is consistent with his other settings of *Stille* as well as those of his contemporaries, as can be seen in Table 1 when comparing the rates of frequency of the factors "melody: static" and "bass: pedal." It is tempting to ascribe the quick activity present on settings of "in der Stille" (cp. mm. 72–75, Figures 10 and 11) to a spillover effect from the more jubilant setting of *Loben*. However, in the larger investigation into *Stille* beyond the context of this single work active accompaniment figuration as seen in mm. 72–75 is consistent with sacred settings of *Stille* in other works of Bach and his contemporaries. As shown in Table 1, an active accompaniment is one of the most significant compositional devices used across the entire database.

In addition to the static melody in the alto voice and active repetitive figuration in the accompanying instruments, the basso continuo loses its driving harmonic force, either fulfilling a pedal function (this figure is used throughout the aria, see especially mm. 27–30 [Figures 8 and 9], as well as parallel settings in mm. 64–67 and 80–83 [not shown]) or dropping out altogether on the text "in der Stille" (cp. mm. 19–22 [Figures 5 and 6] and 72–75 [Figures 10 and 11]). The solo voice often sustains a stable tone in a low or medium range (cp. mm. 28–30 and 72–80), allowing for expressive changes of dynamics, timbre, or color. Again, each of these compositional decisions has a statistically significant parallel in the database findings. It should be

stressed that Bach's setting of *Stille* was by no means a unique occurrence, as similar settings of the concept are to be found in the works of his contemporaries throughout the Lutheran musical culture.

After having identified a clear pattern of musical-textual communication, a musical semantic element, we can begin to ask into its meaning. The figure's compositional elements, though scaled back, by no means evoke an "emptiness." On the contrary, the rapid repeated notes on tense harmonies in the accompanying voices act as an intensification, drawing the listener in. In the context of this psalm text one could understand this image of *Stille* to be influenced by the silence-oriented Spiritualists and Pietists as a turning-away from the noise of the world, turning instead toward silence, concentration, and God. It could also be read through the lens of Bach's orthodox Lutheran employers, as the silent fervor in which jubilant prayer takes place. While it is clear that this musical-textual figure bears a communicative element, further research and deeper contextualization is necessary in order to approach its meaning. This is especially true as the meaning of this psalm text was subject to debate even among 18th-century theologians. In Johann Hunger's 1721 *Biblisches Real-Lexicon* he describes his reservations in providing a definitive interpretation:

Diese Worte Davids sind fast allen Auslegern so schwer gefallen, daß sie nicht gewußt, wie sie sich heraus wickeln, und sie erklären sollen; auch die Hebräer nicht. [These words of David have been so difficult for almost every interpreter, that they did not know how to deal with them, nor how to explain them; not even the Hebrews].¹⁷

In contrast, Bach's *Loben* (seen here in mm. 23–25 [Figure 7] and 31–32 [Figure 9]) is predictably represented with quick melodic figures, dotted rhythms, an effervescent basso continuo, and jubilant melismatic passage work in the solo voice and obbligato oboes. The musical setting is unmistakably celebratory. Bach's setting of *Loben* seems to correlate especially well with the decidedly public version of worship approved by his employers. This triumphant *Loben*, "making a joyful noise unto the Lord," is consistently presented in combination with a thinning of the accompaniment texture. Bach thus further emphasizes the lightness of *Loben*'s melodic motion in contrast to the static omnipresence of *Stille*.

Working with such distinct and recognizable musical figures, Bach is also able to juxtapose elements of the two opposing concepts temporally. The *Loben* melisma in the voice (mm. 84–85 [Figure 11]; see also mm. 7–8 and 23–24) is accompanied by an impressive stepwise ascent over the oboe's entire two-octave range, while the relevant accompanying oboe voice also has a very active figure—repeated 16th notes at a mostly fixed pitch, reminiscent of the static activity characterizing the figure of *Stille*. In this way, Bach could be understood to be layering the noise and activity of *Loben* on top of the intense silence of *Stille*, corresponding to the Augustinian view of silence as an active form of *schweigen* (remaining silent). Augustine (and thus Luther,

17 Johann Hunger, *Biblisches Real-Lexicon* [...] (Chemnitz: Conrad Stößeln, 1721), 1481–82.

v.s.) viewed silence not as something which commences after one has finished speaking, but rather as an ever-present state, a silent and parallel anti-speech which can be heard when speech is interrupted.¹⁸

Bach's "textbook example" of *Stille* is somewhat misleading in its near-comprehensive exhibition of all the musical factors significant to this musical-textual pattern (here summarized: rests or a pedal tone in the bass line, a note sustained in a low register in the solo voice, a generally reduced texture, and rapid harmonically-stable figuration in the accompaniment). As shown in Table 1, most other examples use only a selection of these factors to communicate *Stille*. This communicative pattern could therefore be understood, rather than a fixed formula, as a constellation of various compositional options available to a composer in order to express a specific textual concept (along with any associated extra-textual meanings or associations) using the language of music.

For the purposes of this article I have limited my discussion to the musical-textual expression of *Stille* as a noun in a sacred context. However, the communicative pattern described above is only one example of the many figures used to illustrate the several types, terms, and environments of *Stille*. Additional figures I have isolated, using my database as a tool of quantitative analysis, include a figure used to underline textual imperatives of "*Stille!*", a musical-textual figure consistently associated with the term *Ruhe*, and an interesting division in the use and settings of various terms of silence in sacred and secular environments.

In conclusion

Musical semiology is a notoriously hermeneutical discipline. However, using the methodology I have developed it becomes possible to use quantitative methods to approach the consistent musical patterns of communication that composers employed to present their interpretations of certain textual elements. Recognizing musical patterns used to accompany text represents a "reverse engineering" of compositional intention and offers a unique insight into sub-textual levels of understanding, to which we would not otherwise have access. My creation and use of a database to carry out a meta-analysis of individual setting analyses of single textual elements in order to determine representative semiotic patterns is an original contribution to the musical discourse. A similar method exists in the visual discourse in the field of iconography, the analysis of historic visual imagery,¹⁹ although this method has never before been applied to music at this scale. This method, by extension, could thus be called *musical iconography*. Using one example, the textual element *Stille*, I tested a significant body of works and uncovered various elements making up the musical vocabulary of the set and consistent musical semiotic in which composers were working. As with any quan-

18 G. Wohlfart, "Schweigen, Stille," in *Historisches Wörterbuch der Philosophie*, vol. 8, ed. Karlfried Gründer (Basel: Schwabe Verlag, 1992), 1484–85.

19 See the ICONCLASS database, a massive classification system recording the presence of attributive individual elements in a visual composition: www.iconclass.nl.

titative method, informed interpretation is indispensable. Being able to use this quantitative approach in addition to conventional qualitative analysis strategies provides a degree of objectivity that is more universal than the “gut feeling” of performers and provides evidence to support or refute theoretical hypotheses.

By applying quantitative methods to settings of text in music, patterns of representation emerge which challenge our understanding of seemingly self-explanatory concepts. By itself, the textual element *Stille* could be thought of as a certain state of calm or absence. However, when set to music in a sacred context the concept takes on a consistently and surprisingly active aspect. This discrepancy gives us a unique and perhaps surprising view into the composer’s understanding of the concept and offers an opportunity for interdisciplinary contextualization.

As I continue my research I am aware that I am exploring new ground. It is my hope that the indications of my research and description of my statistical method will generate discussion on this topic and help refine the method, which is in its initial stages of development. The absence of precedent for this methodology in historical musicology opens up the possibility of establishing *musical iconography* as a truly unique interdisciplinary field.



Figure 5: BWV 120/1, mm. 17–19.²⁰

20 Johann Sebastian Bach, *BWV 120: Gott, man lobet dich in der Stille*, ed. Alfred Dörffel (Leipzig: Breitkopf & Härtel, 1876), plate B.W. XXIV. (Public domain).

Figure 6: BWV 120/1, mm. 20–22.

Figure 7: BWV 120/1, mm. 23–25.

Stil-le zu Zi-on, in der Stil-le, in der Stil-le, in der Stil-

Figure 8: BWV 120/1, mm. 26–29.

le, man lo-

Figure 9: BWV 120/1, mm. 30–32.

in der Stil - - - le, in der Stil - - -

Figure 10: BWV 120/1, mm. 72-74.

- le, in der Stil - - -

Figure 11: BWV 120/1, mm. 75-77.

The musical score for BWV 120/1, measures 84-86, is presented in a multi-staff format. The key signature is G major (one sharp) and the time signature is 3/4. The score includes a vocal line with the lyrics "Gott, man lo - bet dich in der Stille" and several instrumental parts. The vocal line is written in a soprano clef, and the instrumental parts are written in treble and bass clefs. The music features complex rhythmic patterns, including sixteenth-note passages and sustained chords.

Figure 12: BWV 120/1, mm. 84–86.