Research Article

Elisabeth Frank*

Simultaneity of the Senses in the "Sirens" Chapter: Intermediality and Synaesthesia in James Joyce's *Ulysses*

https://doi.org/10.1515/culture-2024-0020
received November 29, 2023; accepted July 24, 2024

Abstract: This article explores intermediality and synaesthesia in James Joyce's *Ulysses*, particularly focusing on the "Sirens" chapter. It examines how Joyce, akin to Johann Sebastian Bach's innovative musical techniques and Richard Wagner's *Gesamtkunstwerk* concept, weaves a rich tapestry of sensory experiences through his narrative. Joyce's use of intermedial techniques transcends traditional literary forms, creating a synaesthetic experience that blends visual and auditory elements. With this approach, he manages to convey a sense of simultaneity and polyphony that resembles a musical harmony, which is demonstrated through a detailed analysis of the structure, motifs, and thematic elements of the chapter. The article highlights how Joyce's own innovative narrative techniques mirror musical composition techniques by Bach and Wagner, particularly in their use of fragmented polyphony, *Klangfarbenmelodie*, the alliterative preparation of words, leitmotifs, and thematic development, offering a reading experience that challenges and expands the boundaries of literary expression.

Keywords: James Joyce, *Ulysses*, intermediality, synaesthesia, polyphony in literature, musical motifs, Richard Wagner, Johann Sebastian Bach

1 Introduction

On May 7, 1747 during the preparations for an evening concert of chamber music in his court in Potsdam, Frederick the Great, King of Prussia, got an unexpected visitor: Johann Sebastian Bach. The King, who was an avid musician and composer himself, was a great admirer of Bach's compositions, which at the time were thought to be "turgid and confused" (Hofstadter, 1979, p. 11), while others claimed they were "incomparable masterpieces" (p. 11).

Without giving Bach a chance to rest after his long journey, his improvisational skills were put to a test, when the King gave him a long and complex theme that Bach was asked to improvise upon. Unpremeditated, Bach extemporized a three-voice fugue – a huge feat in itself – but was then challenged by the King to do a six-voice fugue. Bach responded that he needed to work longer on such a complex theme, but not 2 months after his return to Leipzig he released a set of pieces based upon the King's theme, known as *The Musical Offering* (Wolff & Emery, 2024). The pieces comprise a three-part fugue, a six-part fugue, ten canons, and a trio sonata. The inscription addressed to Frederick II says "Regis Iussu Cantio Et Reliqua Canonica Arta Resoluta."[1]

1 Translation: "The theme given by the king, with additions, resolved in canonic style."

* **Corresponding author: Elisabeth Frank,** English Department, University of Innsbruck, Innsbruck, Austria, e-mail: elisabeth.frank@uibk.ac.at

Interestingly, the first letters reveal the acrostic "RICERCAR", which is the original name for the fugue, but also the Italian word for "search" (Walker, 2001). Bach posed a challenge for the King to look for riddles hidden in his *Musical Offering*, as "it was a familiar musical game of the day to give a single theme, together with some more or less tricky hints, and to let the canon based on that theme be 'discovered' by someone else" (Hofstadter, 1979, p. 16).

What does this have to do with James Joyce's novel *Ulysses* and in particular with its eleventh chapter? Just as Bach was capable of posing riddles in a musical piece, hiding his own name in his musical works (the BACH motif), providing hints and instructions to solve the riddle fugues and offering multiple ways to read and interpret them, Joyce provides his readers with the necessary instructions to help understand the approximation of literature and music that he carefully managed to weave into his "Sirens" chapter. It is unanimously agreed upon that "Sirens" is a very musical piece of writing. Not only is the presence of music palpable on the *histoire*-level of the chapter, including but not restricted to quotes from songs, descriptions of music, instruments, singers, and other sounds and noises, but it is also noticeable on a more subtle, structural, and formal level.

Due to the apparent musicality of the chapter, there are numerous scholarly works on Joyce's incorporation of music and song into his literary works, which are notable for their immense range, readings as well as intermedial and musical approaches that go beyond identifying the songs used in the "Sirens" chapter.[2] In his monograph *Joyce and Wagner: A Study of Influence*, Martin (1991) examines Richard Wagner's influence on Joyce's narrative style, emphasising the interplay of literary and musical forms, Joyce's ironic treatment of Wagner and his ideas on the participation of the audience as the "sole enablers of [the] artwork's Becoming" (Wagner, 1966, p. 338). Both Wagner and Joyce presuppose an audience that requires a certain kind of "cultivation" (Martin, 1991, p. 3) and "teaching" – assuming that the audience not only *needs* to be taught, but *can* learn new ways of perceiving, reading, and interpreting in the first place.

The contributions by O'Callaghan (2009, 2011, 2018, 2022) and Wood (2007) deal with the complexity of the interpretation of musical techniques and "verbal music" in Joyce's work. They discuss how Joyce's unique use of verbal music challenges traditional reading practices and invites readers to engage with the text in a more spatial, non-linear, layered, and polyphonic way.[3] Building on this preliminary work, this article also addresses these themes, examining how Joyce's work employs spatial and non-linear structures and layered meanings.

Joyce's paratextual designation in the Gilbert schema for this chapter (*fuga per canonem*),[4] which invited such polyphonic readings, has been a source of disagreement among Joyce scholars since the beginning. Here, Wood and others have suggested other genres and formal structures such as the opera, a medley, or a sonata (Wood, 2007, p. 71). The publication of the Joyce papers in 2002, now in the National Library of Ireland, ended a decades-long debate about whether the term *fuga per canonem* is a fabricated claim attributed to Joyce. Brown (2013) demonstrates unequivocally that Joyce used the entry on the fugue by Ralph Vaughan Williams from the *Grove's Dictionary of Music and Musicians* (1906) to make his notes on the fugue, which then gave structure to the disputed "Sirens" chapter. Brown makes some plausible assumptions about Joyce's technique of speed-reading and note-taking that shed light on his writing method. By concentrating on words that stood out typographically and passages that were "in Italian, related to people or presented interesting turns of phrase" (Brown, 2013, p. 189), they found their way into his notes and later into the finished text. Brown's findings are expanded by Patrick Milian's discussion (2016) on how Joyce uses intermedial methods to enrich textual experiences. Milian argues that Joyce draws parallels between musical and linguistic expressions in his works

2 See Bowen (1995). Bowen provides a thorough and detailed musical analysis of the "Sirens" episode in *Ulysses*. He focuses on capturing and contextualising the musical allusions, songs and quotations and explaining their meaning in their respective contexts in relation to Leopold and Molly Bloom and Blazes Boylan. In the "Sirens" chapter alone, he found 158 references to 47 songs. On the topic of intermediality, Wolf (1999) provides a theoretical framework for understanding the use of musical structures and analogies in fiction in his monograph, where he applies this directly to the "Sirens" chapter.

3 See also Fischer (1999).

4 See Levin (1965) and Zimmerman (2002). Both analyse how Joyce imitates musical forms such as the fugue and creates narrative structures that encourage the reader's auditory imagination.

that achieve a hieroglyphic iconicity and leitmotif function. In the present article, there will be a focus on how Joyce's use of typographically distinct words and phrases resembles hieroglyphic symbols, creating layers of meaning and enhancing the synaesthetic texture of his prose.

In her monograph, *James Joyce and Absolute Music* (2018), Michelle Witen expands on the structural insights of the "Sirens" chapter in *Ulysses*. She elucidates that Joyce's copybooks reveal his creative method and illustrate his efforts to achieve a fugal structure in "Sirens". Witen also concludes that Joyce employs the term "fugue" in its most literal sense, portraying Bloom's profound temptation as the desire to escape from himself, his responsibilities, and his circumstances (Witen, 2018, p. 175). I suggest that the term "fugue", with its connotations of "fleeing" and "flight", contrasts with "ricercar", which means "to search" or "seek out", representing an ambiguous or bistable image known as a *Kippfigur*. Reading "Sirens" with this double meaning in mind, the chapter serves as a turning point from "flight" to "search", marking a change in perception and a return home viewed differently, as is common in fugal structures. The convergence of Blazes Boylan and Leopold Bloom in the Ormond Hotel Bar signifies this turning point, similar to the fugue's shift after the improvisational section, where perception changes. After all these wanderings, improvisation, and modulations of the fugal middle section, there "follows a natural desire for home – home seen anew, through eyes that have witnessed all the wonderful developments the initial theme has undergone as it reaches maturity" (Vaughan Williams, 1906, p. 120). This description of the fugue that, according to Brown (2013), was also available to Joyce, might have struck a chord with him due to its idea of *nostos* – or homecoming – that resonates with his attempt to structure *Ulysses* according to the *Odyssey*.

This article is about finding out how Joyce managed to convey an experience of simultaneity by using a conglomeration of intermedial methods that access musical themes, techniques, structures, and motifs to enrich the chapter with additional meaning. Building on previous research on the "Sirens" chapter, I would like to propose additional musical techniques that are intermedial and synaesthetic in nature. Especially Richard Wagner and his fascination for the etymology and alliterative preparation of words, an aspect that has not been the focus of any studies, is important in Joyce's writing and serves as a focal point throughout this study. Additionally, Johann Sebastian Bach's fugues, his fragmented polyphony and their interplay of voices, are crucial to understanding Joyce's technique.

Consequently, the immediate effects of these intermedial methods are of a synaesthetic and simultaneous nature. This study employs close reading as a methodological approach to unpack the layers of meaning and examine how Joyce's text engages with these intermedial strategies to create his multi-layered narrative. Furthermore, these effects can also be described with the help of semiotics and intermediality as well as cognitive literary and reading studies.

To help the readers notice these effects, Joyce prepares them for the multi-modal impressions of words, sounds, and images of the "Sirens" chapter by describing Stephen Dedalus' musings on the two main modes of human experience while walking on Sandymount Strand in the "Proteus" chapter: the ineluctable modalities of the visible and the audible (Joyce, 2000, p. 45), the *Nebeneinander* and the *Nacheinander*, space and time, simultaneity and sequence. Ironically, Joyce incorporates both, the visual and auditory aspects of human perception in a medium completely devoid of "real" images and sounds. And yet, the "Sirens" chapter is one of the most colourful and loud chapters of this novel.

2 Intermediality in "Sirens"

Before the "Sirens" chapter can be analysed on account of its presumed relationship to music, it has to be clarified to what extent a comparison of the two distinct media is even possible. The comparability of music and poetry is seldom questioned as they share common structural and formal devices, like metre, rhyme, rhythm, and repetition (O'Callaghan, 2009, p. 136). This raises the question about the comparability of music and other written works like prose or texts with a narrative structure.

Werner Wolf claims that literature and music share aspects that make them comparable, as they both are "conventionalized human signifying practices" (1999, p. 12). Distinguishing between vocal and instrumental, as

well as monodic and polyphonic music (p. 12), Wolf is of the opinion that vocal and monodic music is easier to transpose into language or literature than, e.g. instrumental and polyphonic music (p. 13) because vocal music combines musical and literary signifiers and monodic music is composed of only one voice that reminds the reader of the consecutive nature of written texts. Although Joyce did include vocal and monodic music in "Sirens" by quoting operas and Irish folk songs, the focus of this article lies on the medial transposition and simulation of instrumental and polyphonic music as it appears to serve Joyce's idea of representing simultaneity in literary texts – a medium that is usually experienced by reading words in a sequential and not in a simultaneous manner.

In most cases, (instrumental) music is self-reflexive and does not have any inherent, defined meaning, while words (usually) do: "musical meaning can be entirely self-referential and hence 'pure form', verbal language never can" (p. 26). However, techniques used by Joyce in the "Sirens" chapter, like defamiliarisation, repetition, and the accumulation of meaning, can destabilise the referential function of words (Taylor, 2004). The consequence of this is the approximation of literature and the self-reflexive qualities that are an inherent quality of (instrumental) music. Another effect is that the iconic and aural qualities of words are foregrounded while the lexical meaning is overwritten by new meaning that is progressively accrued and transformed throughout the chapter.

A point for comparison between musical and literary signifiers is that both are "originally of an acoustic nature" (Wolf, 1999, p. 15) and that they "unfold on the axis of time rather than space" (p. 15). This is an additional aspect to consider when mentioning the original acoustic nature of music's and literature's signifiers: Joyce's *Ulysses* is a new rendering of the *Odyssey* by Homer, a work that was composed in an oral tradition and was intended to be heard, not read. Regarding this, Sabine Gross claims that with the invention of written language, language is "freed" from oral restrictions:

> But writing was not invented to record speech, and its achievement lies less in subordination than in a liberation from the laws of speaking and hearing, which McLuhan has called a 'break between eye and ear' (Gross, 1994, p. 62, my translation).

With his linguistic experiments in "Sirens" Joyce tries to overcome the dichotomy of the eye and the ear by putting an emphasis not only on the acoustic nature of language but also on its visual, iconic character. The synchronisation of both is Joyce's objective in the "Sirens" chapter. Thus, the experiments in "Sirens" hint at readers' capability of parallel processing of events and conversations in the Ormond Hotel bar.

Joyce employs intermedial methods by referencing musical techniques such as fragmented polyphony, spatialisation of the page, layering, accumulation, and alliterative coating of the text, as well as evoking the effect of *Klangfarbenmelodie* (sound-colour melody) and *Klangteppich* (sound carpet) as synaesthetic techniques. This type of intermedial references, *references via transposition*, can be observed in three forms: *evoking*, *simulating,* and *(partially) reproducing*. It is the reproduction of certain elements and structures and the partial compliance with certain rules of the referenced system that gives this technique its intermedial quality (Rajewsky, 2005, p. 55). The medial difference between the distinct systems, which can be pointed out and commented on with an explicit reference, becomes relevant because it can either not be overcome at all or only ever in the form of the "as if" (p. 55). The discursive *simulation* of another medium within a text is done by imitating, e.g. a musical quality that changes the character of a text (such as its typography or layout), trying to approximate altermedial ways of representation on a discursive level. The linguistic system is modified in order to activate readers' media recognition and experience, as is demonstrated in the "Sirens" chapter, where imitating an auditory medium with the medial means of a linear text, changes the rules of the textual medium and becomes typographically distinctive. The objective for the simulation and mediation of experience involves the imitation or enactment of concrete, cognitive media and perceptual frames as well as the drawing on perceptual schemata as they are known to the recipient on the basis of their media competence (Rajewsky, 2002) and, in this case, music experience.

Speaking of readers' capability of media recognition, besides the similarity of the acoustic qualities of their signifiers, another point of comparison between music and literature is that their acoustic signifiers can be converted into visual ones (Wolf, 1999, p. 15). Using this, the acoustic channel can be repeated and reproduced. This gives the impression that the "Sirens" chapter is designed to be read twice or as Bloom states: "Beauty of

music you must hear twice" (Joyce, 2000, p. 367). The initial framing of the chapter by beginning it with an "Overture" is peculiar as the first few lines can only be understood later when they are put into context in the chapter.

An overture is an introduction to an opera that is sometimes an independent, self-existing instrumental piece, and other times, it encapsulates core themes of the following opera (Walter, 2006, p. 434). A second reading is therefore necessary to understand the enigmatic beginning. In his theoretical works, Richard Wagner says about overtures in general that "the musical pieces, so it seems, wanted to tell the audience nothing other than that there will be some singing today" (as cited in Walter, 2006, p. 434). The problem here is that for the audience to understand the connection between overture and opera, they need to know the content of the following opera. Wagner sees the initial framing by overture as problematic, but for Joyce, the function of his "Overture" is to prepare his readers for the musical experiments in this chapter.

Additionally, similar to how Bach often paired keyboard fugues with preludes, he often used improvisatory compositions such as *toccatas* to showcase the dexterity of the artist before transitioning into a more structured fugue. Bach's toccatas for organ, in particular, are improvisatory and often followed by an independent fugue movement, serving in place of the usually more stable prelude (Caldwell, 2001). This practice of pairing toccata and fugue mirrors Joyce's technique in "Sirens", where the initial improvisational and enigmatic qualities of the beginning give way to the structured and intricate development of themes throughout the chapter.

Here, Bach's influence is made explicit because the entry for the fugue, written by Ralph Vaughan Williams in the 1906 edition of *Grove's Dictionary of Music and Musicians*, which was the basis for Joyce's notes, primarily uses Bachian fugues as examples. The entry on the fugue begins with a description of *fuga per canonem,* where it is described as a fugue or canon "according to rule" (Vaughan Williams, 1906, p. 114). Subsequently, the author of the entry decides to use Bachian fugues as an example, which are then described as being "contrary to the rules" (p. 115). This is significant because it highlights the tension between strict formal rules and creative deviation, reflecting Joyce's own approach to literary structure, which disrupts and transgresses them. By referencing Bachian fugues, which are renowned for their complexity and rule-bending nature, Joyce underscores his own innovative use of narrative techniques that both adhere to and subvert traditional literary conventions.

The text fragments at the beginning of the "Sirens" chapter are a good example of *media contamination*. *Media contamination* is an attempt to approach the communication and design principles of an altermedial system through text (Schwanecke, 2015), where, for example, the use of the design principles of a prelude, toccata, or overture, a presence of the narrative can be achieved that is reminiscent of the simultaneous nature of an orchestra. The reference system (e.g. music) and its rules are made a condition of narration. Comparing it to the (partially) reproducing transposition, the contaminated text "has no 'conventional' narration anymore" (Schwanecke, 2015, p. 277). Joyce's instructions to readers draw their attention to the material properties of the text and the page – but also to the margins and the overall layout, that is, the material and medial limitations of the book and written language in general.

Upon first hearing or reading, the words in Joyce's "Overture" remain without real meaning, and rather than their acoustic and visual quality, their material and materiality are foregrounded as "Joyce's modes of meaning-making incorporate symbolic reference as well as iconic and abstract qualities; his words appear as icon, symbol, and something purely sensible" (Milian, 2016, p. 178). The interpolation of synaesthetic expressions that also include tactile, aural, and visual properties like "Decoy. Soft word." (Joyce, 2000, p. 329) directs readers' expectations towards further inter-sensorial expressions that combine colours with, e.g. pitch, timbre (*Klangfarbe*) and other musical qualities. Examples of this include the synaesthetic description of Ben Dollard's singing voice "Black. Deepsounding. Do, Ben, do." (p. 330) as well as the description of a song: "Brightly the keys, all twinkling, linked, all harpsichording" (p. 340). The shortness of the lines in the overture additionally supports the visual and aural properties of the sound-intensive phrases. Generally, Cherubini's guidelines for a fugue subject, as noted by Vaughan Williams (1906), stipulate that it should be of moderate length – not too long to lose the listener's attention and not too short to be inconsequential. The subject should be sufficiently long to convey a distinct and compelling idea, yet concise enough for the memory to easily grasp and retain it. This balance ensures the subject can capture and hold the listener's attention each time it is heard, reinforcing

its impact and memorability (Vaughan Williams, 1906). This principle is evident in Joyce's use of short, impactful lines that serve as the thematic material developed throughout the chapter:

> A husky fifenote blew.
> Blew. Blue bloom is on the.
> Goldpinnacled hair.
> (…)
> Decoy. Soft word. But look: the bright stars fade.
> Notes chirruping answer.
> O rose! Castile. The morn is breaking. (Joyce, 2000, p. 329)

These short, sound-intensive phrases function to arrest the reader's attention, much like the subject of a fugue, which must be memorable and impactful despite its brevity. Milian states that the "creation of iconic words, words that accrue meaning over the course of the chapter beyond that of their symbolic function – take on motivic and even hieroglyphic effect as their usage comes to include both their imagistic referents as well as sound-based references" (2016, p. 181). This comes close to a function very similar to that of Wagner's *leitmotif*: the iconic words accrue meaning "in addition to their lexical meaning, their function becomes progressively iconic" (p. 181).

In *Ulysses*, leitmotivic phrases like "Bronze by gold" (Joyce, 2000, p. 328) and onomatopoetic expressions like "Jingle jingle jaunted jingling" (p. 329) accrue meaning throughout the chapter and "approximate the quality of simultaneity by invoking both conventionally understood images as well as semi-musical valences" (Milian, 2016, p. 182). These iconic as well as aural phrases are highly intertwined with the voices and instruments established in the overture or the score of the "Sirens" chapter. The spatialisation of the text, in which words and sentences are carefully selected for their visual characteristics and typographical distinctiveness in order to evoke auditory and visual impressions, enhances the reader's perception of simultaneity and depth, which will be explained in more detail in the following section.

3 The Convergence of Aural and Visual Elements in Joyce and Wagner

Where everything comes together – the sequential and the simultaneous, the aural and the visual, the *Nebeneinander* and the *Nacheinander* – is in the score. The score generally consists of several instrumental and vocal parts that are horizontally written out as musical signifiers and vertically arranged on the sheet. It is used to notate polyphonic music so that it can be recorded, studied, and performed. Additionally, the composer or the musician is provided with information on how the musical piece is to be performed. The aural and visual planes are simultaneously represented by the musical symbols that are characterised by their vertical and horizontal reading directions depicted in the score. Studying the score, reading it more than once, being able to not only read it horizontally, in its linearity, but at the same time vertically, establishes the beginning – the "Overture" – as a visual and acoustic tapestry of sound. How can this musical device be transferred onto written works like *Ulysses*?

In her monograph, *Lesezeichen,* Gross (1994) explains that it is indeed possible to read texts not only in a sequential but also in a simultaneous manner similar to a musical score: "Syntax is linear, language a sequence of signs: but in emphasising the sequential, it is easily overlooked that texts initially represent an arrangement of signs on a surface" (p. 61, my translation). By establishing the beginning of the chapter as a score and the page as a space, Joyce prepares the reader for further intermedial experiments with literature and music. While the eleventh chapter constitutes the pinnacle of Joyce's musical experiments that the reader was carefully prepared for in earlier chapters, he also slowly approached the representation of simultaneity with words on a much simpler level than the score. By using palindromes, anagrams, or acrostics, like the one Bloom gives to Molly that vertically spells out "POLDY" (Joyce, 2000, p. 792) or the acrostic reading of "Love's

Old Sweet Song" (Joyce, 2000, p. 91), Joyce establishes reading directions that are different from the usual left-to-right reading directions common in Western literature. Parallel processing of different reading directions is therefore entrenched in the reader's reception of the "Sirens" chapter.

The self-referential sounds detached from semantic meaning at the beginning of the chapter are an example of experiments that challenge the recipient's reading habits: "The greater the semiotic and material changes in a literary text's prototypical discursive structure, the more experimental and unusual the resulting artefact" (Schwanecke, 2012, p. 9). Here, the aural and visual properties of words are put into focus. These semiotic and material changes, the use of ellipsis, exclamatory remarks, and onomatopoetic or melodic phrases constitute Joyce's attempt at establishing the page of a book as a tapestry of sound represented by words:

> What at first might seem like a renunciation of syntax, as an omission of the usual sentence connections, is an attempt to semantise space and surface and to develop a multidimensional spatial syntax. The transformation of 'neighbourhood relations' between hosts aims for 'text surfaces' instead of 'text chains'. (Gross, 1994, p. 67, my translation)

Just like the musical score, the beginning of the "Sirens" chapter "requires a synchronisation of simultaneity and sequence" (Wolf, 1999, p. 15). It needs the "eye" and the "ear" to understand the chapter in its entirety. Here, Gross' description of two theories about cognitive reading research elucidates what happens when trying to decode a literary text:

> In cognitive reading research, there are two theories regarding text comprehension: according to one, the process goes from visual encoding to sound – that is, spoken language – to meaning (indirect access); according to the other, the phonetic level plays no role in comprehension: the meaning is retrieved solely through the written image (direct access). Experienced readers seem to use both strategies in parallel (dual-route conception). (Gross, 1994, p. 62, my translation)

An example from the "Sirens" chapter illustrates the reader's capability of parallel processing or dual-route conception during the reading process: "For only her he waited. Where? Here there try there here all try where. Somewhere." (Joyce, 2000, p. 355). While the ear only understands the aural properties of this sequence "on the axis of time" (Wolf, 1999, p. 15), the eye simultaneously sees the aural and visual relation of the words. This is a technique that is often used by Joyce, especially in the "Sirens" chapter.

A similar technique has been described and developed by Richard Wagner. Wagner not only influenced fin-de-siècle aesthetics and literature, but Timothy Martin, in his monograph *Joyce and Wagner: A Study of Influence* (1991), points out that he also had been a great influence on James Joyce that is traceable in his written works. Joyce's library in Trieste included 15 books either written by or about Wagner (Martin, 1991), in which he explained his theoretical ideas on the synthesis of the arts, the synthesis of art and life as well as his thoughts on the understanding of speech and written language. In a letter to Harriet Shaw Weaver Joyce talks about some Wagnerian techniques he allegedly used in the "Sirens" chapter:

> I finished the Sirens chapter during the last few days. A big job. I wrote this chapter with the technical resources of music. It is a fugue with all musical notations: *piano*, *forte*, *rallentando* and so on. A quintett occurs in it, too as in the *Meistersinger*, my favourite Wagner opera [...] (Joyce, 1975, p. 129).

In his work, *Oper und Drama* Wagner describes his idea of the *Gesamtkunstwerk* that tries to compensate for the predicament he sees in the language of literature. He explains the dilemma that written words insufficiently represent the physical, sensual, and synaesthetic qualities of the spoken word and that true emotions and orality can never be adequately translated into written text. Overcoming this predicament of the ear (the spoken word) and the eye (written language) with intermedial means Wagner tries to not only concentrate on the phonetic and acoustic, but also on the visual and graphic qualities of language. While he dismisses the end rhyme as an unnatural feature of pseudo-orality, Wagner chooses alliteration, assonance and the anagram as well as the etymology of words as devices to express true emotions and ideas:

> Wagner describes these language roots, or root words, as primal points of indifference in which culture and nature, intellect and emotion, the signifier and the signified, codes and communication coincide. (Murasov, 1994, p. 32, my translation)

The starting point of his intermedial procedure is "the prose of common, everyday language" (p. 32, my translation) which has to be transformed by three necessary steps. For language to express its primal, sensual, and oral qualities, everyday language has to undergo a *Verdichtung* – a condensation and reduction until only necessary, quintessential words remain: "Unnötiger, toter Wortballast muss beseitigt werden"[5] (p. 34). The unit that Wagner chose to measure the length of such condensed phrases is the time needed to take a breath. Looking again at the phrases used in the "Overture," the length of the lines corresponds with Wagner's idea of the breath as a measuring device.

The second step consists of conveying musical rhythm and cadence on the phrase. This involves adjusting phrases to fit a musical rhythm by changing and defamiliarising certain words: "Where bronze from anear? Where gold from afar? Where hoofs?" (Joyce, 2000, p. 330). This example shows that by using prosthesis, the addition of a syllable to a word like "near" to "anear", the rhythm of the phrases can be kept intact and the whole sequence obtains a musical quality. The third and most important step is the "coating" of the text with a network of alliteration and assonance. The reduction of complexity on the syntactical level and the incorporation of the musical rhythm facilitate that

> language accents fall only on those linguistic components 'in which the purely human, emotionally graspable content is most decisively expressed; they will therefore always fall on those significant language roots, in which originally not only a purely specific object, but also the sensation was expressed.' (Murasov, 1994, p. 34, my translation).

It is important to note that this happens not only on the phonetic-acoustic but also on the visual-graphic side (p. 34). This is why alliteration and assonance are an important feature in Wagner's poetics; they not only activate readers ears, but also their eyes: "der Stabreim [empfiehlt] dem Auge des Gehörs die verwandtschaftlichen Verhältnisse"[6] (p. 35). Just as Sabine Gross explained that the different reading directions establish the page as a space and specifically arranged words as tapestries of sounds and words, Wagner described a very similar concept 170 years earlier.

One example that encompasses Wagner's idea of the synaesthetic qualities of language are the following sections from the second part "Die Walküre" of the epic music drama *Der Ring des Nibelungen*:

SIEGMUND	SIEGMUND
immer lebhafter	*increasingly animated*
Ein trauriges Kind rief mich zum Trutz:	A sorrowing child had called me to arms:
vermählen wollte der Magen Sippe	her kinsmen's clan was wanting to marry
dem Mann ohne Minne die Maid.	the maid, unloved, to a man.
Wider den Zwang zog ich zum Schutz,	To meet that force I flew to her aid;
der Dränger Tross traf ich im Kampf:	the horde of oppressors I faced in battle:
dem Sieger sank der Feind.	the enemy fell to the victor.
Erschlagen lagen die Brüder:	Her brothers lay there slain:
die Leichen umschlang da die Maid,	the maid enclasped their corpses;
den Grimm verjagt' ihr der Gram.	grief drove out her anger.
[...]	[...]
Winterstürme wichen	Winter's storms have waned
dem Wonnemond,	at May's awakening;
in mildem Lichte leuchtet der Lenz;	Spring is aglow with gentle light;
auf linden Lüften leicht und lieblich,	on balmy breezes, light and lovely,
Wunder webend er sich wiegt [...].	working wonders he wafts this way [...].
(Wagner, 2010, pp. 129–134)	(Wagner, 2010, pp. 129–134)

5 Translation: "Unnecessary, dead verbal ballast must be eliminated."

6 Translation: "the alliteration recommends to the eye of the ear the relationships of kinship."

Wagner describes *Tonsprache* (musical language) not just as *Zeitkunst* (the art of time), but as *Raumkunst* (the art of space) as well. His theoretical works are full of comparisons with area, surface, plane, and space when describing *Tonkunst* (the art of music). Harmony for Wagner is not "primär … eine vertikale Struktur, sondern … eine *flächige Ausdehnung*" (Murasov, 1994, p. 35, my emphasis) – i.e. it is not a vertical structure, but a *planar expansion* (my emphasis). This example shows his attempt to create tapestries of sound that work on an aural as well as visual level because of his utilisation of alliteration and assonance. Clearly, the examples above by Wagner show certain parallels with Joyce's own writing in *Ulysses*.

> Bloom signed to Pat, bald Pat is a waiter hard of hearing,
> to set ajar the door of the bar. The door of the bar.
> So. That will do. Pat, waiter, waited, waiting to hear,
> for he was hard of hear by the door. (Joyce, 2000, p. 352)

> – Come on, come on, Ben Dollard called. Begone, dull care. Come, Bob.
> He ambled Dollard, bulky slops, before them (hold that fellow with the: hold him now) into the saloon. He plumped him Dollard on the stool. His gouty paws plumped chords. Plumped stopped abrupt. (Joyce, 2000, p. 344)

Passages like the above-mentioned activate readers' eyes and ears at the same time and create a visual and aural *Klangteppich,* a tapestry of sound. This is particularly evident in the constant beat that emphasises the events in and around the Ormond Hotel Bar. Ben Dollard is frequently compared with a timpani – a big kettledrum that is made out of skin that is spread over a huge bowl: "Trousers tight as a drum on him. Musical porkers. Molly did laugh when he went out." (p. 348). A drum's timbre is usually quite dark, warm, and booming – just as Ben Dollard described: "Black. Deepsounding. Do, Ben, do." (p. 330). He is also characterised by using a lot of words with strong-sounding vowels that not only sound loud but also "look" big and loud:

> — Come on, come on, Ben Dollard called. Begone dull care. Come, Bob. He ambled Dollard, bulky slops, before them (hold that fellow with the: hold him now) into the saloon. He plumped him Dollard on the stool. His gouty paws plumped chords. Plumped, stopped abrupt (p. 344).

Letters like B, D, and O for example are associated with Ben Dollard's presence in the chapter. Paragraphs about "Big Ben" Dollard are easily spotted as they differ visually from the rest of the text and also sound very imposing. Ben Dollard's girth is referenced throughout the chapter and the way he talks as well as the iconic quality of words used to describe him emphasise his stature.

4 Joyce's Polyphonic Writing Inspired by Bach

Fischer (1999), Wood (2007), as well as Wolf (1999) thoroughly investigate Joyce's attempt at polyphonic writing. Operating from the fact that words cannot be read simultaneously, while music can be read in that manner, they identify several techniques in Joyce's writing that overcome this predicament, while stating at the same time that this simultaneity or spatialisation can only be approximated in literary texts. The sequential, monodic nature of texts can only suggest polyphony but never achieve it. This section will examine the musical techniques employed or referenced by Joyce to convey a sense of "quasi-simultaneity", simulating the experience of perceiving multiple speakers, sounds or noises concurrently. Drawing from the foundational research of scholars such as Fischer (1999), O'Callaghan (2011), Wood (2007), Wolf (1999), and others, who extensively studied Joyce's attempts at polyphonic writing, this discussion introduces additional techniques, like *Klangfarbenmelodie* and an elaboration on pseudo-polyphony.

First, Joyce tried to incorporate the pseudo-simultaneous fragmented polyphony by Johann Sebastian Bach to attempt the representation of simultaneity in literary texts. This intermedial reference to a historical technique of composition tries to simulate contrapuntal elements of music that are easily transferred into a literary text. This is accomplished by "the juxtaposition of 'contrapuntal' elements in rapid succession in order to simulate a (polyphonic) simultaneity of parts, though in reality only one chain of signifiers is present at a

time" (Wolf, 1999, p. 21). The linearity of narrative texts is comparable to monodic music, where only one voice can be played at once, but

> this restriction can be circumvented by the kind of 'fragmented' polyphony for which Bach is famous and which he used, e.g., in his sonatas and partitas for cello and for violin solo. In these works one continuous melody (similar to the ongoing text) repeatedly creates the impression of polyphony by constantly leaping between different pitches, thus outlining passages which the listeners will attribute to different parts, but whose complete melodies are only formed in their mind. (Wolf, 1999, p. 21)

This musical technique, described by Werner Wolf and applied by Andreas Fischer, creates the illusion of polyphony and is sparingly used throughout the "Sirens" chapter. One of the most prominent examples of this technique is in the middle of the chapter, where the description of Simon Dedalus just having finished "All Is Lost Now" from Flotow's opera *Martha* turns into a round of applause and exclamations from his audience:

> Siopold! [...]
>
> —Bravo! Clapclap. Goodman, Simon. Clappyclapclap. Encore! Clapclipclap. Sound as a bell. Bravo, Simon! Clapclopclap. Encore, enclap, said, cried, clapped all, Ben Dollard, Lydia Douce, George Lidwell, Pat, Mina Kennedy, two gentlemen with two tankards, Cowley, first gent with tank and bronze Miss Douce and gold Miss Mina. (Joyce, 2000, p. 356)

In this short passage, often cited by scholars to demonstrate the polyphony and simultaneity of "Sirens", Fischer refers to this as Joyce's "cutting and splicing" technique (1999, p. 47), while Wolf calls it the evocation of polyphony and claims that Joyce was trying to find a "textual correlative to musical polyphony in general" (1999, p. 134). The shouts of praise like "Bravo!" "Encore!" and the clapping of the audience are at first described successively, one after the other. This juxtaposition of the two sounds, shouting and clapping, is dissolved in the next step and both appear conflated in one word: "enclap" that encompasses the words "encore" and "clap". Bach's musical technique of fragmented polyphony is further developed to depict polyphony in only one blended word. Something similar is done with the exclamation of "Siopold!" Here the names Simon, Lionel, and Leopold are merged into one name indicating a similar emotional state of the three men. Simon is the singer and performer, Lionel is the object of Flotow's opera, and Leopold Bloom as a listener, and audience of this performance feels reminded of his first encounter with his wife, all while trying to subconsciously suppress the idea of her afternoon meeting with Blazes Boylan. Here, music expresses what cannot be said out loud or adequately put into words. The cathartic nature of singing and listening – of music in general – is represented in one exclamation of chords that conflates the names of the three men and makes their feelings harmonise for one moment in time.

Joyce achieves polyphony in a 'monodic', linear medium by accessing the design principles of other media such as register shifts, denoted by the alternating use of vowels, and multiple stops, which allow for the perception of multiple voices within a single text line. Pablo Casals remarked on this in Bach's solo cello works, noting how a single line can create the impression of melody, central voices, and bass all together (Blum, 1977). This technique, known as implied polyphony, compound melody, or pseudo-polyphony, resonates with Joyce's literary approach in "Sirens". Joyce explicitly references and attempts to simulate the musical technique of pseudo-polyphony as it is translatable into a linear medium, affecting only a small change in typographical rules and altering the text according to another medium's rules.

In the beginning of the chapter, the reader is encouraged to "Listen!" to the chapter. But as O'Callaghan (2009) points out, texts can only be read with the eyes open, so what is really needed here is to "seehear" (Joyce, 2000, p. 365) the events and performance played out in the Ormond Hotel bar. In addition to fragmented polyphony, Joyce also employs *Klangfarbenmelodie*, i.e. sound-colour melody, where different instrumental timbres are used to represent various characters and moods. Klangfarbenmelodie is a technique that uses "tone-colour as a structural element in composition" and is used, e.g. in the orchestration of Bach's six-part ricercare from his *Musical Offering* (Rushton, 2001). A melody or musical line is distributed across multiple instruments rather than being played by a single one. This method enhances the melody with additional color (timbre) and texture (Rushton, 2001).

This technique further enhances the synaesthetic experience of reading "Sirens" adding layers of auditory imagery to the visual and textual elements giving us insights into the character's mood and implied inner

thoughts that are not articulated out loud. By integrating this musical technique, Joyce enriches the narrative texture, creating a multidimensional reading experience that mirrors the complexity of a musical composition. He achieves this by not only designating an instrument to each character but also by assigning materials or colours that symbolise a specific timbre or mood associated with that character.

Characterising true harmony and polyphony, Johann Nikolaus Forkel, Johann Sebastian Bach's first biographer has described the language of music and the enhancing and enriching effects of interweaving different melodies:

> If the language of music is merely the utterance of a melodic line, a simple sequence of musical notes, it can justly be accused of poverty. The addition of a bass puts it upon a harmonic foundation and clarifies it, but defines rather than gives it added richness. … But it is a very different thing when two melodies are so interwoven that they converse together like two persons upon a footing of pleasant equality. … If more parts are interwoven in the same free and independent manner, the apparatus of language is correspondingly enlarged, and becomes practically inexhaustible if, in addition, varieties of form and rhythm are introduced. Hence harmony becomes no longer a mere accompaniment of melody, but rather a potent agency for augmenting the richness and expressiveness of musical conversation. … True harmony is the interweaving of several melodies, which emerge now in the upper, now in the middle, and now in the lower parts. (Forkel, 1920, p. 73)

Monodic music that consists of only one voice needs to be complemented by additional strands of music to clarify, define, and augment "the richness and expressiveness" of instrumental, polyphonic music. The same technique is used by Joyce in *Ulysses*, where he starts "Sirens" with the barmaids, gold Miss Kennedy and bronze Miss Douce, and interweaves other voices like "blue" Leopold Bloom, Simon Dedalus, Blazes Boylan, and booming Ben Dollard that are all represented in a different manner, regarding their designation of an instrument, leitmotif, pitch, and timbre. In his letter to Harriet Shaw Weaver, he mentioned that he included a quintet just like in his favourite Wagner opera *Die Meistersinger* which is scored for the following instruments: woodwinds (flute and oboes), brass (horns, trumpets, and trombones), percussion (timpani, bass drum, and triangle) and strings (harp and violin). Broadly speaking, Joyce assigned different orchestral sections to different voices or persons that are mentioned in the chapter.

Simon Dedalus is closely connected with woodwind instruments like flutes, tin whistles, and a shepherd's pipe – all instruments popular with Irish folk music. The brass section consists of Miss Kennedy and Miss Douce as they act as the trumpets and horns of the chapter. Ben Dollard, Blazes Boylan and the blind tuner compose the percussion as timpani, triangle, and bass drum, respectively. Bloom is the soloist of this musical performance. He combines different instruments, e.g. a violin represented by the little string around his fingers, but he is also described as a woodwind instrument when his flatulence sets in.

The most interesting and most elaborate orchestra section is the brass section – consisting of Miss Kennedy and Miss Douce – who represent the horns and trumpets of this orchestra. Throughout the chapter they are identified by their hair colours: "Bronze and gold" (p. 328). Both materials are commonly used in the brass section. Their leitmotif is the most used, most elaborated, transformed and interwoven of all the leitmotifs in the chapter. This leads me to believe that they form a kind of "baseline" or the first voice that is complemented by all other voices mentioned in "Sirens". The other voices interact and intertwine with the voices of the barmaids. The beginning of the chapter starts off with Miss Kennedy and Miss Douce, who hear the viceroy go by in his carriage: "Bronze by gold heard the hoofirons, steelyringing" (p. 328). This phrase already guides readers' awareness to the aural properties of the following events. But it also activates readers' visual expectations for the chapter by putting an emphasis on the colours of the barmaids' hair, as well as on the materiality of the sound-producing ringing steel: "Bronzelydia by Minagold." (Joyce, p. 364). The connection of colours, material, and the barmaids turns these phrases into icons and symbols at the same time. This situation is repeated throughout the chapter more than once, but also with slight variations of the original theme: "Bronze by gold, miss Douce's head by miss Kennedy's head, over the crossblind of the Ormond bar heard the viceregal hoofs go by, ringing steel." (p. 331). And another time the original elements from the first "performance" are repeated, but also varied, improvised upon and newly arranged: "Yes, bronze from anear, by gold from afar, heard steel from anear, hoofs ring from afar, and heard steelhoofs ringhoof ringsteel." (p. 332). The original theme "hoofirons steelyringing" is modified and "played" in a different version just like a musical motif and is progressively charged with musical cadence and assonance similarly to Wagner's concept

of foregrounding the synaesthetic qualities of language. With each repetition the original phrase becomes more musical or as Joyce puts it: "Two notes in one there. Blackbird I heard in the hawthorn valley. Taking my motives he twined and turned them." (p. 351).

A similar thing happens with the barmaids' leitmotif "Bronze by gold." Their emotional state is subconsciously portrayed by the connection of their respective colours and their brightness and darkness:

> Kennedy sauntered sadly from bright light, twining a loose hair behind an ear. Sauntering sadly, gold no more, she twisted twined a hair. Sadly she twined in sauntering gold hair behind a curving ear. (Joyce, 2000, p. 331)

Not only are the readers' auditory and visual faculties activated, but Miss Kennedy's emotional state is represented by her movement from bright light to "gold no more" as she moves further away from the window with the blinds drawn up. Here, the connection between mood and colour is made directly and very obviously, while later in the chapter the emotional state of Miss Douce, who is in a similar situation, is not explicitly stated. But by establishing the connection of emotional state, colour, and light, the reader is able to understand the implications and hints that are used later in the chapter.

Interpolated into the barmaid's sequence, similar to the "Tap. Tap." (p. 368) of the blind tuner in the second half of the chapter, Bloom is introduced into the situation. Every now and then, the action in the Ormond Hotel bar is interrupted by Bloom's walk to the bar. The descriptions of his surroundings are done in a manner that stands contrapuntally to the barmaid's giggling and shrieking and further develops what was previously established as the method of *Klangfarbenmelodie* (sound-colour melody). Just like the frequency of the taps by the tuner is increased, Bloom's name is elongated by adding different suffixes to his name: "A man," "Bloowho," "Bloowhose," "Blew Blue Bloom in on the," "But Bloom?" "Bloom. Old Bloom. Blue Bloom ins on the rye." (p. 331). This technique corresponds with Bloom's approximation of the Hotel bar. Bloom's story is slowly introduced and interwoven with the barmaids' theme. Bloom is used in a contrasting manner to the bright and shiny, shrill and shrieking golden Miss Kennedy and bronze Miss Douce. He is described as a dark, blue, shadowy creature. The colours synaesthetically represent the pitch that Bloom's string section is playing: "By Bassi's blessed virgins Bloom's dark eyes went by." (Joyce, p. 334). With his string around his fingers, he is the violin and the soloist of this performance, but remains mute: "But Bloom sang dumb." (Joyce, p. 356). There is no real "performance" by him. While the other characters of the chapter are portrayed as singing, laughing, shouting, and shrieking, but also tapping, clacking, and providing other sources of sounds, he mostly remains silent. His thoughts, though, are conveyed in a direct, free-flowing, fragmented, staccato-like manner:

> La la la ree. Trails off there sad in minor. Why minor sad? Sign H. They like sad tail at end. P. P. S. La la la ree. I feel so sad today. La ree. So lonely. Dee (p. 361).

This is also mentioned in the "Overture": "I feel so sad. P. S. So lonely blooming." (p. 329). Bloom muses on the emotional effect music in minor has on the listener. In this chapter, Bloom "Blew. Blue bloom" provides the minor scale (*Moll*) of the orchestra. His part is attributed to the themes "Love" which turns to "Loss" that is hinted at by the acrostic reading of *Love's Old Sweet Song*. His melody is interwoven with the barmaids' and later Boylan's melodies. The barmaids are the high notes, while Bloom provides the chapter with low-pitched sounds and a melody played in minor. This interplay of simultaneous events of the barmaids and Bloom is also already hinted at in the "Overture": "By bronze, by gold, in oceangreen of shadow. Bloom. Old Bloom." (p. 330).

The development from bronze and gold to blue and seagreen is illustrated in Miss Douce's character and her interaction with Blazes Boylan. This initially sunny and bright moment, which starts as a flirtation and is filled with descriptions of colours and light, like the 'syrup', ginger ale, and sunny bronze that is shimmering and mirrored in the gild-lettered bar mirrors, does not stay that way. After the private show Miss Douce performed for the two men, Boylan leaves immediately as he is already late for his afternoon meeting with Molly Bloom. Miss Douce, of course, does not know that and now wonders if he left because of her. Her mood changes drastically. She is disappointed by the encounter which is subsequently illustrated by the change of colour in her hair. She stands by the window and lowers the blinds, dimming the whole scene. Her fragmented, unfinished thoughts are juxtaposed with the actions described in the paragraph, but happen at the same time as performing them. With the darkening of the scene, the mind music produced by this section comes close to Bloom's performance of a minor scale:

> Miss Douce's brave eyes, unregarded, turned from the crossblind, smitten by sunlight. Gone. Pensive (who knows?), smitten (the smiting light), she lowered the dropblind with a sliding cord. She drew down pensive (why did he go so quick when I?) about her bronze, over the bar where bald stood by sister gold, inexquisite contrast, contrast inexquisite nonexquisite, slow cool dim seagreen sliding depth of shadow, *eau de Nil.* (p. 345)

A shadow is cast over the bronze and the gold and it becomes "seagreen" just as Bloom's oceangreen shadow (p. 330) of feeling lonely and sad in this dark hour. Miss Douce approximates Bloom's emotional state, which is represented by the colours used. The focus on her "brave eyes" also indicates that the visual qualities of this paragraph should be considered as well. The transformation of Miss Douce's leitmotif subconsciously represents her present mood, similar to the leitmotifs by Richard Wagner, but can be also seen as the previously mentioned *Kippfigur*, where her initial state of "flight" – represented by her flirtations and superficial interactions – shifts to a deeper, more introspective "search". This mirrors the chapter's overall movement from a fugue-like escape to a ricercar-like exploration. Her change in demeanour, moving from a focus on outward appearances to a more reflective mood, signifies this transformation.

5 Conclusion

Onomatopoetic and synaesthetic expressions, fragmented polyphony, *Klangfarbenmelodie*, *Klangteppiche,* alliteration, assonance, and *leitmotifs* – how did Joyce manage to incorporate musical techniques, structures, themes, and motifs into a written text like the "Sirens" chapter from *Ulysses*? It is needless to say that James Joyce's intermedial techniques go beyond mere thematisation and referencing of music, songs, and description of singers and instruments. Joyce proved that not only vocal and monodic music is transferable into text, but also that instrumental and polyphonic musical works can be "translated" into a written text using techniques developed by Johann Sebastian Bach and Richard Wagner and adapting them for literature. He does this by establishing the first few pages of the "Sirens" chapter as a score and "Overture"; he arranges the different voices and instruments, provides them with a recurring theme – their leitmotifs – and plays them time and time again, transforms them ever so slightly, and combines them with the other voices, until those leitmotifs accrue meaning that goes beyond their semantic function and activates their iconic and acoustic qualities.

The leitmotifs not only obtain a musical, aural function but also an iconic one. The conflation of the different voices, instruments, and their leitmotifs manages to represent a tapestry of sound that reminds one distinctly of polyphonic music. This way, simultaneous, parallel events, and conversations in the Ormond Hotel Bar can be depicted in a medium that usually is experienced in a sequential manner. By "coating" the text with alliteration, assonance, and other techniques that were already described and used by Richard Wagner, Joyce guides readerly awareness to the simultaneous, synaesthetic nature of the written word.

Just as Bach and Wagner were capable of writing polyphonic music, Joyce used the resources of music to achieve the same goal, only in the written word that is usually read in a sequential, monodic fashion. He took their techniques, transposed, and altered them so they would fit his means to depict simultaneity and polyphony in writing.

Author contribution: The author confirms the sole responsibility for the conception of the study, presented results, and manuscript preparation.

Conflict of interest: Author states no conflict of interest.

References

Blum, D. (1977). *Casals and the art of interpretation*. University of California Press.

Bowen, Z. (1995). *Bloom's old sweet song: Essays on Joyce and music*. University Press of Florida.

Brown, S. S. (2013). The mystery of the 'Fuga per Canonem' solved. *European Joyce Studies*, *22*, 173–193. http://www.jstor.org/stable/44871357.

Caldwell, J. (2001). Toccata. *Grove Music Online*. Retrieved 25 May. 2024, from https://www.oxfordmusiconline.com/grovemusic/view/ doi: 10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000028035.

Fischer, A. (1999). Strange words, strange music: The verbal music of 'Sirens'. In S. D. G. Knowles (Ed.), *Bronze by gold: The music of Joyce. Border crossings* (pp. 245–262). Garland Publishing.

Forkel, J. N. (1920). Johann Sebastian Bach; his life, art, and work *(translated from the German, with notes and appendices)*. Constable and Company Ltd. Retrieved November 10, 2023, from https://archive.org/stream/johannsebastianb00forkuoft#page/73/mode/1up.

Gross, S. (1994). *Lesezeichen: Kognition, Medium und Materialität im Leseprozeß*. Wissenschaftliche Buchgesellschaft.

Hofstadter, D. R. (1979). *Gödel, Escher, Bach: An eternal golden braid*. Basic Books.

Joyce, J. (1975). *Selected letters* (S. Gilbert, Ed.). Faber and Faber.

Joyce, J. (2000). Ulysses. Penguin Classics.

Levin, L. L. (1965). The Sirens episode as music: Joyce's experiment in prose polyphony. *James Joyce Quarterly*, *3*(1), 12–24. http://www.jstor.org/stable/25486536.

Martin, T. (1991). *Joyce and Wagner: A study of influence*. Cambridge University Press.

Milian, P. (2016). Bronze by Goldenhair: Music as language in Chamber Music and 'Sirens.' In M. Gold & P. Sicker (Eds.), *Joyce Studies Annual 2016* (1st ed., pp. 175–205). Fordham University Press. doi: 10.2307/j.ctt20krxc7.13.

Murasov, J. (1994). "Das Auge des Gehöres." Gesamtkunstwerk und Schriftlichkeit. Zu Richard Wagners 'Oper und Drama.' In H. Günther (Ed.), *Gesamtkunstwerk. Zwischen Synästhesie und Mythos* (pp. 29–54). Aisthesis.

O'Callaghan, K. (2009). Reading music, performing text: Interpreting the song of the Sirens. In M. Beja & A. Fogarty (Eds.), *Bloomsday 100: Essays on Ulysses* (pp. 137–149). University Press of Florida.

O'Callaghan, K. (2011). Mapping the call from afar: The echo of leitmotifs in James Joyce's literary landscape. In V. Bénéjam & J. Bishop (Eds.), *Making space in James Joyce* (pp. 173–190). Routledge.

O'Callaghan, K. (2018). 'That's the music of the future': Joyce, modernism, and the 'Old Irish tonality.' In M. Beja & A. Fogarty (Eds.), *Essays on music and language in modernist literature: Musical modernism* (pp. 32–47). Routledge.

O'Callaghan, K. (2022). Sirens. In J. Joyce & C. Flynn (Eds.), *The Cambridge centenary Ulysses: The 1922 text with essays and notes* (pp. 367–411). Cambridge University Press.

Rajewsky, I. O. (2002). *Intermedialität*. Francke.

Rajewsky, I. O. (2005). Intermediality, intertextuality, and remediation: A literary perspective on intermediality. *Intermédialités/ Intermediality*, *6*, 43–64. doi: 10.7202/1005505ar.

Rushton, J. (2001). Klangfarbenmelodie. *Grove Music Online*. Retrieved 27 May. 2024, from https://www.oxfordmusiconline.com/grovemusic/view/ doi: 10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000015094.

Schwanecke, C. (2012). *Intermedial storytelling: Thematisation, imitation and incorporation of photography in English and American fiction at the turn of the 21st century*. WVT Wissenschaftlicher Verlag.

Schwanecke, C. (2015). Filmic modes in literature. In G. Rippl (Ed.), *Handbook of intermediality: Literature – image – sound – music* (pp. 268–286). De Gruyter.

Taylor, J. (2004). Foreign music: Linguistic estrangement in 'Proteus' and 'Sirens'. *James Joyce Quarterly*, *41*(3), 407–419.

Vaughan Williams, R. (1906). Fugue. In J. A. Fuller Maitland (Ed.), *Grove's dictionary of music and musicians* (Vol. 2, pp. 14–15). The Macmillan Company.

Wagner, R. (1966). *Prose works* (W. A. Ellis, Trans., Vol. 2). Broude. (Original work published 1892–1899).

Wagner, R. (2010). *Wagner's Ring of the Nibelung: A companion; the full German text* (S. Spencer, Ed.). Thames & Hudson.

Walker, P. (2001). Fugue. Grove Music Online. Retrieved 22 May. 2024, from https://www.oxfordmusiconline.com/grovemusic/view/ doi: 10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000051678.

Walter, M. (2006). Framing and deframing the opera: The overture. In W. Wolf & W. Bernhart (Eds.), *Framing borders in literature and other media. Studies in Intermediality I* (pp. 429–448). Rodopi.

Witen, M. (2018). *James Joyce and absolute music*. Bloomsbury Academic.

Wolf, W. (1999). *The musicalization of fiction: A study in the theory and history of intermediality*. Rodopi.

Wolff, C., & Emery, W. (2024, February 21). Bach, Johann Sebastian. Grove Music Online. Retrieved 22 May. 2024, from https://www.oxfordmusiconline.com/grovemusic/view/ doi: 10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-6002278195.

Wood, L. (2007). Joyce's ineluctable modality: (Re)Reading the structure of "Sirens." *Joyce Studies Annual*, *2007*, 67–91. http://www.jstor.org/stable/26288708.

Zimmerman, N. (2002). Musical form as narrator: The fugue of the Sirens in James Joyce's 'Ulysses.' *Journal of Modern Literature*, *26*(1), 108–118. http://www.jstor.org/stable/3831654.