ARTICLES

Experiencing Notational Artifacts in Music-Making

Towards a Theoretical Framework

Giovanni Cestino

This article aims to lay the theoretical foundations to understand and analyze the multimodal relationship between artifacts incorporating music notation (score, parts, etc.) and their users over time. Although the framework I propose below could be suitable for all sorts of users (composers, performers, and even more "generic users"), the focus here is more on performers, for their relationship with "music books"—as I will point out below—has gone somewhat underappreciated within the musicological discourse. Based on specific theoretical stances, the structure of my interpretive model is articulated in four parts, each marked by complementary concepts usually coupled together: location and time, surface and space, sight and touch, ideology, function/use, and place—a last concept which brings the framework to a sort of circular ending. The case of a score of Arnold Schönberg's String Quartet no. 3 belonging to Austrian violinist Rudolf Kolisch (1896–1978) provides an example of how this model can be applied and allows for some further reflections on music reading in different music-making practices. Before delving into presenting the framework, it is worth contextualizing this approach in musicological discourse.

* This article stems from my doctoral research: Giovanni Cestino, "'Used Scores'. Linee teoriche e operative per l'indagine del rapporto tra esecutori e materiali performativi" (PhD diss., Milan, University of Milan, 2019). Translations are mine, when not otherwise specified.

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Hurdles, Turns, and Traces

In musicology, an approach to sources that focuses on their relationship with users has not yet led to an autonomous field of study. If one looks at the way our discipline developed, it appears that a conjuncture of scholarly trends has inevitably prevented such a perspective to develop, because it would require rethinking disciplinary concepts and methods. To begin with, musicologists regarded the most traditional forms of music writing—from medieval codices to twentieth-century sketches—as sources of information. Just a century after musicology's first cry from the cradle of literary studies, Nino Pirrotta opened one of his essays with the vitriolic words: "Musicology is a recent word … It is modeled, as others are, after the old and glorious name of philology."[1] In more recent times, Nicholas Cook reiterated that "the primary sources [for musicologists] are documents, and the principal methods for working with them are archival research and close reading—the same techniques on which historical and literary studies are based."[2] In the triangle of music philology, analysis, and history, we interrogate written documents as records of something *other* than themselves: first and foremost sounds, but also events, ideas, and much else. Therefore, a traditional investigation of sources prioritizes content, or rather every meaning we can extract from it. Music philology investigates how musical texts were created and transmitted over time and considers sources as "steps" in that process. In this case, the material features of a source are functional to a better understanding of its content and tradition. Music analysis, for its part, aims to disclose a musical meaning to be first read on the page, rather than heard in the sound. All the materiality of scores, in this task, simply goes unnoticed. Lastly, music history exploits every kind of sources in order to understand the past. When sources regain their material condition, it is to elucidate their own history as objects, as happens in the cultural history of music publishing.

Source-based and content-oriented branches in musicology proliferated under a variety of historical conditions and disciplinary reasons, but ultimately resonated with the long-standing problem of music's ephemerality. Musicological emphasis on music writing as a primary tool for formalization, retrieval, and creativity reflected the effort to bring the understand-

[1] Nino Pirrotta, "Ars Nova and Stil Novo," in *Music and Culture in Italy from the Middle Ages to the Baroque: A Collection of Essays* (Cambridge, MA: Harvard University Press, 1984), 26.

[2] Nicholas Cook, *Beyond the Score: Music as Performance* (Oxford: Oxford University Press, 2013), 249.

ing of music closer to that of the non-performing arts. Beyond the many merits, the most evident risk was the "textualist bias,"[3] namely the attitude for which "for generations musicologists have behaved as if scores were the only real thing about music."[4] In this respect, a consistent shift occurred in recent decades, when a turn in historical musicology shifted the emphasis from texts to performances and from composers to performers, thus "writing performance into the mainstream of musicology [considered as] the key to completing the job that the 'New' musicologists began."[5] Therefore, in many of the studies on performance, recordings replaced old scores and became the new texts to be scrutinized with the most sophisticated tools—the new bread and butter to produce written statements on music-making.[6] The overall direction of this new paradigm was perfectly summarized in the iconic title of Nicholas Cook's book—namely to go "beyond the score." Once the old proposal of an identification of "music as text" had been changed in the new "music as performance," scores were downgraded to quasi theatrical "scripts" for interactions among performers.[7] Despite some recent attempts

[3] The expression appears in Eric Alfred Havelock, *The Muse Learns to Write: Reflections on Orality and Literacy from Antiquity to the Present* (New Haven: Yale University Press, 1986), 123. In musicology, we can find an instance of it in an essay by Angela Ida De Benedictis, although in that context it is used to stigmatize the alleged superiority of the traditional forms of writing on other forms of textuality, such as magnetic tapes in twentieth-century music: see Angela Ida De Benedictis, "Scrittura e supporti nel Novecento: alcune riflessioni e un esempio (*Ausstrahlung* di Bruno Maderna)," in *La scrittura come rappresentazione del pensiero musicale*, ed. Gianmario Borio (Pisa: ETS, 2004), 242.

[4] Nicholas Kenyon, "Performance Today," in *The Cambridge History of Musical Performance*, ed. Colin Lawson and Robin Stowell (Cambridge: Cambridge University Press, 2012), 10. Thirty years before Kenyon's statement, the tendency had already been acknowledged by ethnomusicologist Bruno Nettl in his "I Can't Say a Thing Until I've Seen the Score," in *The Study of Ethnomusicology: Twenty-Nine Issues and Concepts* (Urbana: University of Illinois Press, 1983), 65–81.

[5] Nicholas Cook, "Changing the Musical Object: Approaches to Performance Analysis," in *Music's Intellectual History: Founders, Followers and Fads*, ed. Zdravko Blažeković (New York: RILM, 2009), 790.

[6] "The most obvious way of studying music as performance is, quite simply, to study those traces or representations of past performances that make up the recorded heritage, thereby unlocking an archive of acoustical texts comparable in extent and significance to the notated texts around which musicology originally came into being." Nicholas Cook, "Between Process and Product: Music and/as Performance," *Music Theory Online* 7, no. 2 (2001): sec. 21, https://mtosmt.org/issues/mto.01.7.2/mto.01.7.2.cook.php. For a recent, critical evaluation of the history of performance studies from a musicological perspective, see Ian Pace, "The New State of Play in Performance Studies," *Music and Letters* 98, no. 2 (2017): 281–292.

[7] See Cook, "Between Process and Product," sec. 15.

to reconsider them "as the means for channelling performers' creative imagination in otherwise unavailable directions,"[8] the evidence still goes unnoticed and is difficult to challenge. Scores are artifacts *in* performance, even if performance studies often overlooked their materiality in the discourses on performers.[9] Deprived of their *status as thing,* scores are like dusty relics of an old ideology of music—if not of an "old musicology"—where the risk of summoning such textualist bias always has the potential to creep in.

Performance studies in musicology would be the perfect place to shift the focus on written sources from content to use, from composers to performers, and from writing to reading, but this is not the way the field plays out. Scores belonging to prominent performers, even if available to scholars in many libraries, raised occasional and discontinuous interest.[10] Annotations and *Retuschen* (original alterations to the orchestration) attracted most attention,[11] especially when authored by conductors or com-

[8] Pace, "The New State of Play in Performance Studies," 285.

[9] Christopher Small, in his emphatic critique against the "literate mode" of performance in Western music, had already drawn attention to the use of written artifacts in performance practice, albeit seen as a proof of "the total dependence on notation of performers in the Western concert tradition … a curious and ambiguous practice, unique among the world's musical cultures." Christopher Small, *Musicking: The Meanings of Performing and Listening* (Middletown: Wesleyan University Press, 1998), 110.

[10] Examples include: David Pickett, "Gustav Mahler as an Interpreter: A Study of His Textural Alterations and Performance Practice in the Symphonic Repertoire" (PhD diss., University of Surrey, 1988); Gabriele Dotto, "Opera, Four Hands: Collaborative Alterations in Puccini's *Fanciulla*," *Journal of the American Musicological Society* 42, no. 3 (1989): 604–624; Robert Fink, "'Rigoroso (♪= 126)': *The Rite of Spring* and the Forging of a Modernist Performing Style," *Journal of the American Musicological Society* 52, no. 2 (1999): 299–362; John Bewley, "Marking the Way: The Significance of Eugene Ormandy's Score Annotations," *Notes* 59, no. 4 (2003): 828–853; Linda B. Fairtile, "Toscanini and the Myth of Textual Fidelity," *Journal of the Conductors Guild* 24, no. 1–2 (2003): 49–60; David Korevaar and Laurie J. Sampsel, "The Ricardo Viñes Piano Music Collection at the University of Colorado at Boulder," *Notes* 61, no. 2 (2004): 361–400; Oreste Bossini, "Il cammino del Wanderer. Appunti per una biografia artistica tra Beethoven, Rossini, Verdi, Brahms e Mahler," in *Claudio Abbado. Ascoltare il silenzio*, ed. Gastón Fournier-Facio (Milano: il Saggiatore, 2015), 220–251; Olga Manulkina, "Leonard Bernstein's 1959 Triumph in the Soviet Union," in *The Rite of Spring at 100*, ed. Severine Neff et al., (Bloomington: Indiana University Press, 2017), 219–236.

[11] Interestingly, annotations sparked interested also beyond musicology, namely in the field of information science: see Megan A. Winget, "Annotations on Musical Scores by Performing Musicians: Collaborative Models, Interactive Methods, and Music Digital Library Tool Development," *Journal of the American Society for Information Science and Technology* 59, no. 12 (2008): 1878–1897; Linda T. Kaastra, "Annotation and the Coordination of Cognitive Processes in Western Art Music Performance," in *Proceedings of the International Symposium on Performance Science 2011*, ed. Aaron Williamon, Darryl Edwards, and Lee Bartel

poser-conductors such as Gustav Mahler.[12] The purposes of these studies mainly fall within the history of performance practice and reception studies—fields which deliberately acknowledged performers' materials as significant sources.[13] Nevertheless, the approach remained unaltered. Content-centered, grounded in philological tools and goals, the analyses of those sources did not establish a new methodology, nor a dialogue with other fields more used to dealing with similar objects, such as the literary studies on marginalia.[14]

It was not until recently that musicology paid attention to book history and the history of reading,[15] even if with a privileged focus on early repertoires. In fact, the first point of contact occurred in the cultural history of Renaissance music, where the studies on music publishing had already

(Utrecht: AEC, 2011), 675–80. Megan Winget's main result has been a systematic taxonomy of annotations which conveys a simplistic model of the performative process based on information theory—a model already proposed by A. Cutler Silliman, "The Score as Musical Object," *Journal of Aesthetic Education* 3, no. 4 (1969): 97–108. Linda Kaastra, for her part, adopted a cognitivist perspective in which scores are understood specifically as "coordination device[s]" (Kaastra, "Annotation and the Coordination of Cognitive Processes," 676).

[12] See, for example, Peter Andraschke, "Die Retuschen Gustav Mahlers an der 7. Symphonie von Franz Schubert," *Archiv für Musikwissenschaft* 32, no. 2 (1975): 106–116; Volker Kalisch, "Zu Mahlers Instrumentationsretuschen in den Sinfonien Beethovens," *Schweizer Musikzeitung/Revue Musicale Suisse* 121, no. 1 (1981): 17–22; David Pickett, "Arrangements and *Retuschen*: Mahler and *Werktreue*," in *The Cambridge Companion to Mahler*, ed. Jeremy Barham (Cambridge: Cambridge University Press, 2007), 178–200; Anna Ficarella, "Mahler interprete 'wagneriano' di Beethoven: storia di una ricezione controversa," *Studi musicali*, Nuova serie, 2, no. 2 (2011): 375–412; Erich Wolfgang Partsch, "Completing, Instrumenting, Adapting, Retouching. Gustav Mahler as Arranger," *Nachrichten zur Mahler-Forschung* 62 (2011): 1–14; Anna Ficarella, *Non guardare nei miei Lieder! Mahler compositore orchestratore interprete* (Lucca: LIM, 2020).

[13] See Robin Stowell, "The Evidence," in *The Cambridge History of Musical Performance*, ed. Colin Lawson and Robin Stowell (Cambridge: Cambridge University Press, 2012), 83–85, and Michela Garda, "Introduzione. Teoria della ricezione e musicologia," in *L'esperienza musicale. Teoria e storia della ricezione*, ed. Michela Garda and Gianmario Borio (Torino: EDT, 1989), 30.

[14] On literary marginalia see Heather J. Jackson, *Marginalia: Readers Writing in Books* (New Haven: Yale University Press, 2001); Robin Myers et al., eds., *Owners, Annotators and the Signs of Reading* (New Castle: Oak Knoll, 2005); William H. Sherman, *Used Books: Marking Readers in Renaissance England* (Philadelphia: University of Pennsylvania Press, 2008).

[15] A fundamental work on the cultural history of reading is Roger Chartier, *The Order of Books: Readers, Authors, and Libraries in Europe between the Fourteenth and Eighteenth Centuries*, trans. Lydia G. Cochrane (Stanford: Stanford University Press, 1994); see also Guglielmo Cavallo and Roger Chartier, eds. *A History of Reading in the West*, trans. Lydia G. Cochrane (Amherst: University of Massachusetts Press, 1999).

paved the way to an interest in material culture. Book historian Roger Chartier's afterword in a seminal collection of essays edited by Kate van Orden was no accident.[16] Under the motto "every expressive act is embedded in a network of material practices,"[17] some scholars focused on musicians' readership, music pedagogy, music amateurs, and collectors, all connected by the notion of the "music book" as carrier of social relationships.[18] Unfortunately, the sources on which all those studies are based belong to an era when performers, as far as we know, were not used to writing on their scores. Compared to Renaissance readers, for whom annotation was a frequent practice,[19] Renaissance performers left their pages mostly blank.[20] Therefore, readers' relationship with musical sources is mostly reduced to operations (such as making binder's volumes out of many partbooks) in which writing plays a marginal role.[21]

[16] Roger Chartier, "Afterword: Music in Print," in *Music and the Cultures of Print*, ed. Kate Van Orden (New York: Garland, 2000), 325–341.

[17] H. Aram Veeser, "Introduction," in *The New Historicism*, ed. H. Aram Veeser (London: Routledge, 1989), xi; quoted in Richard Wistreich, "Introduction: Musical Materials and Cultural Spaces," *Renaissance Studies* 26, no. 1 (2012): 8.

[18] For a complete bibliography see Wistreich, "Introduction." Further bibliography includes Richard Wistreich, "Music Books and Sociability," *Il Saggiatore Musicale* 18, no. 1/2 (2011): 230–244; and Kate Van Orden, *Materialities: Books, Readers, and the Chanson in Sixteenth-Century Europe* (Oxford: Oxford University Press, 2015). A more recent and comprehensive contribution, as it also examines manuscript sources, is Thomas Christian Schmidt and Christian Thomas Leitmeir, eds., *The Production and Reading of Music Sources: Mise-En-Page in Manuscripts and Printed Books Containing Polyphonic Music, 1480–1530* (Turnhout: Brepols, 2018). Beyond the Renaissance repertoire, similar perspectives are shared in recent studies by Glenda Goodman: *Cultivated by Hand: Amateur Musicians in the Early American Republic* (New York: Oxford University Press, 2020); "Bound Together: The Intimacies of Music-Book Collecting in the Early American Republic," *Journal of the Royal Musical Association* 145, no. 1 (2020): 1–35. A useful material history of music sources is Carlo Fiore, ed., *Il libro di musica. Per una storia materiale delle fonti musicali in Europa* (Palermo: L'Epos, 2004).

[19] See Sherman, *Used Books*.

[20] A significant exception is reproduced in Van Orden, *Materialities*, 215, but it belongs to a pedagogical context. The birth of annotation practice in music-making is a fascinating topic, which still deserves a complete investigation. An interesting theory—which links the rise of annotations as standard practice with the spread of the graphite pencil at the beginning of the nineteenth century—has been proposed by violinist Peter Sheppard Skærved, "Answering Some Questions: Letter to a Journalist," *Peter Sheppard Skærved* (blog), June 9, 2016, http://www.peter-sheppard-skaerved.com/2016/06/answering-some-questions-letter-to-a-journalist/.

[21] In a completely different historical context, binding practice has recently been investigated by Candace Bailey, "Binder's Volumes as Musical Commonplace Books: The Transmission of Cultural Codes in the Antebellum South," *Journal of the Society for American Music* 10, no. 4 (2016): 446–469.

That being said, the aim and the approach of this article do not fit precisely into any musicological field, but rather step foot in a patchwork of grey areas which, in turn, affect every other field. Since written artifacts are "integral to the forms of imagination, creativity, knowledge, interaction, and even improvisation that occur in music-making,"[22] they operate as unifying objects among all those processes, practices, and actors in the context of Western music. Therefore, an investigation into the relationship between "music pages" and their users must necessarily be interdisciplinary and even exceed the boundaries of musicology. Following William H. Sherman and Roger Stoddard in their seminal books on literary markings, "textual scholars must also be anthropologists and archaeologists, putting books alongside the other objects that can help us to reconstruct the material, mental and cultural worlds of our forebears."[23]

Because of these objects' inner complexities, my theoretical framework welcomes critical tools and concepts from different disciplines—from music philology to book studies, from archaeology to cultural anthropology. The first step is a preliminary survey of the terminology, to identify "what we need to learn, unlearn, and relearn"[24] in order to establish an effective but flexible framework. As a general principle, all words will retain their original meaning when borrowed from a specific field. In order to do so, some *ad hoc* terminology will be introduced to prevent concepts from blurring and to help thinking beyond the conceptual implications of the current glossary in musicology. Since "when we speak, we are humble hostages to the past,"[25] as stated by philosopher José Ortega y Gasset, we must begin by carefully choosing the various "pasts" to which to submit the objects of our research.

[22] Emily Payne and Floris Schuiling, "The Textility of Marking: Performers' Annotations as Indicators of the Creative Process in Performance," *Music and Letters* 98, no. 3 (2017): 464. I borrow such a powerful statement from this compelling essay on annotation, which frames the practice in the context of relevant positions in cultural anthropology. Nevertheless, "(an) notation" was the original subject of the sentence I quoted—a telling evidence of a widespread tendency to de-materialize notational content from its material repository.

[23] Sherman, *Used Books*, xiv, referring to and paraphrasing Roger E. Stoddard, *Marks in Books, Illustrated and Explained* (Cambridge, MA: Harvard University Press, 1985), 1.

[24] Sherman, *Used Books*, xiii.

[25] José Ortega y Gasset, "The Misery and the Splendor of Translation," trans. Elizabeth Gamble Miller, in *Theories of Translation: An Anthology of Essays from Dryden to Derrida*, ed. Rainer Schulte and John Biguenet (Chicago: The University of Chicago Press, 1992), 108.

Setting the Scene

There is no current expression in musicology which can encompass every material output of music writing— every historical period, semiographic code, layout, format or material, from plainchant books to musical sketches, from medieval scrolls to twentieth-century graphic scores. Common words like *score*, *text* or *source* are potentially ambiguous or polysemous, and the generic (or generalizing) meaning with which we often use them tends to overshadow their more specific significance. This is why I prefer to employ the term *score* in its meaning of a specific music layout, rather than as "a complete copy of a musical work,"[26] or even as a vernacular synonym for *text*.

Regarding the use of this powerful word over the following pages, a crucial distinction is to be made between text as "any collocation of phenomena that may be interpreted as a system of signs" through a semiotic operation,[27] and "*the* text" as the epistemic/methodologic construct *par excellence* in music philology—i.e., a written work transmitted by multiple sources, which "does not identify with its single sources"[28] and exceeds them all.

[26] David Charlton and Kathryn Whitney, "Score (i)," in *Grove Music Online* (Oxford University Press, 2001), http://www.oxfordmusiconline.com.

[27] Wendell V. Harris, *Dictionary of Concepts in Literary Criticism and Theory* (New York: Greenwood Press, 1992), 407. This is the main use of the word in musicological scholarship, which tends to refer to it as "networks or relational events": Kevin Korsyn, "Beyond Privileged Contexts: Intertextuality, Influence, and Dialogue," in *Rethinking Music*, ed. Nicholas Cook and Mark Everist (Oxford: Oxford University Press, 1999), 56. From this perspective, the meaning of the word has even been extended to "all resources that may be imbued with musical meaning": Gordon Paul Broomhead, *What Is Music Literacy?* (New York: Routledge, 2019), 28.

[28] Maria Caraci Vela, "Testo, paratesto, contesto," in *La filologia musicale. Istituzioni, storia, strumenti critici*, vol. 2, *Approfondimenti* (Lucca: LIM, 2009), 63. Translation mine. The original Italian quotation reads "*testimoni*" [witnesses] instead of "sources" (which would be "*fonti*" in Italian). In the philological glossary of most European languages, the word *source* (*Quelle* in German, *fuente* in Spanish, etc.) has two meanings, referring to both "the source from which the author drew as he created his work" and "the source from which the philologist draws when he wants to ascertain the correct text of a specific written work": Georg Feder, *Music Philology. An Introduction to Musical Textual Criticism, Hermeneutics, and Editorial Technique*, trans. Bruce C. MacIntyre (Hillsdale: Pendragon Press, 2011), 33. In Italian philology, "*fonte*" applies to the first meaning, while "*testimone*" to the second: see Maria Caraci Vela, *Musical Philology. Institutions, History, and Critical Approaches*, trans. Elizabeth MacDonald (Pisa: ETS, 2015), 13. The choice of this latter term—taken from the legal glossary—is telling, and emphasizes the circumstantial method used to aim at a "reconstructed [text] […] truer than the document": Gianfranco Contini, "Filologia," in *Breviario di ecdotica* (Torino: Einaudi, 1992), 22.

While both concepts will be equally useful in my framework, neither can be suitable for defining the wide range of material objects discussed here, one being too generic and the other too specific.

Lastly, I will avoid the word *source*, since its generic meaning tends to be applied to any sort of object (be it written or not) from which one can extract information. By calling something a "source," we implicitly posit an imaginary arrow going from the object-source to a "something else" *of which* it is a source (e.g., the text of a musical work), and whose relevance often overcomes the many "who" that made or used it over time. Rather, if we reposition the word from defining label to interpretive concept, sources are no longer sources *of something*, but they are instead *something* in themselves, to be understood *as source*—in this case, of the relationship with their users. The arrow no longer points to "something else" but instead to *someone*.

As an alternative, I introduce here the definition of *notational artifact*, meaning any material object which incorporates (or is designed to incorporate) music notation, thus making it visible. The adjective *notational* generically refers to the presence of any form of sign-based, visual inscription of a codified musical text—performed in any way (handwriting, printing, etc.), in any cultural or historical context, and regardless of the code features (be them commonly accepted, obsolete or personal). Moreover, artifacts must not necessarily *bear* notation to be "notational." Even if not marked with musical signs, artifacts such as sheets with blank staves, staff chalkboards, or even the erasable tablets used in the Renaissance are notational artifacts,[29] for they are designed to hold notation and can reveal significant information about music theory, historical contexts, (potential) use, and so on. On the contrary, when notation is introduced in an artifact not originally meant to hold it, it automatically turns the artifact into a notational one.[30]

The deliberate choice of the term *artifact* aims to stress the relevance of human involvement in creating or altering the product over time. Even if made out of natural materials, a parchment codex or an orchestral score on paper are by no means natural things, for human intervention and creativity are required to produce them. Favoring this term also allows us to set

[29] A groundbreaking study on this topic can be found in Jessie Ann Owens, *Composers at Work. The Craft of Musical Composition, 1450–1600* (Oxford: Oxford University Press, 1997), 74–107.

[30] The case can also include today's assemblages of digital contents with material technological supports which transcode them in a visual message—as happens when we look at a score in PDF format on the screens of our electronic devices.

aside the word *object*, which has been generically used above as a synonym. The main reason lies in the implied subject/object dichotomy. If we define a score as an object, we automatically assign it a passive role in the relationship with a user, who will only perform actions *on* it. Users certainly perform lots of actions—from turning pages to introducing annotations, from ruining the artifact to then repairing it. But it is equally true that, from the opposite perspective, the artifact influences all those actions. According to anthropologist Tim Ingold, "if persons can act on objects in their vicinity, so, it is argued, can objects 'act back,' causing persons to do what they otherwise would not."[31] If we regard users and artifacts in terms of their agency (following the theoretical framework of Actor-Network Theory),[32] interaction is then etymologically (*inter-action*) the only kind of relationship they can have, parceled out in a mosaic of actions to be performed or undergone.

An alternative to this relational model comes from Ingold's concept of correspondence, which sees humans "in ongoing response … with the things around them."[33] Rather than accepting that "action can only be an effect, set in train by a causal agent that stands as subject to the verbal predicate," Ingold suggests not to "separate agency from action or the doer from the deed." And he continues:

> It is not, then, that things have agency; rather they are actively present in their doing—in their carrying on or perdurance. And as things carry on together, and answer to one another, they do not so much interact as *correspond*. Interaction is the dynamic of the assemblage, where things are joined *up*. But correspondence is a joining *with*; it is not additive but contrapuntal, not "and… and… and" but "with… with… with."[34]

Assuming such a way of thinking, we can identify a constant counterpoint between things and processes—in Ingold's words, of materials and forces—[35] in which both humans and things lose their supremacy over each

[31] Tim Ingold, "The Textility of Making," *Cambridge Journal of Economics* 34, no. 1 (2010): 94.

[32] In musicology, a critical discussion of this approach can be found in Benjamin Piekut, "Actor-Networks in Music History: Clarifications and Critiques," *Twentieth-Century Music* 11, no. 2 (2014): 191–215.

[33] Tim Ingold, "Toward an Ecology of Materials," *Annual Review of Anthropology* 41 (2012): 437.

[34] Tim Ingold, *Correspondences* (Aberdeen: University of Aberdeen, 2017), 13. These sentences are not found in his more recent book of the same title, published by Polity Press (2020).

[35] See Ingold, "The Textility of Making," 91–92. The author calls *textility* the way in which

other and engage in a flow *with* one another. If we accept that humans and things correspond, we can easily re-include notational artifacts in every music-related process (from composing to performing, from listening to analyzing), preventing the risk of sprinkling them with the "magical mind-dust"[36] of agency, or attributing them a social life on their own.[37]

On the contrary, correspondence calls humans for a "material engagement" with things—the key concept in another recent theory in the archeology of mind, which bears this name. The Material Engagement Theory promotes a deep reconceptualization of the relationship between mind and material culture, which resonates in many ways with Ingold's concept. According to Lambros Malafouris,

> in the human engagement with the material world, there are no fixed roles and clean ontological separations between agent entities and patient entities; rather, there is a constitutive intertwining between intentionality and affordance. [...] The social universe is not human-centered but activity-centered, and activity is a hybrid state of affairs.[38]

Activities result from humans' intentions and from the operations which the physical properties of things invite to perform (i.e. the affordances).[39]

the two combine into a flow, aptly evoking the weft-warp relationship in weaving. (The opposite is what he defines as hylomorphic model, which sees a maker shaping the matter according to a pre-determined form or idea.) In musicology, the concept of textility has been recently applied to music notation by Payne and Schuiling, "The Textility of Marking." In my own research, I argued how textility might work as a powerful concept to understand every form of music-making: see Cestino, "'Used Scores,'" 23–32.

[36] Tim Ingold, *Being Alive: Essays on Movement, Knowledge and Description* (London: Routledge, 2011), 28.

[37] The reference is to Arjun Appadurai's seminal book *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge: Cambridge University Press, 1986). A brilliant application of this perspective in musicology can be found in James Davies, "Julia's Gift: The Social Life of Scores, c.1830," *Journal of the Royal Musical Association* 131, no. 2 (2006): 287–309.

[38] Lambros Malafouris, *How Things Shape the Mind. A Theory of Material Engagement*, foreword by Colin Renfrew (Cambridge, MA: MIT Press, 2013), 149.

[39] The concept of affordance has been introduced by psychologist James Gibson in his *The Ecological Approach to Visual Perception* (Boston: Houghton Mifflin, 1979) where it referred to the human-environment interaction. A later development of the concept can be found in Donald A. Norman, *The Psychology of Everyday Things* (New York: Basic Books, 1988). The term is used by Malafouris (as well as here) in this last sense. See also Donald A. Norman, *The Design of Everyday Things*, revised and expanded edition (New York: Basic Books, 2002), 10–11.

This double-sided view brings both humans and things in the spotlight, providing a frame for the analysis of the activities in which correspondence takes place. In this case, I will study how correspondence occurs between notational artifacts and users—i.e., all human beings who exploit and experience notational artifacts in the context of music-making, be them composers, performers, listeners, or more generic "readers."

According to Malafouris again, we must switch "from the micro level of semantics to the macro level of practice."[40] If we then posit a *continuum* between the semiotic dynamics of representation and the pragmatic dynamics of use, a notational artifact becomes a "temporal sequence of relationally constituted embodied processes encompassing reciprocal and culturally orchestrated interactions among humans, situated tool use, and space."[41] Therefore, an archeology of such processes regards notational artifacts as sources of the relationship with the humans to whom they corresponded. Construing the material evidence of the artifact *as a text*—i.e., as a complex of signs—we can thus interpret it as a witness of both human presence (or absence) in the artifact's history and of the artifact's role of in the user's life. On one hand, any knowledge about the user can help explain the material features of an artifact; on the other, the users' features, cultural context, and goals can be gathered by analyzing the artifact.

What follows is a framework to guide such an analysis.

A Framework

Back in 2003, ethnomusicologist Timothy Rice proposed an analytical framework for ethnographic inquiries on musical experience. His emphasis on what he called "a subject-centered perspective" aimed "to bring some order to [the] research in the crazy quilt of a world"[42] he described as "complex, mobile, [and] dynamic […] a system that at the least challenges, and in some cases seems nearly to obliterate, cultures and societies as 'traditionally understood.'"[43] Therefore, Rice argued that moving from an abstract concept of culture to the ethnography of a single subject, understood "as

[40] Malafouris, *How Things Shape the Mind*, 79.

[41] Malafouris, *How Things Shape the Mind*, 78.

[42] Timothy Rice, "Time, Place, and Metaphor in Musical Experience and Ethnography," *Ethnomusicology* 47, no. 2 (2003): 157.

[43] Rice, 151–152.

the locus of musical practice and experience,"[44] could provide a more systematic approach to describe musical experience. If the same perspective resonates in my framework, it is because I agree that the analysis of specific case studies—such as the one that will follow here—can challenge us to rethink our methodology and pave the way for a historical narrative which will eventually piece the puzzle together.

Since Rice's topic was musical experience, his focus was on human subjects. Given the theoretical background of my framework, a subject-centered approach would be inappropriate, and in this respect Rice's proposal cannot be followed here. In fact, this model instead describes a "binary system" where users and notational artifacts correspond to each other. For this reason, my framework will be activity-centered and process-oriented. Nevertheless, Rice's essay can still provide useful elements to be included in the present context.

1. Location and Time

Rice imagines an ideal "three-dimensional space of musical experience" which works as "an ideational space for thinking about musical experience," or as "an arena of analysis";[45] the three dimensions he identifies are time, location, and metaphor. Leaving aside the last dimension for now, the first two parameters can be applied to our object of study with no adjustments. Rice defines location through the words of geographer Edward Soja, as "a set of nested 'locales' that provide settings of interaction":

> These settings may be a room in a house … a hospital, a definable neighbourhood/town/city/region, the territorially demarcated areas occupied by nation-states, indeed the occupied earth as a whole. Locales are nested at many different scales and this multilayered hierarchy of locales is recognizable both as social construct and a vital part of being-in-the-world.[46]

In our case, location will equally define the multi-layered setting where artifacts and their users correspond, starting with a generic geographical

[44] Rice, 152.

[45] Rice, "Time, Place, and Metaphor," 158–159.

[46] Edward W. Soja, *Postmodern Geographies: The Reassertion of Space in Critical Social Theory* (London: Verso, 1989), 148–49; quoted in Rice, "Time, Place, and Metaphor," 160. In turn, Soja is partially paraphrasing here from Anthony Giddens, *The Constitution of Society: Outline of the Theory of Structuration* (Cambridge: Polity Press, 1984), 118.

context where every correspondence unfolds. Further locations—following Soja's listing from smallest to largest—can include concert venues, practice rooms, or the cities and countries users have passed through carrying and exploiting their notational artifacts.

Time—the second of Rice's dimensions—enters the stage as a complementary coordinate to locate the experience, and to put it in a historical perspective. For this purpose, Rice stresses how there can be at least two notions of time: a chronological/historical time, which helps ordering events along a timeline, and an experiential/phenomenological time, which frames events in the perspective of a given subject. While chronology and periodization constitute an external narrative of the past based on a wider net of historical references, a subject's own perception of time is instead an inner counter-perspective. The notion of time gains a personal meaning unique to each individual.

In the user-artifact correspondence, phenomenological time can only be proper to the user, and it is secondary in understanding how it unfolds in time. Chronological time is crucial instead and affects both artifacts and users. Artifacts obviously have a history of their own that goes beyond a music-specific use (and even beyond any correspondence with users). Artifacts transform over time, improving or worsening their physical conditions. Their material transformations can constantly be caused by humans (restorers, librarians, etc.), non-humans (for instance mold or woodworms), and atmospheric agents (like humidity or heat). With regard to the user-artifact correspondence, a chronological approach allows us to distinguish between a micro-temporal and a macro-temporal level. The first represents the flow of time that embeds every single process of correspondence (for instance, a concert where a notational artifact is read); the other can be understood as a succession of periods of activity and inactivity (i.e., of use and disuse).

2. Surfaces and Space

It goes without saying that the user-artifact correspondence is a matter of perception. As I mentioned above, human perception of the artifact takes place because of an intertwine of user intentionality and artifact affordance. Let us begin with the latter. Whether a notational artifact is a single item (for instance, a single sheet) or an assemblage of similar, modular parts (such as the pages in a book), it always has a finite number of surfaces. According to James Gibson's ecology of visual perception, surfaces constitute one of

the three categories in which our environment can be divided, the other two being mediums and substances.[47] Substances are all materials which obstruct our sight, while mediums are materials which allow it. In our case, the air is the medium, while the paper (in most cases) is the substance. The page is then the surface, the place where air and paper collide, and "where most of the action is."[48] Nevertheless, pages are surfaces of a particular kind, since they do not hide or protect something from the outside. From a physical point of view, we will never experience the "inside" of the page. These surfaces rather expose something to our sight. As philosopher of media Sybille Krämer points out, pages (like paintings) are only theoretically three-dimensional, since we perceive them as two-dimensional when we look at them.[49]

But before discussing the process of visual perception, let us situate it. Let us imagine some fictitious users facing a notational artifact. If that score *occupied* a certain space on the shelf where it was previously stored, when opened, its surfaces would now *delimit* a physical space to perceive its content. Artifacts can affect this space thanks to their material features and to the features of their visual content—i.e., the finite number of visual elements which sight can distinguish. While a large plainchant choirbook, with its large neumes and letters, could be read from quite afar,[50] a pocket score deserves a closer inspection. Beyond dimensions, the way signs are arranged on surfaces also matters, since "the font alignment maintains a relationship to the physicality of the user."[51] In this regard, an interesting aspect of some notational artifacts is how their music layout can define a specific space for music-making, as it happened in the Renaissance when performers used to read from music books printed in the so-called table layout. In that case, parts were arranged on each opening of the music book so that players could gather all around it and play side by side (see figure 1). Their

47 Gibson, *The Ecological Approach*, chap. 2.

48 Gibson, 23.

49 Sybille Krämer, "13. Schriftbildlichkeit," in *Bild: ein interdisziplinäres Handbuch*, ed. Stephan Günzel and Dieter Mersch (Stuttgart: Metzler, 2014), 355. On the epistemological impact of this feature, see Sybille Krämer, "Flattening as Cultural Technique: Epistemic and Aesthetic Functions of Inscribed Surfaces," *Journal of the American Musicological Society* 70, no. 1 (2017): 239–245.

50 This does not mean, of course, that it was *meant* to be read from a distance. On this aspect, see Giacomo Baroffio, "I libri con musica: sono libri di musica?," in *Il canto piano nell'era della stampa. Atti del Convegno internazionale di studi sul canto liturgico nei secoli XV–XVIII*, ed. Giulio Cattin, Danilo Curti, and Marco Gozzi (Trento: Provincia autonoma di Trento, 1999), 9–12.

51 Krämer, "13. Schriftbildlichkeit," 355.

bodily arrangement was not spontaneous, but rather prompted by such layout and made possible by the specific positioning of the notational artifact. Only if open wide *on a table* can this layout work fully as its name tells. Otherwise—if the book is opened on a music stand—it could better afford a duo performance (voice and lute) of the song, since the other three voices would literally have no space for making music. Therefore, in this physical setting other artifacts can participate, too, and these might include chairs, churches' wooden choirs or conductor's podium— even other humans (for instance, page turners) as physical presences affecting perception.

Beyond the material features of the artifact, space is equally affected by users, according to the quality of their eyesight and, more generally, to their physical abilities. At least in theory, the better users can see, the larger the space will be, because they may move away from the artifact while still being able to decipher its contents. In any case, it is within this space—a potential space, yet not ideal—that users will perform every activity with their notational artifacts.

Fig. 1 John Dowland, "Come, heavy sleep" in *The First Booke of Songes or Ayres* (London: Peter Short, 1597), segn. L. The arrows shows the direction of reading for each part.

3. Sight and Touch

Our score is still wide open in front of our fictitious users. How can their sensorium engage with it in the physical space I described? Because of their own features, notational artifacts primarily afford vision, and vision is one of the conditions of possibility for such activities. Reading, as a skilled decoding process, is obviously based on it. The same applies to writing, as it is a practice embedded in reading, which cannot be performed without monitoring its process and outcomes. In turn, writing (as any form of inscription of symbolic signs) is the material precondition to afford reading (and therefore vision), and to lead the user towards *some* specific surfaces, where writing can be found.

Every surface of a notational artifact displays a complex of visual elements that I defined above as visual content. To be clearly perceivable, signs must be organized following the simple principle defined by Krämer as *Zwischenräumlichkeit* (Interspatiality), according to which there cannot be a correct identification of a sign and another without blank space in between.[52] But beyond the identification, signs must be perceived under certain conditions to be read. Reading is a localized process of decoding a given visual content, when understood as a culturally accepted code. (In this regard, it is worth remembering music notation is a hybrid code, for it "incorporates linguistic, symbolic, and visual display within the embodiment of the page-based text.")[53]

Delving here into music reading as a cognitive process would lead too far away from our topic.[54] Nevertheless, it is worth stressing that if users read

[52] Krämer, "13. Schriftbildlichkeit," 355–356.

[53] Jodie L. Martin, "Semiotic Resources of Music Notation: Towards a Multimodal Analysis of Musical Notation in Student Texts," *Semiotica* 2014, no. 200 (2014): 188.

[54] For a general overview of the topic, see John Brust, "Musical Reading and Writing," in *Neurology of Music*, ed. F. Clifford Rose (London: Imperial College Press, 2010), 143–49. A review of the experimental approaches to study music reading can be found in John Sloboda, *Exploring the Musical Mind: Cognition, Emotion, Ability, Function* (Oxford: Oxford University Press, 2005), ch. 2 "Experimental Studies of Music Reading: A Review," 27–42. Further readings include: Eugene Narmour, "Hierarchical Expectation and Musical Style," in *The Psychology of Music*, ed. Diana Deutsch, 2nd ed. (San Diego: Academic Press, 1998), 441–472; Daniele Schön and Mireille Besson, "Processing Pitch and Duration in Music Reading: A RT-ERP Study," *Neuropsychologia* 40, no. 7 (2002): 868–878; Tony Souter, "Eye Movement, Memory and Tempo in the Sight Reading of Keyboard Music" (PhD diss., Sydney Conservatorium of Music, University of Sydney, 2001). Outside the realm of neuroscience, Kari Kurkela considers music reading from a semantic-cognitive perspective: see

a certain amount of visual content, they access a part of the textual content carried by the artifact. Textual content is a formalized expression of information about something *other* than what the artifact "tells" us about itself as a thing. As meaningful the material features of a notational artifact can be, the textual content refers to something beyond its materiality (but at the same time completely dependent on it). When users recognize textual content—or, in other words, text in a visual content—they perform a twofold abstraction thanks to their competence of the code. On one level, they abstract the content from how it visually appears, separating what Krämer calls "*Textur*" and "*Textualität*."[55] Looking beyond the visual features of a symbolic representation, they can focus on the information, or choose to alter the visual content without affecting the textual content (as performers often do as a performative strategy). On another level, abstraction (from Latin *abstrahĕre*, i.e. "to detach, "to drag away from") is performed in a more etymological way. Readers mentally isolate which part of the visual content of the page should be regarded as a text, separating it from what lies at its borders (page or plate numbers, scribbles and so on); or else, they distinguish the various textual contents that might find space within the same notational artifact (for example a songbook).

Introducing the concept of textual content makes it possible to differentiate without confusion the text (or texts) users regard as conveyed by a notational artifact, from *the* text as understood in the philological sense. The textual content can represent *a* text in the tradition of *the* text if users are aware of this construct. However, from the perspective of this framework, textual content must be considered both epistemologically and ontologically prioritized over the philological text, the former being the locus of a tangible relationship with an informational content. Seen this way, visual content, textual content, and philological text line up on a scale which goes from the most concrete thing to the most abstract concept. Bearing this in mind, we can better understand if users correspond with a notational artifact because of its visual appearance, its content, or its role in a textual tradition. Therefore, we can better understand *how* they read.

Turning now to reading as a material process embedded in different musical practices, it is worth noticing that a common feature is incompleteness. Even if reading depends very much on users' knowledge, interests, and skills, every time users read a notational artifact, they usually process/

Kari Kurkela, "Score, Vision, Action," *Contemporary Music Review* 4, no. 1 (1989): 417–435.

[55] See Krämer, "13. Schriftbildlichkeit," 366.

decode just a part of its visual content. As happens in literary reading, however integral the reading of a book may be, readers are always likely to leave some visual elements (such as page numbers) unprocessed. Reading is always a partial exploitation of what can be visually perceived. If vision can somehow embrace the whole "picture" of the visual content we have in front of us, reading will always focus on a specific percentage of it, often according to who is the reader (in a choral score a soprano and a conductor will read different areas of it). More generally, reading depends on 1) what the user already knows of the textual content; 2) what the user is looking for in a visual content; and 3) what the user is able to get to know from a visual content. The first point deals with memory, the second applies to the aim of reading and to the situation in which reading is performed, while the last is related to the user's interpretative skills—be them analytical, theoretical, or performative. Whether users are counting the total number of measures the piece has, rounding up a passage before a concert, or listening to a recording while following the score, they will not only use their sight in different ways, but they will also handle the notational artifact in a different way.

Touch is in fact the second sense used to experience a notational artifact.[56] Manipulation can occur in two main forms, and the principle to differentiate them is whether the user intentionally modifies the artifact or not, adding or subtracting materials from it. If yes, I will call it alteration; if not, I will instead call it handling. Again, intentionality is a key concept, for users often alter their artifacts while handling them. But they do not want to tear a page while turning it, or to leave fingerprints on fingerprints until the corners of the page become dirty. On the contrary, we can classify intentional alterations according to two parameters: the first is if materials are added to or removed from the artifact; the second, if materials blend into the surfaces of the artifact (when added) or vanish from them (when removed). If yes, I will call them traces, mostly perceived by sight since they merge into the artifact's substance; if not, I will call them elements instead, i.e. three-dimensional alterations which reshape the artifact as an assemblage, add/removing parts to/from it.

[56] And basically, the last one, if we exclude smell. Though the smell of an old score definitely affects its aura, this sense has no direct relationship with the principal affordance of the artifact, i.e. vision. For an intriguing study on books' smell which combines scientific analysis and cultural approach, see Cecilia Bembibre and Matija Strlič, "Smell of Heritage: A Framework for the Identification, Analysis and Archival of Historic Odours," *Heritage Science* 5, no. 2 (2017), https://doi.org/10.1186/s40494-016-0114-1.

Seen this way, writing is a practice in which new materials like ink, pigments, graphite, etc. are added to the notational artifact, and blend with its surfaces, leaving more or less permanent traces. Even if we perceive written traces as bidimensional, when we write we still dig into the paper fibers, leaving a dry trace we usually acknowledge—when erasing—as a side effect of writing. (Erasing, for its part, is the counterpart of writing, because it consists in removing pigments from the artifact.)

Since the outcomes of this practice can result from exploiting many tools and symbolic codes, to introduce further sub-classifications would lead to an intricate and not so useful taxonomy. If it is clear that any writing event modifies the visual content of a notational artifact, a general distinction is nevertheless useful. We can distinguish between written traces that deal with the original *textual* content of an artifact—as conceived by its makers—and written traces that are independent from it. It goes without saying that any writing event which starts, establishes, or develops a textual content belongs to the first case. Similarly, further annotations or alterations to an original textual content—be they handwritten, printed, etc.—must equally be understood in the same way. On the contrary, the name of the artifact's owner jotted down on a corner falls in the second category, because it is unrelated with the original textual content. Traces like that—even if they can be regarded as establishing a new textual content on their own—rather deal with the artifact itself, and sometimes they simply find place on it (as happens with a pen trial or even a coffee stain).

The second category of alteration concerns the addition or removal of elements to/from a notational artifact. Visually perceived as three-dimensional, elements can be grouped in two sub-categories. Surfaces are all elements which afford vision, and consequently all the practices related to it (as we have seen, reading and writing). New surface-elements can be additional pages or covers, handwritten, printed, or photocopied inserts, taped- or glued-over sheets, and so on. Conversely, bindings or staples fall within the thing-element categories—as dog-ears do, although the addition of these elements is made by modifying a surface of the artifact which already exists. Thing-elements are often used as tools for adding new surfaces, as happens when some duct tape is used to fasten a loose sheet of paper on the margin of a page. In any case, all material alterations which transform the visual content of a notational artifact must be regarded as an extended form of writing. Rather than encoding a content in visual traces, they reorganize the appearance of the extant content, or assemble within the same artifact several textual contents—as is the case

with volumes that contain different scores or parts bound together. These alterations normally reside within the realm of visual or textual content, but within this new framework, they now step foot into the space of practice, changing the affordance and use of the artifact, as well as conveying the user's ideological approach to it.

4. Ideology, Function/Use, and Place

In Rice's analytical space, the third dimension for understanding musical experience was metaphor, a word the author used to refer to "beliefs about the fundamental nature of music expressed in metaphors."[57] Although I will not focus exclusively on metaphorical statements, I will still refer to ideology as the similar body of thoughts and ideas a user has, in this case, about a notational artifact. As stressed by anthropologist Daniel Miller, we must always keep in mind "that in a given time and place there [is] a link between the practical engagement with materiality and the beliefs or philosophy that emerged at that time."[58] It does not matter if these ideas are autonomous, aware, fuzzy, or derivative; nor it matter if users are highly trained or novices. In any case, it is thanks to their ideology that they could provide an answer—if asked—to a two-faced question: "what is a notational artifact (for)"? Assuming they ignore what this expression means, we could fragment it in a bundle of questions, addressing every single concept related to a notational artifact they might know. We could then rephrase our question in "what is a score / music notation / a musical text (for)?," and so on. When we can approach users directly, such a survey results in a sort of "ethnographic description" to be carried out through some collaborative methods (interviews, conversations, and so on).[59] The reverse applies to historical case studies—such as the one I present below—for which we should instead perform an "archeology" of the ideology.

In order to accomplish this task, we need to operate on two different levels. The first examines the material evidence of the artifacts, as products of a certain music culture. As we learn from the so-called "new philology," written artifacts are not only "vehicles of texts, but [also] texts in their own

57 Rice, "Time, Place, and Metaphor," 163.

58 Daniel Miller, "Materiality: An Introduction," in *Materiality*, ed. Daniel Miller (Durham: Duke University Press, 2005), 15.

59 An example of this approach can be found in Cecilia Hultberg, "Approaches to Music Notation: The Printed Score as a Mediator of Meaning in Western Tonal Tradition," *Music Education Research* 4, no. 2 (2002): 185–197.

right, whose physical characteristics are the outcome of specific choices on the part of those who made them."[60] They act as a vehicle for information as much as they witness the cultural forms and the ideological background of *how* information is transmitted. Therefore, every notational artifact—with its physical, visual, and layout features—can be regarded as a performance in itself, a bundle of utterances about music, music theory, and music-making. In addition to the ideology as objectified by the artifact, all the possible alterations to the artifact performed by the users speak to the second level to reconstruct, i.e. user's ideology.

In general, user's ideology can be explicit when expressed in written records, musical recordings, and other sources, or implicit, when derived from cultural context. As for the artifact instead, ideology results in the presence as much in the absence of traces and elements. When not affecting the textual content, alterations or annotations testify the user's ideology about the notational artifact and its use. When the textual content is instead altered or commented (for instance by annotations), the artifact instead shows user's ideology about the information carried by the artifact, and more general utterances about music(-making), interpretation, and so on. In this respect, alterations to the musical text—e.g., Toscanini's ones, shrouded in the myth of his textual fidelity[61]—prove what Floris Schuiling has recently acknowledged as "entextualization," drawing the concept from linguistic anthropology. Entextualization refers to "the social processes by which people determine what is 'part of' or 'inside' a musical text," or "what is 'part of the music' and what is not."[62] Rather than the dichotomy "part of/ not part of ," I would rather say that entextualization is an ongoing process of focusing on certain notational elements while blurring others; using a visual metaphor, it is like determining color intensities, rather than choosing which hues to include in the palette.

The artifact's and user's ideologies, as witnessed by material evidences, lead to uncover another aspect of my theoretical framework, represented

[60] Vincenzo Borghetti, "The Listening Gaze: Alamire's Presentation Manuscripts and the Courtly Reader," *Journal of the Alamire Foundation* 7, no. 1 (2015): 49, in reference to Emma Dillon, "Music Manuscripts," in *The Cambridge Companion to Medieval Music*, ed. Mark Everist (Cambridge: Cambridge University Press, 2011), 317–318.

[61] See Fairtile, "Toscanini and the Myth of Textual Fidelity," and Matteo Quattrocchi, "Dalle chiose manoscritte alle scelte esecutive: *La traviata* di Toscanini" (Master Thesis, University of Milan, 2018).

[62] Floris Schuiling, "Notation Cultures: Towards an Ethnomusicology of Notation," *Journal of the Royal Musical Association* 144, no. 2 (2019): 443, 445.

by the pairing function/use. Both imply one or more purposes, and they transpose intentionality and affordance—two concept I already mentioned above—onto a more practice-situated level. Function pertains to the artifacts and has been determined by their makers choosing specific material characteristics such as dimension, (semio)graphic features, and notational layout, according to a culturally situated ideology. Users, on their own, will correspond with the affordances they recognize in an artifact, according to their physical abilities, skills, memory, and of course ideology. If we consider the original functions of a set of Renaissance partbooks with the use a scholar can make of it, it goes without saying that functions and uses do not necessarily parallel. The original, consistent relationship between an informational content and a form of display, understood as inviting a specific use, can be of no avail in another cultural context. And even in the same cultural context, when the original functions clash with new uses, artifacts might undergo some material adaptation—as I will show in the next section of this article. Moreover, different functions can coexist within the same artifact, as happens for some illuminated manuscripts which questions the dichotomy "for performance/for display," and rather suggest a multimodal musical experience for their original users.[63] Therefore, the use of each notational artifact can be extremely varied, since notational artifacts can always work as "bundle of affordances,"[64] a precipitate of potential usage configurations with which users engage in different practices and contexts.

When practices reiterate over time, users not only reinforce "a relationship of a certain intimacy" with their notational artifacts,[65] but also exploit through their abilities a space of correspondence with such artifacts. The physical space of experience I identified above thus becomes an *espace vécu* (Experienced space),[66] in which "to dwell means to leave traces."[67] And by living this space, users turn artifacts into places, into "fields of care"

[63] See Borghetti, "The Listening Gaze."

[64] I borrow this expression from Jonathan Sterne, *MP3: The Meaning of a Format* (Durham: Duke University Press, 2012), 193, where it is used in relation to music.

[65] Karol Głombiowski, *Problemy historii czytelnictwa* (Wrocław: Zakład Narodowy im Ossolińskich, 1966), 36.

[66] Gaston Bachelard, *La poétique de l'espace* (Paris: Presses universitaires de France, 1957).

[67] Walter Benjamin, "Paris, the Capital of the Nineteenth Century (1935)," in Walter Benjamin, *The Arcades Project*, trans. Howard Eiland and Kevin McLaughlin (New York: Belknap Press, 1999), 9.

where perception and use became a repeated means of familiarization.[68] As stressed by geographer Robert Sack,

> from the perspective of experience, place differs from space in terms of familiarity and time. A place requires human agency, is something that may take time to know, and a home especially so.[69]

The metaphor of the notational artifact as a home provides an explanation for this theoretical framework with a circular ending. We started from wide open pages, and we end with a more enclosed, familiar place of belonging—to highlight one more time how notational artifacts are not just repositories for contents, from which to extract what we need for our musical purposes; quite the contrary, they are places where users put something of themselves, where they cohabit the space of a text with their minds, their thoughts, and their histories. If through human engagement the artifact change "from commodity to singularity,"[70] analyzing this engagement leads us to reconsider artifacts from singularities to nodes in a wider web of correspondences which makes up our daily world of music-making practices.

The following section provides an example of how this engagement can be analyzed.

A Reader and his "Score"

The picture (figure 2) shows the first opening of a notational artifact belonged to Austrian violinist Rudolf Kolisch,[71] part of the Rudolf Kolisch Pa-

[68] Yu-Fi Tuan, "Space and Place: Humanistic Perspective," in *Philosophy in Geography*, ed. Stephen Gale and Gunnar Olsson (Dordrecht: Reidel, 1979), 412.

[69] Robert David Sack, *Homo Geographicus: A Framework for Action, Awareness, and Moral Concern* (Baltimore: Johns Hopkins University Press, 1997), 16.

[70] Arjun Appadurai, "The Thing Itself," *Public Culture* 18, no. 1 (2006): 15.

[71] As John W. Barker has stressed, "scandalously, [Kolisch] has yet to be given a full-scale biography": John W. Barker, *The Pro Arte Quartet: A Century of Musical Adventure on Two Continents* (Rochester: University of Rochester Press, 2017), 111. For the European period of his life, see Claudia Maurer Zenck, "'Was sonst kann ein Mensch denn machen, als Quartett zu spielen?' Rudolf Kolisch und seine Quartette. Versuch einer Chronik der Jahre 1921–1944," *Österreichische Musikzeitschrift* 53, no. 11 (1998): 8–57; Claudia Maurer Zenck, "»Ein Sauberuf!!« Der Alltag des Kolisch-Quartetts auf Reisen in der Zwischenkriegszeit," in *Annäherungen: Festschrift für Jürg Stenzl zum 65. Geburtstag*, ed. Ulrich Mosch, Matthias Schmidt, and Silvia Wälli (Saarbrücken: Pfau, 2007), 187–221. On his musical activity in Madison, Wis-

Fig. 2 Kolisch's part-score of Schönberg's String Quartet no. 3, op. 30. Rudolf Kolisch Papers, Houghton Library, Harvard University, bMS Mus 195 (1952), fol. 1v–2r.

pers collection at the Houghton Library, Harvard University. As a whole, the artifact has been made up with twelve sheets of cardboard, some duct paper, and two pocket scores of Schönberg's String Quartet no. 3, op. 30, published in Vienna by Universal Edition on November 14, 1927.[72] For Kolisch, this notational artifact was not his first "access point" to the work. As Kolisch was a

consin, see Susanna Watling, "Kolisch in Madison, Wisconsin: 1944–1967," in *Die Lehre von der musikalischen Aufführung in der Wiener Schule: Verhandlungen des internationalen Colloquiums Wien 1995*, ed. Markus Grassl and Reinhard Kapp (Wien: Böhlau, 2002), 179–190. A special issue of *MusikTheorie* focuses on his life in America, and offers the edition of some of his writings: see Anne Shreffler and David Trippett, eds., "Rudolf Kolisch in Amerika—Aufsätze und Dokumente," special issue, *MusikTheorie* 24, no. 3 (2009), hereafter cited as *RKinA*.

[72] Arnold Schönberg, *III. Streichquartett, op. 30* (Wien: Universal Edition, 1927). The publishing date is derived from "Streichquartett Nr. 3," Arnold Schönberg Center, http://archive.schoenberg.at/compositions/werke_einzelansicht.php?werke_id=412&herkunft=allewerke. The online catalogue of the Rudolf Kolisch Papers (https://id.lib.harvard.edu/ead/c/hou00066c01975/catalog) briefly describes it as "1 miniature score," and incorrectly gives 1954 as the copyright year.

pupil of Schönberg, the Quartet no. 3 ranks among the pieces from the Second Viennese School he premiered leading the Wiener Streichquartett—the quartet he founded in 1924 under the auspices of his teacher (and then renamed Kolisch Quartet from 1927 on). He first performed this piece in Vienna, on September 19, 1927, playing from a set of handwritten parts.[73] Then, from late 1927, the Kolisch Quartet began to memorize the repertoire and to play from memory both in performances and in rehearsals.[74] Therefore, the assemblage of this object came later, around the 1940s, when Kolisch developed his own theory on how chamber music should be performed.

According to what he wrote for the lectures he held at the New School for Social Research in New York (1939–1941), his idea was fairly simple.[75] Chamber music has to be rehearsed from scores rather than from parts,[76] and possibly played by memory.[77] Benefits are not only practical—e.g., to ease coordination—but also deeply ideological. As made explicit by the violinist, using scores has a transformative power on a performer's intellectual level: "By visualizing and thus imagining the totality of the music instead of only one part, the basic attitude of the performer is essentially altered and transferred to a higher spiritual level."[78] However, since the quartet repertoire was (and still is) usually played from parts, the full score existed only

[73] Arnold Schönberg, "III. Streichquartett, op. 30", manuscript parts (incomplete set), Wien, 1927, Rudolf Kolisch Papers, bMS Mus 195 (1675), Houghton Library, Harvard University. Curiously, this set of parts is wrongly reported as lost in the Arnold Schönberg Center database, but all information about it perfectly match the source evidence: see "Handschriftliche Stimmen aus dem ehemaligen Besitz von Rudolf Kolisch," Arnold Schönberg Center, http://archive.schoenberg.at/compositions/quellen_einzelansicht.php?id_quelle=1181&werke_id=412&id_gatt=&id_untergatt=&herkunft=allewerke. This set was copied from a photographic copy of the autograph score by three different hands (and in record time) during the first week of June 1927. As Kolisch recorded in his diary of the rehearsals, the *Probenjournal*, this set was then opened for the first time on the quartet's stands on June 7 at 6 o' clock, during the first rehearsal: see Rudolf Kolisch, "Probenjournal des Streichquartetts" 2 manuscript notebooks, 1921–27, bk. 2, nr. 36-37, Rudolf Kolisch Papers, bMS Mus 195 (2118), Houghton Library, Harvard University. Kolisch was later involved in the editorial process for the parts (Wien: Universal Edition, 8928a-d, published April 4, 1929). No printed parts survive in the Rudolf Kolisch Papers.

[74] A detailed account of the circumstances is in Barker, *The Pro Arte Quartet*, 112–113. The decisive impulse came from Schönberg himself on September 13, 1927. Therefore, it is likely that they premiered the String Quartet no. 3 while still reading from parts.

[75] See Anne Shreffler and David Trippett, "Introduction," in *RKinA*, 199–200.

[76] Rudolf Kolisch, "»Outline« des Buchprojektes: The String Quartets of Beethoven [194?]," in *RKinA*, 221.

[77] Rudolf Kolisch, "How to Rehearse and Play Chamber Music [1940]," in *RKinA*, 208.

[78] Kolisch, "»Outline«," 221.

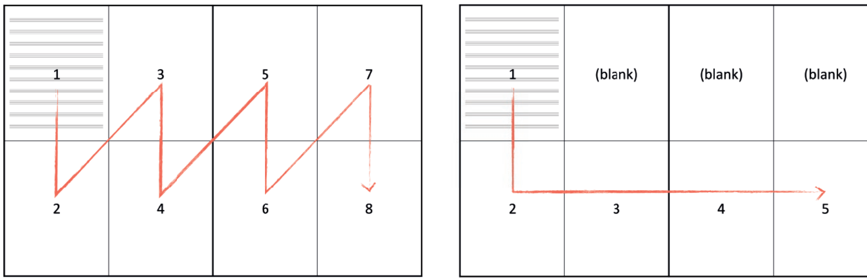

Fig. 3 Diagrams for reading directions in a part-score. On the left (figure 3.1) a general pattern, on the right (figure 3.2) the pattern used by Kolisch on fol. 4v-5r (showing pp. 24–28, mm. 1–43 of the third movement, the "Intermezzo").

in pocket format. As the layout for pocket scores was not optimized for *playing* from them, the violinist had to devise a strategy to overcome the clash between his ideology and the original function of such scores. The result is what he calls a *score-part*, namely a score "arranged from the player's point of view."[79]

As copy machines did not exist at that time, the only way to redistribute the visual content of the score into an artifact (that could work as efficiently as a part) was to use two pocket scores. At that moment, Kolisch was already using one of them for analytical purposes (annotations appear on *both* pages), while the other was brand new when it was torn apart. Kolisch assembled the even and uneven pages carefully, following a base pattern (see figure 3.1). When he altered it, he preferred to leave the upper half of the page blank (see figure 3.2), so as to maintain the reading direction as linear as possible. The point where to start reading is sometimes marked with an arrow—a telling example of annotations referring to the visual content of the notational artifact, but not to its textual one. Measures and page turning were optimized very scrupulously, with sometimes microscopic improvements. A closer look at the outer half of the right page (see figure 2) shows how the original page 8 (mm. 78–92) was taped to the bottom margin. In this way, the page turn fell on m. 93, while Kolisch (playing the first violin) still had to hold the note until the first half of m. 94. If he rearranged the pages there, it was not because of a memory issue, but likely to enhance his visual control on the other parts during the *ritenuto*. To do that, he re-taped page 8 higher, then

79 Kolisch, "»Outline«," 221.

cut off mm. 93–94 from the following page. Lastly, he moved them to the previous opening, adding "TURN" in red ink.

Such an evident care for the effectiveness of this notational artifact in performance may appear bizarre, if we take into account how well Kolisch knew the piece before he had his part-score. Nevertheless, the number of annotations—mostly analytical—that we find on these pages suggests that he never quit delving into the piece even later in his career, especially when he took the leadership of the Pro Arte Quartet, and moved to Madison, Wisconsin. During "the Kolisch years" (1944–1967), the Austrian violinist required his fellow musicians to also rehearse from part-scores, and since "the performances by memory did not continue with the Pro Arte," the quartet performed from part-scores, too.[80] It is not surprising that this choice caused "recurrent discomforts" among his colleagues.[81] Adapting their reading habits to a new layout certainly took time, and even with some training the score-parts needed to be read more closely than individual parts, as reading surfaces were crowded and music fonts small. Moreover, a certain familiarity with reading a score was not (and is still not) necessarily taken for granted in a chamber musician, and even though reading a part-score is more complicated, the eye must get used to jumping correctly from one page to another within the same opening.

Nevertheless, part-scores were an absolutely essential tool in that context, for they complied with a systematic theory of performance,[82] deeply rooted in a longstanding aesthetic that had analysis as its fundamental tenet.[83]

[80] Watling, "Kolisch in Madison," 184. It is worth reminding that the String Quartet no. 3 was Schönberg's most performed quartet, with seventeen performances over the years. The first performance with the Pro Arte Quartet took place at the University of Chicago on December 14, 1944; see Barker, *The Pro Arte Quartet*, 116.

[81] Barker, *The Pro Arte Quartet*, 147.

[82] Kolisch, like his close friend Theodor W. Adorno, planned to write a systematic theory of performance, one with a strong emphasis on practical issues and from the perspective of the performers. Kolisch's writings on such matters were only partially edited in *RKinA*, while a long conversation on the subject had already appeared in Berthold Türcke and Rudolf Kolisch, *Rudolf Kolisch Zur Theorie der Aufführung. Ein Gespräch mit Berthold Türcke* (München: Text & Kritik, 1983). On the relationship between Adorno and Kolisch see Gianmario Borio, "Analisi ed esecuzione: note sulla teoria dell'interpretazione musicale di Theodor W. Adorno e Rudolf Kolisch," *Philomusica on-line* 2, no. 1 (2003), https://doi.org/10.6092/1826-9001.2.22; David Trippett, "The Composer's Rainbow. Rudolf Kolisch and the Limits of Rationalization," in *RKinA*, 228–237.

[83] A critical discussion which addresses the myth of analysis as basis for interpretation can be found in Mine Doğantan-Dack, "Artistic Research in Classical Music Performance: Truth and Politics," *PARSE* 1 (2015): 27–40.

According to Kolisch,"every detail of interpretation shall be determined by looking deeply into the construction of the work and the relationship between its elements. … Through analysis we shall gain all the necessary means to make our decisions."[84] Nevertheless, performers must keep in mind that music writing allows them to encode only the "*objective elements* of performance," while "the subjective elements [have] no quantitative indicati[ons in the score], which leaves them wide open to interpretation."[85] Kolisch's annotations in the part-score seem to correspond in full to his statements. On one hand, his interest in analyzing structures and compositional techniques is well confirmed by the wealth of analytical annotations, focusing particularly on dodecaphonic technique. On the other, no annotation trespasses the analytical level. The violinist never wrote down the character he wanted for a specific passage (nor would he ever have done so), as this was a subjective element of the interpretation and therefore non-codifiable.

With regard to analysis again, a detail reveals how Kolisch understood it as a means to "fix" the errors of the score, too, namely those notes that did not conform to the dodecaphonic row. Here, he corrected the viola part in the third movement, m. 126, changing the last C♭ in D♭ in compliance with the dodecaphonic row I_9. If he did not make a note in his part-score (as well as in other scores of his),[86] we would have never acknowledged this aspect of his ideology about musical texts, both because Kolisch never wrote about it explicitly and because detecting this kind of details while listening is practically impossible.[87] Despite his idea that the score is "the only source of information"[88] and "the only dictator,"[89] the musician actually understood it with a more critical attitude, as *a* text that may be wrong, and that must therefore be corrected in order to preserve or strengthen its coherence.

[84] Rudolf Kolisch, "Musical Performance: The Realization of Musical Meaning [1939]," in *RKinA*, 206.

[85] Kolisch, "How to Rehearse and Play Chamber Music," 208, emphasis in original. The last square brackets contain an editorial emendation, due to a tear in the original source (see 207n1).

[86] This attitude also recurs in his other Schönberg scores. See Kolisch, "Musical Performance," 206n26.

[87] The same approach can be found in another quartet leader, Walter Levin: see Dörte Schmidt, "»We must have a SCORE«. Kolisch, das LaSalle-Quartett und die Partitur zum Streichquartett von Witold Lutosławski," in *Arbeit an Musik. Reinhard Kapp zum 70. Geburtstag*, ed. Markus Grassl, Stefan Jena, and Andreas Vejvar (Wien: Praesens Verlag, 2017), 573–596; Cestino, "'Used Scores,'" 92–94.

[88] Kolisch, "Musical Performance," 206.

[89] Kolisch, "How to Rehearse and Play Chamber Music," 207.

Annotations, on this opening, show one last use of this notational artifact by Kolisch. Crosses appear at certain points in the score. In all likelihood, they indicate errors to be corrected, spotted during rehearsals or maybe during the two recordings made by the Pro Arte Quartet in 1950 and 1960 respectively.[90] In any case, they prove how the notational artifact was also used as a tool while listening—or better as an aid to inscribe auditory feedback—, thus completing the picture of the modes of correspondence with its user.

In sum, the analysis of the material evidence of this notational artifact highlights the following:

1. while assembling the original pocket scores into a part-score, Kolisch converted their previous function (analysis) and adapted them to his main use (rehearsal/performance);
2. he rearranged the visual content of these artifacts in a way that conformed to his explicit ideology, and established a custom space of correspondence ruled by a precise "reading path" that he devised for musical purposes;
3. on the base of such explicit ideology, he went on delving into the textual content with an analytical approach, eventually questioning its exactness and reliability (a telling element of his implicit ideology);
4. he sometimes used the part-score to record errors or performance issues he directly experienced.

In conclusion, this example highlights the centrality of music reading not only in the user-artifact correspondence, but also in relation to all other practices that occur in music-making. Interestingly, although reading as a visual process leaves no trace, its modes can be inferred by looking at the written and material evidence left. It seems to me that four different modes can be distinguished. Rather than indicating self-enclosed types of reading, the following can be understood as points on a *continuum* combined with each other and with other practices in order to fulfill different purposes:

1. *Reading in performance*—Here visual decoding combines with playing an instrument and works as an *aide-mémoire* of an informational content that is usually already known; it is linked to the temporality of music, and therefore its directionality is not reversible; the handling

[90] The first recording was made on January 24, 1950, at the WOR Studios in New York, and was released on LP (Dial Records 4, 1950). It is now available as compact disc: Pro Arte Quartet, *In Honor of Rudolf Kolisch, 1896–1978. Works by Schubert, Bartok, Schoenberg, Berg, Webern*, Music & Arts CD-1056, 2003, cd 3, tracks 1–4. The second is an unpublished studio recording made at the University of Wisconsin: see Watling, "Kolisch in Madison," 186.

of the notational artifact is relevant and affects playing; the practice of annotation is not involved.

2. *Reading to analyze*—In this case, visual decoding aims to unpack musical meanings through a specific competence of the code; it is not linked to the temporality of music as expressed by notation, and therefore it has no predetermined directionality; the handling of the notational artifact has no relevance; the practice of annotation is often involved.
3. *Reading in rehearsal*—Visual decoding combines with playing, and may process some new informational content, or focus on small portions of it; when content is already known, it works as an *aide-mémoire*; it may be linked to the temporality of music, but it can also be more independent; the handling of the notational artifact may be relevant and may affect playing; the practice of annotation is often involved.
4. *Reading while listening*—In this event, visual decoding seeks a match between auditory events and symbolic representation and follows the directionality of played (or recorded) music; the handling of the notational artifact may be relevant and may affect the simultaneity of reading and listening; the practice of annotation may be involved.

Conclusions

The framework I have proposed (see figure 4 for a visual schematization) and the accompanying example pave the way to a more systematic exploration of both historical and present-day case studies—a journey which will eventually lead to more comprehensive theories and more flexible analytical tools. Nevertheless, it already suggests possible benefits and developments, the first of which is what I would call a rematerialization of things usually referred to with dematerializing words such as source, text, or score. This rematerialization does not happen by calling in ready-made concepts such as agency, but through a simple renaming. The very notion of notational artifact aims to bring all things that incorporate and display music notation back to the material world—a world from which they are often detached because of their very affordance.

As products of an ocularcentric tradition in which sight has an epistemological supremacy,[91] all "music books" (a telling way of saying) are made to

[91] For a review of the history and discourses on the subject, see Brian Stonehill, "The Debate over 'Ocularcentrism,'" *Journal of Communication* 45, no. 1 (2006): 147–152.

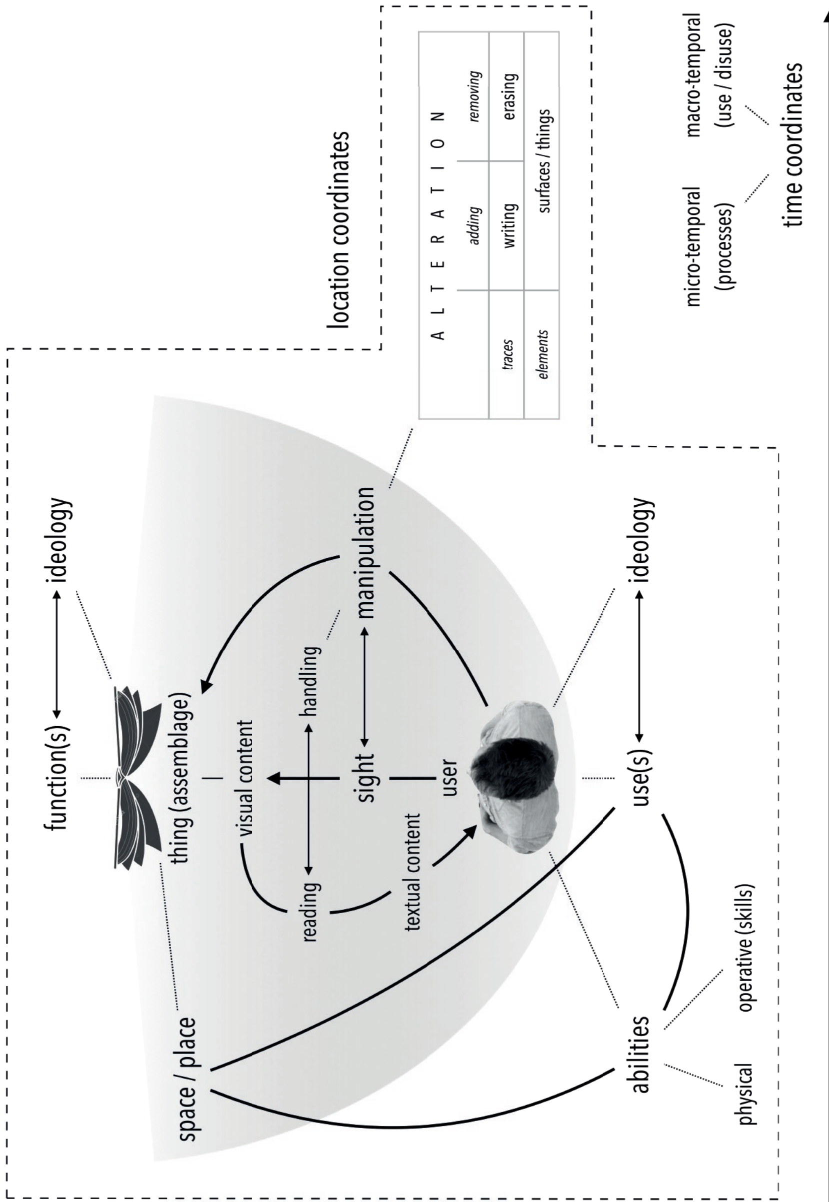

Fig. 4 A framework for analyzing the relationship between notational artifacts and users.

afford vision, a contemplative means to abstract contents from their material consistency. Vision works as a "filter that we insert daily between reality and our perception of this same reality," as a "precious ability we have to focus on one thing while excluding others."[92] And it makes no distinction between musicologists, composers, or performers, for they are all equally involved in often dematerialized notions of reading and writing—when not in a second-degree metonym, according to which scores are "the music." "We call it music, but that is not music: that is only paper" told Leopold Stokowski to Glenn Gould.[93] The purpose of these pages has been to show how true and false this sentence is at the same time. True, as long as we do not rematerialize that paper; and false, if we fail to acknowledge that is not *only* paper, but paper corresponding with users in music-making.

And yet, even if notational artifacts vanish behind more "musical" words, "objects are important not because they are evident … but often precisely because we do not 'see' them."[94] Therefore, we must describe their relationship with musical users even if the latter are not aware of such relationship. If the objects' relevance is hidden behind the "humility of things,"[95] then we have to uncover such humility to understand how "powerfully they can determine our expectations by setting the scene and ensuring normative behavior."[96]

An investigation into explicit and implicit human relationships with notational artifacts is a interdisciplinary attempt, in which historical-analytical and philological skills match with anthropological and archaeological perspectives. On a conceptual level, this approach encourages a rethinking of some crucial practices in Western music-making. Firstly, writing is understood as a counterpoint of reading, and not the other way around, for it depends on an active process of visual decoding. Moreover, writing is regarded as a material practice encompassing all users from composers to performers, and not only as a technology of symbolic representation. Reading, for its part, is reconsidered as a localized, time-oriented, visual process and not only as an interpretative operation for extrapolating meanings.

On a more disciplinary level, this perspective paves the way for a new history of music reading and suggests reconsidering the role of notational

[92] Neil Harris, "Introduzione. La bibliografia e il palinsesto della storia," in George Thomas Tanselle, *Letteratura e manufatti*, trans. Luigi Crocetti (Firenze: Le Lettere, 2004), xiii.

[93] Glenn Gould, *The Glenn Gould Reader*, ed. Tim Page (New York: Knopf, 1984), 264.

[94] Miller, "Materiality: An Introduction," 5.

[95] Miller, 5.

[96] Miller, 5.

artifacts in performance studies as integral to the music-making processes. Moreover, it invites for a deeper investigation into the annotation practices and their relationship with music reading, thus broadening the aims of the history of performance practice. Lastly, this approach promotes the inclusion of notational artifacts into studies on music notation. Rather than an "ethnomusicology of notation," as recently proposed by Floris Schuiling,[97] I would rather advocate a musicology that brings notational artifacts, as human and cultural facts, at the center of their relationship with users in the context of music-making— an anthropology of notational artifacts, as it were. After all, if "a book is not an obvious place for music,"[98] why should someone reading from that book be any more obvious?

[97] Schuiling, "Notation Cultures."
[98] Thomas Forrest Kelly, *Capturing Music: The Story of Notation* (New York: Norton, 2015), xiv.

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Abstract

Until today, the most traditional media for music notation—scores, parts, or “music books” in general—played an essential role in musicology, providing the essential core of information upon which historical and philological research are grounded. Even if more recent disciplinary turns attempted to undermine the textualist bias according to which “scores were the only real thing about music” (Kenyon), nevertheless the conceptual tools we use to identify, describe, and analyze such scores remained substantially unaltered. Score-like objects are still assigned the status of sources in a research-oriented perspective which prioritizes content forms over usage practices, compositional processes over performative ones, and music writing over music reading. Nevertheless, any material object that incorporates and displays music notation—i.e., a notational artifact—can work not merely as a witness of a musical

text, but also as a multi-faceted "bundle of affordances" (Sterne), according to its users and the practices they perform with it.

In this article I propose a theoretical framework for analyzing the relationship between user and artifact in music-making. By reframing textual critical tools within a cultural anthropological approach, notational artifacts can be understood as materials with specific physical and visual features; as triggers for a concrete space of human interaction and a symbolic place of belonging; and as repositories for intellectual and operative contents. By applying this framework to one peculiar score belonging to Austrian violinist Rudolf Kolisch, I argue for a reconsideration of the main practices performed by users over their artifacts, namely the acts of writing (notation and annotation), of material production and alteration, and of reading in various music-making processes.

Keywords: material culture, anthropology, music reading, music writing, music-making.

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