In 1786, Mozart returned to the Redoutensaal during the Viennese carnival season, this time robed as an Eastern mystic. Instead of performing a harlequinade, he distributed a text bearing the title “Excerpts from the Fragments of Zoroaster,” each copy of which contained eight riddles and fourteen proverbs he had devised for the amusement and edification of his fellow masqueraders. In contrast to the profusion of equally viable possibilities produced by the rigid mechanisms of Würfelspiele and the commedia dell’arte, the ludic pleasure of riddles lies in the distillation of boundless possibilities into a singular solution via a series of statements cleverly designed to (mis)lead the reader, at once inviting and resisting the correct answer. Similarly, proverbs compress observations on complex patterns of behavior into an optimally efficient maxim. Both riddles and proverbs bear—or even necessitate—rereading: they rely on the capacity of the written word to store multiple layers of information and to prompt reflection before action. As indices of playful thought, Mozart’s “Zoroastrian” fragments thus stand in an analogous relation to the canovaccio of his pantomime as a puzzle canon to a partimento. Yet despite their differences, all four phenomena rely on the staging of events that are both rule-bound and unexpected, even if their ludomusical elements are distributed, configured, performed, and heard quite differently.

In much of Mozart’s keyboard music, formal designs and narrative threads are at once projected and subsumed by sequences of events that evince what Holtmeier characterizes as a “certain accidental quality,” lending the impression that “something different could sound in their place.” In a similar spirit, Vasili Byros has explored counterfactual alternatives to Mozart’s syntactical and schematic (re)ordering of materials, linking the composer’s ludomusical strategies to his
penchant for anagrams, puns, and other forms of wordplay. Holtmeier and Byros engage in playful processes of imagining how Mozart’s music might have emerged differently: Byros ascribes an awareness of such possibilities to the eighteenth-century listener, whereas for Holtmeier it arises directly from the hands-on activities of practice and memorization at the keyboard. For both, the sophistication of the particular forms in which Mozart’s sonatas ultimately crystalized suggests that even when such contingencies are reverse-engineered from their neatly compiled notational code, they do not expose the mechanisms of Mozart’s compositional methods so much as they pose further riddles to the performer, listener, or analyst.

Today, the ludic currency of Mozart’s music resides not only in the means by which its notes were strung together (a process of which the manuals of Riepel, Kirnberger, and Koch—not to mention the blind operations of Würfelspiele—can offer only the crudest of historico-cognitive hints), but also in the projection of sound, motion, and character from those notes. In other words, it has to do with performance as well as composition, and in particular with the musical score as an interface between the two that marks points of convergence and departure. Via readings (or rather playings) of scores by Mozart and Beethoven, this Key charts a course that tracks the ludomusical trajectories of notes and sounds. It focuses on continuities as well as disjunctions between historical, cultural, and material circumstances, issues of style, syntax, idiom, and idiolect, and the channels along which such factors were mediated and processed. This involves approaching scores from a range of perspectives that frame them as ideas, objects, charts, feedback mechanisms, and status indicators. Accordingly, any given score might be treated as a provisional sketch, as a compositional proposition or declaration of intent, as a quasi-theatrical script to be realized in performance, as a set of rules for the player to follow (or break), as a chart that maps out musical terrain to be explored, or as the tallying of a ludomusical process that serves to quantify and record prior outcomes even as it continues to precipitate new ones. A score can both script and record improvisatory operations in ways that blur boundaries between composition and performance, whether revealed by its fragmentary material state or inferred from the ends to which it might be put.

These multiple functions reflect the variability of inscriptive fixity in both ideational and material terms. On the one hand, they relate to the shifting means and metaphors by which music could be ontologized, as Goehr demonstrates in her influential tour around The Imaginary Museum of Musical Works. On the other, they emerge from pragmatic considerations that place the history of musical style into direct contact with the formatting of the media by which it was stored and transmitted, which underwent momentous change over the course of the eighteenth century. In particular, the conception and fabrication of music in specific genres via the production of textual objects and the operation of keyboard
interfaces were intimately and reciprocally connected, as John Butt observes in his genealogical survey of the early keyboard concerto. Owing to the entrenchment of tablature and the prevalence of part-books as well as to the overwhelming identification of the keyboard with the *basso seguente* or *continuo*, the notion of writing an obbligato part for the right hand in concerted music appears to have gone unimagined before J. S. Bach, Handel, and Vivaldi independently experimented with it in 1707–08. By the end of the century, however, the proliferation of harpsichords, clavichords, fortepianos, and their scores had shown the keyboard to be a transcripptive medium capable of rendering every musical genre while carving out its own distinctive niche.

This process was enabled and sustained by the reciprocal mapping of notes and keys as concepts and objects, as discussed in Key 2–2. Beyond such one-to-one relationships, the social, industrial, and pedagogical dynamics through which the keyboard became the primary locus of improvisatory, performative, and recreative behavior help account for the formation of a canonical repertoire, a repository of musical code that could be processed via its standardized programming interface. The software components of this thriving digital ecosystem were enriched by the iteration and deprecation of branches, forks, and mergers by individual composers and arrangers, while its hardware was subjected to constant revisions at the hands of circuit-bending inventors, builders, technicians, and restorers. Their collective efforts amounted to the technical facilitation of musical play at the keyboard.

As suggested in Key 1–2, the ostensible anachronicity of such ludomusical analogies between historical keyboard performance and contemporary digital praxis can prompt us to consider the new in the old as well as the old in the new. In this light, it is telling that media archaeologist Erkki Huhtamo echoes musicological strategies for making sense of late-eighteenth-century instrumental music in forging “topical” connections between chronologically and culturally disparate phenomena that intersect with historical narratives at oblique angles. Throughout this Key, such catachrestic maneuvers are undertaken in the interest of registering ludic aspects of musical performance that, virtually by definition, elude attempts to capture them in traditional scholarly parlance. That notwithstanding, they are grounded by the relative familiarity of the scores on display and the biographical and analytical modes in which they are presented. Approaching these scores in terms of the interactive play they occasion rather than the textual information they convey does not pretend to supplant time-honored modes of philological, analytical, and hermeneutical exegesis, but rather aims to supplement them.

In mapping out the ludomusical potential of scores considered as improvisatory prompts, compositional statements, performative instructions, and codifications of behavioral expectations, this Key resonates with tones struck by each of its predecessors. First, the ludomusical logic of *mimicry* allows us to conceive of how the musical past might have played out in terms of simulation or reenactment rather
High Scores: WAM vs. LVB

than via obedient compliance with the strictures of Werktreue or the melancholy Romantic pursuit of lost objects and experiences. Second, the notion of the score in terms of its playful realization at the keyboard draws attention to numerical rather than alphabetical operations, which is to say it favors counting over recounting, showing over retelling, proceeding over describing, and the hand's musical digits over the mind's linguistic analogies. Finally, the improvisatory partimento tradition to which Keys 2–3 and 3–2 allude provides this Key with a red thread in the form of a cadential bass line—a movimento en route to a clausula—on which Mozart and Beethoven relied in the course of designing mechanisms by which ludomusical adventures might both draw to a close and get under way in the first place.

4–1 unsetTled scores

Musical repertoire and the musical discourses envoked around it circulate and reflect audible phenomena as written signs. Owing in part to these communicative conditions, the dominant mode of Western music criticism has been hermeneutical, predicated on teasing meanings out of scores as if they were literary texts. Preambular disclaimers acknowledging and lamenting the unbridgeable gulf between word and sound rarely affect the tone or tenor of the exegesis that follows; on the contrary, they are baked into the logocentrism of Romantic discourse, which has long represented musical unrepresentability by assigning its resistance to symbolism a distinctive place in the symbolic order. By way of the “certificate of apprenticeship” both attributed and addressed to his fictional Kapellmeister Johannes Kreisler, Hoffmann devised a feedback loop that recursively ratifies its own criteria, amplifying the wondrous sounds of nature by way of the alphabetic technology that they purportedly evade and exceed: “Music . . . is the universal language of nature, speaking to us in beautiful, mysterious sounds, and we wrestle in vain trying to confine those in symbols; those artificial notes are no more than hints of what we have heard,” even as the means, motives, technology, and terminology held to account for it have changed radically over time. The prospect of mapping a buffer zone plotted as an asymptotic boundary or driven as a wedge continues to (de)construct and mediate between the dyadic pairings of text and event, statement and delivery, meaning and presence, automation and liveness.

Within recent scholarship, tensions between text-based investigations and inquiries into music's phenomenal emergence by way of performance have been productively registered across a range of disciplinary milieux. In his programmatic book Beyond the Score, Nicholas Cook sets out to historicize and to broaden the scope of musicological research by incorporating detailed considerations of roles played by improvisers, performers, listeners, and analysts that have been excluded or downplayed by the academic propensity to conceive of “music as writing.”

13 Even as the means, motives, technology, and terminology held to account for it have changed radically over time, this remainder has remained. Whether mapped as a buffer zone plotted as an asymptotic boundary or driven as a wedge, it continues to (de)construct and mediate between the dyadic pairings of text and event, statement and delivery, meaning and presence, automation and liveness.

14 Within recent scholarship, tensions between text-based investigations and inquiries into music’s phenomenal emergence by way of performance have been productively registered across a range of disciplinary milieux. In his programmatic book Beyond the Score, Nicholas Cook sets out to historicize and to broaden the scope of musicological research by incorporating detailed considerations of roles played by improvisers, performers, listeners, and analysts that have been excluded or downplayed by the academic propensity to conceive of “music as writing.”
longevity of the paradigm by which scores have been not merely kept but obsessively preserved testifies to the tightly circular logic of its historical mediation—which is to say its mediated history. One symptom of this reciprocity is that, both despite and owing to Kreisler’s complaints, the term “note” has come to signify both an inscribed instruction or invitation to produce a sound and the unit of musical sound itself. This synonymy is embedded in the archival and repertorial privilege granted to documentary traces over other forms of embodied, conceptual, and material evidence.\textsuperscript{16} To adopt Gumbrecht’s elegant phrase, music in performance “undoes itself as it emerges.”\textsuperscript{17} Conversely, music history deals almost exclusively with that which did or could not undo itself, whether by happenstance or design. From this perspective, “classical” music might be defined as the music that has proved to be the least undoable of all.

As Fred Moten notes, Adorno was an apologist for the notion that such music must defer and conceal its abject reliance on mimetic gesture, mediating the immediacy of its sensuous presence by aspiring to the atemporal and disembodied condition of inscription.\textsuperscript{18} Adorno thus calculated Kreisler’s Romantic remainder in reverse. While grudgingly admitting the necessity of sonic enactment, he focused instead on the ludic process by which “hints” to its mysteries could be symbolized and concealed: “Every musical text is . . . a fundamentally insoluble riddle and the principle for its solution.”\textsuperscript{19} To account for the legibility of such riddles, Adorno distinguished between “mensural” and “neumic” notational elements, the functions of which become identifiable in specific idiomatic contexts.\textsuperscript{20} To translate these terms into those introduced in Key 1–4, mensural notation is digital in that it denotes discrete quantities of musical information (primarily the melographic parameters of pitch and rhythm), while neumic notation is analogical in that it connotes gesture, phrasing, and structure by way of mimetic vectors. In making this distinction, Adorno relocated the dialectic between compositional inscription and the spontaneous performance of mimesis to the score itself, which betrays the technical and gestural means of its own production. Mensural precision at once surpasses and falls short of the smooth contours of the neumic, which in turn relies on jagged mensural quantizations even as it defies them.

In Adorno’s reading of Hugo Riemann’s \textit{Handbuch der Musikgeschichte}, the relation of the neumic to the mensural shifted decisively at particular historical junctures.\textsuperscript{21} The origins of neumatic notation were to be sought in cheironomic accents and gestures that had little to do with the unambiguous fixing of melodic content, but rather ensured that the contours and stresses of the chanted text were properly acknowledged. It was in this light that Adorno traced the concept of mensural notation writ large not merely to the development of symbolic technologies for specifying durational proportions, but also to the Guidonian gridding of pitch, both of which provided an unprecedented degree of specificity as well as autonomy from what he saw as the baleful influence of text and its ritual performance.\textsuperscript{22} In a Weberian vein, Adorno measured the rise of mensural notation and its concomitant rationality via
the “pure numbers” of figured bass; neumic elements, conversely, could be inferred from the parabolic beams and ligatures of autograph scores indexing the sweep of the composer’s hand as it cursively inscribed mensural information. On occasion, however, numerical symbols could represent neumic instruction rather than (or as well as) mensural signification, as Adorno noted of the fingerings that connote and choreograph the quasi-cheironomic gestures of a pianist’s left hand plunging into Beethoven’s Sonata in C minor, op. 111 (1821–22).

In nineteenth-century scores, neumic inscriptions typically took the form of idealized, gnomic, or ambiguous indications, literal remnants from which the spiritual gist had to be divined. They were materialized via an ever-expanding lexicon of expressive symbols and instructions—primarily to do with agogics, dynamics, articulation, and the Aeolian modulator of the sustaining pedal—that probed and blurred the boundaries between melographic and oscillographic forms of representation. For Romantic observers, hairpins and other neumatic squiggles served as vital signs to which compositional agency and Hegelian subjectivity could be ascribed. At the same time, however, they were contiguous with the phonautography of Scott de Martinville, who offloaded the Kreislerian burden of transcribing and cataloging nature’s “universal language” back onto its disembodied author: “It is a matter, as you see, by this new art, of forcing nature herself to constitute a written general language of all sounds.”

As noted in Key 2–2, Scott’s emphasis on phonautography as sonic self-writing seems bizarre from the post-Edisonian perspective that figures it primarily in (re)sounding terms. It nonetheless sheds light on Adorno’s claim that “through the curves of the needle on the phonograph record, music approaches decisively its true character as writing,” while the autographic notion of text that writes itself illuminates his anti-Hegelian thesis that “the dignity of the musical text lies in its non-intentionality.” Automatically playing out what Adorno analyzed as the zero-sum endgame of sonic reproduction, the phonograph needle mimicked the musician by performing the neumatic mimesis of a no-longer-existent original.

In the archaeological terms of the digital analogy, the mediation of the inscriptive techniques noted by Riemann and Adorno can be considered independently of their teleological and eschatological historicism. This involves recognizing functional as well as chronological continuities and distinctions: In part or in whole, can a given score be apprehended as prescription or transcription, prompt or aide-mémoire, canovaccio or script, chart or blueprint, recipe or autopsy? Depending on how scores are embedded in specific improvisatory, performative, reproductive, and analytical procedures, the balance between mensural, neumatic, and idiomatic elements may be struck differently.

The process of suturing them is on display toward the conclusion of an “unmeasured” prelude in G minor as anonymously notated in the Bauyn Manuscript (ca. 1690) and attributed to Louis Couperin (Figure 53, Audio 6). The prelude is cast in a tripartite form redolent of the Italo-German toccata; as Davitt Moroney points out, the outer two sections are “rhythmically free while the central one is contrapuntal.”
Whereas the imitative rigor and sharply defined rhythmic profile of this dance-like central section demand mensural specificity, its passage into the prelude's neumic conclusion is staged in a precisely vague manner. On the one hand, this transition can be read as a gradual slackening—even an entropic dissolution—of composerly and inscriptive control; on the other, it signals a reciprocal increase in the performer's latitude to make of the passage what (s)he will. Yet this freedom is by no means absolute: while the spacing of the notes and the lines that signify slurring, grouping, prolongation, and ornamentation might not convey quantifiable information, they nonetheless hold qualitative and relational implications for their delivery in the *style brisé*.⁵¹ In this regard, unmeasured notation is less about the absence of bar lines than about representing the desynchronized flow of musical events in performance by inscriptive means that supplement and undermine the tallying of discrete pitches and rhythms.

**Figure 53.** Louis Couperin (attrib.), conclusion of Prelude in G minor (ca. 1658), Bauyn MS (ca. 1690), Bibliothèque nationale de France (Rés. Vm7 674–75), 2 vols., 2:14. Reproduced by permission.

**Audio 6.** Couperin, conclusion of Prelude in G minor, performed by Matthew Hall.

To listen to this audio, scan the QR code above with your mobile device or visit DOI: [http://doi.org/10.1525/luminos.16.12](http://doi.org/10.1525/luminos.16.12)
In Butt’s terminology, the prelude’s notation qualifies as “purposely incomplete.” As with a partimento bass line, players could pick up the unwritten rhythmical and metrical clues that lay behind such notation by way of instruction, study, and the intertextual accumulation of experience. The prelude’s “imprecision” was not a deficiency, but rather a regulative attribute from which all necessary information for realization could be inferred—if only at the hands of a (budding) professional. As Moroney puts it, such preludes themselves teach students about the harpsichord’s possibilities “through [the] fingers,” reinforcing the idea that we might conceive of performance at the keyboard not primarily in relation to the literal or oral transmission of information, but as a fundamentally manual and digital activity. This approach is endorsed by the genre and function of the prelude, its purpose of probing the qualities and limits of a particular instrument and its tuning, its association with imagination and fancy, and its flexible modularity vis-à-vis other music to be improvised, played, written, or heard alongside it. Opening up a channel between player and instrument, the prelude establishes a feedback loop that also forms part of a larger network. The harpsichord mottoes discussed in Key 2–3 can be read in this light: by envoicing instruments, they attribute a degree of agency that recognizes the capacity of the keyboard both to resist and to yield, to obey and to defy, to frustrate and to inspire, to enter into dialogue—in a word, to play.

If the scores of Couperin’s unmeasured preludes mark both the outcomes and the potential of ludomusical play conducted in line with these tacit principles, then their counterparts published by Jean-Henri d’Anglebert in 1689 explicitly codify the rules of engagement. Whereas the manuscript copies of Couperin’s preludes were clearly not suitable for broad dissemination, d’Anglebert aimed to reach an audience beyond his professional colleagues. Somewhat wishfully, he thought that this kind of specialized musical knowledge could be effectively transmitted via the printed letter and note, so long as the presentation of each were sufficiently clear and detailed. To that end, d’Anglebert bookended his fastidiously engraved Pièces de clavecin with a tabular glossary of ornaments and a brief do-it-yourself guide to the correct deployment of intervals, chords, cadences, and harmonic successions.

To facilitate the conception and execution of his preludes, moreover, d’Anglebert imbricated the neumic and the mensural by setting flagged or beamed black notes, which indicate melodic fragments in the musical foreground, into relief against a harmonic backdrop delineated by white notes à la Couperin, as illustrated in Figure 54 (Audio 7). Anachronistic though the comparison might be, the notational parallax induced by d’Anglebert’s black and white notes brings his perspectival musicography into oblique contact with Schenker’s. In this connection, the Schenkerian principle of reduction is less relevant than the reciprocal relationship between the elaboration and the derivation of foreground and background by way of a schema—be it an (un)figured bass line, a Fuxian gambit, Riepel’s monte, Schenker’s Ursatz, or Gjerdingen’s “Meyer”—revealed in the course of its realization. In Luhmann’s terms, schemata are akin to ludic rules insofar as they neither “force repetitions to be made [nor] specify action,” but operate as “limitations to flexibility which make flexibility within
prestructured barriers possible in the first place.” Inscriptions of such schemata serve both as launch pads for musical creation and as resting places for its remains. Their symbolic mediation testifies to the nondiscursive means by which music can be at once projected into the future and retrospectively grasped by the fingers.

The notion that the unmeasured analytical chart of a piece might relate to its score in an analogous manner to that in which d’Anglebert’s notation gestures toward its actualization is corroborated by Schenker’s enthusiasm for improvisation. For Schenker, even large-scale formal design could be understood as improvisatory: “The masters . . . were able to traverse the path of the exposition with giant strides, as if improvising, creating thereby the effect of a dramatic course of action.” This helps account for Schenker’s admiration for C. P. E. Bach’s “gift of sounding spontaneous—das Ewig-Improvisierte,” on the one hand, and Riepel’s proto-Schenkerian notation of a phrase and its various “expansions, contractions, and transformations,” as Joel Lester describes them, on the other. From such a perspective, analysis reverse-engineers improvised utterances and vice versa, revealing the reciprocity between preludic prescription and analytical transcription that underpins Czerny’s advice to Miss Cecilia, worth quoting here once more: “you know that all music may be reduced to simple chords. Just so, simple chords conversely serve as the ground-work on which to invent and play all sorts of melodies, passages, skips, embellishments, &c.”

A ludomusical approach to the play of performance neither reifies the score nor self-consciously applies information knowledge gleaned beyond its confines, but rather acknowledges how text and praxis are systemically interwoven. Biographical histories, psychological tendencies, physiological tics, repertorial familiarity, idiomatic comfort, and the demands of any given instrument can all feed into performance as a phenomenon that is improvisatory (in that it issues directly from a specific and unique occasion) and analytical (in that it cannot help but articulate—and make articulable to others—the premises on which it is founded). Just as rules guide the
form taken by the playing of a game without determining—or even fully describing—it, so musical inscriptions play important roles in regulating musical behavior without necessarily prescribing, proscribing, or otherwise accounting for it.

While scores may be kept, they are rarely settled. Amid the word’s tangled etymological network, “to score” is associated with provisionality, with the marking of a dotted line that might be traced or severed in the future. In Figures 53 and 54, this contingency has itself left a trace that serves to index the presence of history and the history of presence, but it is futile to imagine that these qualities can be recovered: as Daniel Leech-Wilkinson plainly states, “music is not transmitted from the more distant past. Only notation survives.” Coming to terms with this hard truth entails bypassing the Romantic dialectic of fetishism and nostalgia that interprets old scores as symbols of loss and abandoning any residual faith in positivistic, technological, and shamanistic promises to channel—even to redeem—the past. In their stead, a number of ludomusical strategies present themselves. We might construe performance from seventeenth- and eighteenth-century scores as playful simulation rather than the authentistic rendition of an imagined past, as the subjunctive modeling of a process rather than the rehearsal of an overdetermined outcome, and as an infinitely extensible array of reenactments rather than a series of doomed attempts at resuscitation.

While such ludomusical approaches partially reflect the epistemological and cultural orientations of contemporary digital games, as will be made explicit in Key 5, they are also in tune with the two excerpts quoted above, and in particular with the various forms of openness and uncertainty they exhibit. On different spatiotemporal levels, both feature a schematic pattern that propels the music toward a cadence and yet invites—even requires—the collusion of composer, score, and player for the process to play out. Common coin in the syntactical currency of tonal music, this pattern was known and taught in the Neapolitan partimento tradition as the cadenza composta di salto (“leaping compound cadence”): three archetypal forms identified by Diergarten are shown in Example 2. Starting midway through the second system of Figure 53, an iteration of the cadenza composta di salto closely related to the third variant illustrated in Example 2 brings Couperin’s prelude to a close by way of a stepwise 3–4–5 ascent in the bass that culminates in the unfurling of 6/4–7/5/3 harmonies before the final tierce de Picardie. Despite substantial differences in tone, affect, and function, the same type of cadenza is underscored.

by d’Anglebert’s bar line in Figure 54 (which performs a structural rather than a
metrical function).

Although the closural function of such cadenze was more utilitarian than
playful, their ubiquity gave rise to forms of embellishment and extension that led
both to the development of the full-fledged cadenza, which served as a showcase
for the performer’s virtuosity and ingenuity, and to a range of cadential inganni,
ludic deceptions that played on the expectations of performer and listener
alike.\textsuperscript{46} Especially when displayed in the major key, these attributes aligned the
function of the cadenza\ composta\ di\ salto with that of the lieto fine by signaling,
suspending, and ultimately delivering the sense of a comic ending. In sonatas as
well as concertos, as we shall see, Mozart and Beethoven took full advantage of
these implications in order to defer, disguise, subvert, and delight. From a score-
keeping perspective, however, the significance of these unassuming schematic
patterns lies in their potential to rewire the literary and historical short circuit
that infers improvisatory or performative play from notation—even manquée or
sous rature—and thus embalms rather than revives it. While the cadenza\ composta\ di\ salto is eminently scorable, it cannot be defined or circumscribed by
any single inscription. Propagated by the diffusive operations of memory, dig-
its, keys, partimenti, and even the paper machinery of Würfelspiele, it circulated
widely via storage media, mechanisms of retrieval, techniques of invention, and
modes of representation.\textsuperscript{47} As a result, attempts to account for the performa-
tive power of the cadenza\ composta\ di\ salto can neither resort to hermeneutical forensics, under the scrutiny of which it is easily (dis)counted as mere conven-
tion, nor take cover under the rubric of Kreislerian ineffability, Gadamerian Vol-
lzugswahrheit, or Austinian utterance.\textsuperscript{48} Instead, they have to come to grips with
its continual (re)making, with the constant processes of iteration, adaptation,
and transformation that have kept it in play.

4–2 MOZART’S TWO-PLAYER GAMES

Traveling under aliases, or going by no name at all, the cadenza\ composta\ di\ salto made its way across Europe over the course of the seventeenth and eighteenth
centuries. As a fundamental articulator of musical syntax, it crossed stylistic and
generic as well as national and linguistic boundaries. Its appearance in French
unmeasured preludes and Neapolitan partimenti suggests a ludomusical mapping
between the variability of its skeletal notation and the freedom with which it could
be realized at the keyboard. This is made implicitly explicit by its twofold appear-
ance within the Gerippe of the fantasia with which C. P. E. Bach concluded his Ver-
such (Figure 21).\textsuperscript{49} Although the bottom-up conception of Bach’s fantasia is figured
in accordance with Italo-German thoroughbass tradition, its (un)measured bal-
ance of form and freedom resonates with that of the prelude as defined by François
Couperin in L’art de toucher le clavecin (1716):
A prelude is a free composition in which the imagination gives rein to any idea which presents itself. But it is rather rare to find geniuses capable of producing them on the spur of the moment, and so those who resort to these non-improvised preludes should play them in a free and easy style, not adhering too closely to the exact rhythm.\(^{50}\)

In a similar vein, Rousseau wrote of the delightful freedom granted by preludes, whether extemporized or composed, from “subservience to the rules that critical eyes impose on paper.”\(^{51}\)

These Bachian, Couperinesque, and Rousseauian attributes were absorbed by Mozart, who dispatched a prelude to his sister Nannerl from Paris in 1778 with the following disclaimer:

The manner of playing it I leave to her own feeling. This is not the kind of Prelude which passes from one key into another, but only a sort of Capriccio, with which to try a clavier. . . . You need not be very particular about the time. This is a peculiar kind of piece. It’s the kind of thing that may be played as you feel inclined.\(^{52}\)

While this prelude has been lost, the capricious qualities described by Mozart are on conspicuous display in another written to Nannerl’s tonal specifications the previous year (K. 284a, the ending of which is reproduced in Figure 55 and can be heard in Audio 8).\(^{53}\) In the manner of Louis Couperin’s Prelude in G minor (Figure 53), this prelude interleaves measured imitative sections with two “free” sections that lack bar lines (but not flags and beams). The first of these latter sections is marked “Capriccio,” advertising its playfully disruptive function. Despite the ilinx of their whirling arpeggios and broken chords, however, both episodes conform to the ludus of harmonic protocol, as Robert D. Levin demonstrates by way of an X-ray that exposes the prelude’s Bachian Gerippe.\(^{54}\) The first passage alternates hands and registers in sequentially exploring all three diminished seventh chords, sonorities specifically recommended by Bach for the generation of free fantasias, before clinching the modulation to B flat major that Nannerl had stipulated.\(^{55}\)

After the opening motive has been subjected to imitative treatment in the second measured section (the third and fourth systems of Figure 55), the final free section is at once a cadenza composta di salto and a miniaturized cadenza proper: the functional synonymy of the two terms is flagged up by Mozart’s 6/4 figuring, but masked by the grandiloquence of its realization (which is in turn wittily punctured by the isolated understatement of the dominant seventh chord that precedes the flamboyant final flourish).\(^{56}\)

Insofar as he could readily improvise such preludes, Mozart would have qualified as one of François Couperin’s “rare geniuses.” The scoring of this one can thus be attributed to Nannerl as well as to Wolfgang, for it would never have been written without her. Crafted in response to a specific request, the texture of its modulatory fabric testifies to the intimacy of a dialogical relationship between the two that could be remotely performed at the keyboard as the sharing of embodied experience. As an epistolary transmission, this score served to span the distance that separated brother from sister.
On different levels, dialogical dynamics also arise from the prelude’s play between left and right hands and from its manipulation of disparities between implication and realization. As proposed in Key 3–2, this type of ping-pong profoundly and multifariously informs Mozart’s music. Beyond the immediate pleasures of ludomusical back-and-forth, however, the myriad forms of Mozartian dialogue enumerate the rules that tacitly regulated them. As his exchanges with Nannerl imply, these rules have to do with cultural protocols governing the performance of gender as well as scores. On their tours of Europe in the 1760s, both Wolfgang and Nannerl were celebrated as *Wunderkinder*; the fact that Nannerl did not acquire the ability to improvise fluently perhaps had less to do with her...
potential to do so than with the professional trajectory that Leopold plotted for Wolfgang but denied her by ignoring her compositional ambitions, curtailing her public performances when she reached the age of eighteen, and obliging her to perform onerous domestic duties thereafter.

In this light, the game of mimicry that Nannerl played with the lost prelude her brother sent her in 1778 is imbued with a poignant tone. On its arrival, she immediately memorized it and passed it off as her own invention, to Leopold's amazement when he returned home an hour later:

She told me that she had made up something and would write it down if I liked it. She begun to play the first page of your prelude by heart. I stared at her and exclaimed: “Where the devil have you got those ideas from?” She laughed and pulled the letters out of her pocket.  

The liberty taken by Nannerl was in line with that which Wolfgang had urged her to exercise by playing the prelude “as you feel inclined” and in accordance with “her own feeling.” But although Nannerl had playfully staged a scripted process as an improvisatory event, her harmless deception suggests how a score might be written down to register the result of such events, tallying and recording noteworthy outcomes.

While the epistolary medium of Wolfgang’s collaboration with Nannerl afforded asynchronous play in that its dialogue had to be scripted and performed in different times and places, the ambiguous state of a good deal of solo writing in the autographs of keyboard concertos indicates that Mozart often shuttled rapidly between prescriptive and transcriptive scoring, particularly where the fortepiano was concerned. This was borne out by his collaboration with the renowned violinist Regina Strinasacchi, who aroused his admiration when passing through Vienna on tour in 1784: “she is a very good violinist, has excellent taste and a lot of feeling in her playing.—I’m composing a Sonata for her at this moment [K. 454] that we’ll be performing together Thursday in her concert at the Theater [am Kärntner]”. The fact that this letter was written mere days before the concert, which was to be attended by Joseph II among other luminaries, conveys a degree of creative pressure applied by temporal proximity. While Mozart often found (or placed) himself in such situations, in this case the pressure was so intense that the full score seems to have failed to materialize by the time of the performance: according to the recollections of Mozart’s widow Constanze, the emperor himself noted with surprise that the composer’s part contained nothing but blank staffs. The autograph of K. 454 reveals that the violin and keyboard parts were notated in different ink, indicating that Mozart did indeed write Strinasacchi’s part first before squeezing in his own at a later date.

In many ways, the circumstances under which K. 454 emerged are analogous to those surrounding the genesis of the Sonata for Keyboard and Violin in G, K. 379/373a, which Mozart hastily conceived the night before a concert he gave with the violinist Antonio Brunetti and the castrato Francesco Ceccarelli in 1781. Mozart composed the sonata “between 11 and 12 o’clock . . . —but in order to get done in time I wrote
out only the violin part (accompagnementstimm) for Brunetti and kept my own part in my head. 62 On this occasion, however, Mozart’s cavalier attitude toward Brunetti and the circumstances of performance reflected a degree of disdain for the violinist as well as his brewing frustration with the quasi-feudal terms of his indenture to Prince-Archbishop Hieronymus von Colloredo. 63 The opportunity presented by his collaboration with the Stradivarius-wielding Strinasacchi was of a different order. As Samuel Breene notes in his imagining of K. 454 in the cultural and historical context of its first performance, Strinasacchi’s compelling presence as conspirator, interlocutor, foil, and even rival must have elevated Mozart’s game, lifting it far beyond the generic norms of the accompanied sonata (in which the nonkeyboard instrument was as often ad libitum as it was obbligato). 64 In the case of K. 379/373a, Mozart’s description of Brunetti’s part as “the violin accompaniment” reflects not only this tradition, but also the leading role played by the fortepiano in establishing and shaping the discursive terms of all three movements. Conversely, the equality of the two instruments in K. 454 is immediately evident from the stately exchanges with which the sonata opens (Figure 56, Audio 9): by way of elegantly choreographed gestures, each assumes and cedes the spotlight in turn. 65
Whereas Mozart claimed to have composed K. 379/373a beforehand, to have reproduced his own part from memory at its initial performance, and subsequently to have transcribed it, the revisions he made to Brunetti’s part as well as the emendations he made to the keyboard part in the course of scoring it indicate that the different phases through which the work was conceived, sketched, and played prior to its definitive notation amounted to a dynamic iterative process. This complicates the notion, popularized by Mozart’s preternatural (if often apocryphal) feats of memory, that “he copied the music from an imaginary score which he knew by heart,” as Erich Hertzmann envisaged the means by which the overture to *Don Giovanni* was composed.  

Conversely, the quick-fire dialogue between fortepiano and violin that unfolds throughout K. 454 emerges not only from the systematic rotation of musical material, but also from its readily comprehensible schematic backdrop, the structural principles of which can be inferred from the violin part alone when conceived as a “fundamental soprano,” a *chant donnée* providing a *Gerippe* in the Tartini manner of an upside-down *partimento*. This implies that rather than mentally composing a keyboard part to be digitally reproduced in the course of performance, Mozart might have initially sketched the score of K. 454 as a musical *canovaccio* to be realized in collaboration with Strinasacchi via an improvisatory back-and-forth akin to Gherardi’s dialogical play with his fellow actors in the *commedia dell’arte*—not to mention Mozart’s own pantomimic play in the Redoutensaal the previous spring.

Although such a tour de force might seem implausible, a Viennese precedent for the extemporized generation of a sonata for keyboard and violin had been established by Karl Ditters von Dittersdorf and his hapless brother, who did not have an appropriate score to hand when called upon to perform such a piece by their patron Prince Joseph Friedrich von Sachsen-Hildburghausen. While pretending to read the score of a symphony in E flat, the two managed to produce a barely adequate sonata in G by the skin of their teeth: placing their accomplishment in the context of the *commedia dell’arte*, Gjerdingen observes that the super Dittersdorf brothers “must have ably connected a string of well-learned musical schemata to form a seemingly spontaneous and continuous musical performance.” Owing to her training in composition as well as performance at the famed Ospedale della Pietà in Venice, Strinasacchi may well have been equipped to perform a similar feat, and was certainly qualified to engage with Mozart throughout the ludomusical process of bringing their sonata to life, no matter when or how it was scripted.

From this perspective, it is telling that the Largo introduction to the first movement of K. 454 takes shape from the dialogical fleshing out of a series of paired schematic elements. After the formalities of an initial inquiry and rhyming reply in the syntactical form of a variant of Gjerdingen’s “Meyer” schema (mm. 1–4), a pulsing accompaniment and gracefully descending melody, redolent of the famous Adagio from Mozart’s Serenade in E flat, K. 361/370a, outline an elaborate twofold *cadenza composta di salto* (mm. 5–9) before a repeated *clausula vera* on the dominant (mm. 9–11), echoed by a trio of *clausulae perfectissimae* that
intensify the sense of anticipatory stasis (mm. 11–13), heralds the launch of the movement proper (m. 14f.).

Even the nimblest pursuit of schematic strategies in real time cannot be held to account for the sonata’s meticulously sculpted detail, its taut formal design, and its most audacious harmonic maneuvers. The fact that Mozart’s score was incomplete at the time of performance did not preclude its capacity to represent precise instructions as well as broad implications that had been worked out in advance, explicitly for Strinasacchi and implicitly for Mozart himself. That notwithstanding, the passages that frame the sonata as a ludomusical event evince a particular openness to the exigencies and opportunities of extemporized conduct. Just as the leisurely pace and preambular rhetoric of the first movement’s introduction afford a degree of improvisatory latitude, so the conclusion of the finale (Figure 57, Audio 10) encourages each player to outdo the other. With the finish line in sight, violin and forte-piano take turns to perform a virtuosic sequence of vaults and tumbles down the home stretch before collegial decorum leads them to break the tape hand in hand.

As in the introductory Largo, the sonata’s ending relies on the schematic foundation of a twofold cadenza composta di salto (mm. 255–58 and 263–66). Here, however, each iteration has been at once necessitated and called into question by

FIGURE 57. Mozart, autograph score of Sonata for Keyboard and Violin in B flat, K. 454, iii, mm. 248–69. Reproduced by permission of the Stiftelsen Musikkulturens Främjande (The Nydahl Collection: www.nydahlcoll.se). CC BY-NC-ND 4.0.

AUDIO 10. Mozart, Sonata for Keyboard and Violin in B flat, K. 454, iii, mm. 249–69, performed by Roger Moseley and Ariana Kim.

To listen to this audio, scan the QR code above with your mobile device or visit DOI: http://doi.org/10.1525/luminos.16.16
a preceding *inganno* (mm. 253–54 and 261–62), which together assume the guise and function of the *cadenza finta* (“deceptive cadence”) as figured by the Neapolitan *partimento* maestro Nicola Sala (Figure 58). By these means, the matter of cadencing becomes doubly dialogical in terms of the simultaneous coarticulation of soprano and bass (the gendered polarity of which was implied not only by vocal registers, but also by the instrumental roles played by Strinasacchi and Mozart) and by the successive iteration of cadential motion, the momentary thwarting of which represents a ludomusical obstacle to be surmounted at the second time of asking.

On a broader scale, this comic nesting of successive attempts to attain closure is played out by the jocular *agōn* with which the fortepiano’s exuberant stream of sixteenth notes seeks to trump the elegant articulation of the violin’s triplets, perhaps Mozart’s way of granting himself the privilege of the last laugh (whether pre- or transcribed). The sonata’s *lieto fine* is at once staged, deferred, and ultimately delivered via the dialogical performance of identity and difference, of elements that echo and elude one another as a playful sequence of musical rhymes.

As quantified by the score, the greater number, density, and velocity of Mozart’s sixteenth notes in relation to Strinasacchi’s triplets suggest that while her musical charisma and striking professional independence may have made her a worthy playmate for Mozart, structural asymmetries nonetheless ensured that the playing field remained slightly tilted in his favor. As a male composer playing the keyboard on his home turf, he enjoyed systematic advantages over an itinerant female violinist that his manuscript cannot help but tacitly underscore. Pieces he wrote for two identical instruments that engage each other on equal terms, such as the Concerto for Two Keyboards in E flat, K. 365/316a (probably written in ca. 1775–77 for Wolfgang to perform with Nannerl as cosoloist), sharpen the terms of this (in)equality insofar as they conspicuously level certain aspects of the playing field while setting others in relief. Of particular interest in this regard is the Sonata for Two Keyboards in D, K. 448/375a, which Mozart performed alongside K. 365/316a with Josepha Auernhammer in 1781 and subsequently with Barbara Ployer in 1784.

The jovial yet sharply defined vectors of the Sonata for Two Keyboards emerged in close proximity to the famous duel, commissioned and refereed by Joseph II, that pitted Mozart against Muzio Clementi for the entertainment of the Viennese court. Although Mozart disparaged Clementi’s substitution of mechanical technique for “taste and feeling,” the martial bearing, polished brilliance, and conspicuous

---

**Figure 58.** Nicola Sala, *partimento* in D, mm. 37–40. Reproduced from Alexandre E. Choron, *Principes de composition des écoles d’Italie* (Paris: Auguste Le Duc, 1808), vol. 1, bk. 1, pt. 2 (no. 73), 24.
FIGURE 59. Mozart, autograph score of Sonata for Two Keyboards in D, K. 448/375a (1781), i, mm. 9–13. Reproduced by permission of the Kunstsammlungen der Veste Coburg (http://www.kunstsammlungen-coburg.de/).

AUDIO 11. Mozart, Sonata for Two Keyboards in D, i, mm. 1–33, performed by Shin Hwang (fortepiano after Johann Schantz [ca. 1795] by Thomas and Barbara Wolf [1991]) and Roger Moseley (fortepiano after Johann Andreas Stein [1784] by Thomas McCobb [1972]).

To listen to this audio, scan the QR code above with your mobile device or visit DOI: http://doi.org/10.1525/luminos.16.17

FIGURE 60. Screenshot from “Mozart, Sonata for Two Pianos, K. 448, first movement” (2015), mm. 9–13, visualized by Stephen Malinowski and performed by Paavali Jumppanen and Elaine Hou (youtube.com/watch?v=74Osn05UkU0). Reproduced courtesy of Stephen Malinowski (http://musanim.com/).


To watch this video, scan the QR code above with your mobile device or visit DOI: http://doi.org/10.1525/luminos.16.18
virtuosity of the Sonata for Two Keyboards has itself been damned with faint praise on account of an imputed shallowness that, for Arthur Hutchings, betrayed its confinement within the bounds of the galant style. As with K. 454, however, the markers of galanterie that saturate K. 448/375a can be construed not merely as the trappings of convention, but as the rules and mechanisms of four-handed play that unfolds both sequentially and simultaneously. With Schillerian ardor, Alfred Einstein marveled at the art with which the two parts are made completely equal, the play of the dialogue, the delicacy and refinement of the figuration, the feeling for sonority. . . . [This] apparently superficial and entertaining work is at the same time one of the most profound and most mature of Mozart's compositions.

A degree of spatiotemporal ambiguity is evident right from the opening measures (Figure 59, Audio 11): although they are presented in sequence by both keyboards all'unisono, the fanfares of mm. 1–2 and 3–4 could just as easily be overlaid. Either way, they provide a double entry in keeping with the duality of the good-natured repartee to come. Throughout the sonata, the principles of alternation, rotation, and cooperation are pursued with scrupulous fairness. On the one hand, this guarantees a high degree of formal balance and symmetry, Mozartian attributes hailed by Romantic and modernist evaluative strategies alike; on the other, it simply indicates that each player has the same responsibilities and opportunities in relation to the other, ensuring that their rivalrous collaboration (or collaborative rivalry) can be judged in the course of its emergence, which reflects directly on their relative performances as well as on the tenor of Mozart's script.

The sonata's D-major effervescence and the exhilaration occasioned by the navigation of its scalar plumes and frothing arpeggios evoke the overture to the Le nozze di Figaro as well as the Keyboard Concerto in D, K. 451 (1784). But the range of dialogical dynamics projected on either side of its crystalline axis of symmetry is singularly profuse: players take turns to propose and respond, to thrust and parry, to observe and comment, and even to “wink” conspiratorially at the audience. These different forms of coplay, counterplay, and instant replay both account for and rely on the spatiotemporal rigidity of the sonata's formal and contrapuntal design. The hard edges articulating such modularity might appear as the artificial remnants of galant mannerisms when framed by the tendrils of Hutchings's organicist assumptions. For Mozart's ludomusical purposes, however, they provided the requisite clarity for his choreography of temporal formalities (repeats, returns, refrains, and recapitulations) and the spatial patterning of lines and figuration (governed by the contrapuntal logic coordinating the motion of independent voices). As Hermann Abert noted in relation to the eighteenth-century “delight in playful gestures,” Mozart's elegant forms are at once traced and elaborated by figures set in graceful motion.

These qualities come to the fore in Stephen Malinowski's melographic representation of the movement as recorded by Paavali Jumppanen and Elaine Hou. Within the parameters of Malinowski's piano-roll-like Music Animation Machine,
the sacrifice of Mozart’s autographic immediacy yields a dramatic gain in topographical clarity. A comparison of mm. 9–13 as represented in Figures 59 and 60 reveals how the Music Animation Machine transforms scales into ladders, dialogical exchanges into games of tag and catch, and the movement as a whole into a ludomusical playground (Video 7). Despite its ostensible anachronicity, moreover, this mode of melographic representation would have been known to Mozart owing to his familiarity with mechanical organs: Emanuel Winternitz reports that Mozart was able to plot music conceived for such an instrument by “drawing the pins just as they ought to appear on the surface of the barrel.”

It is surely no coincidence that the arbitrary caprice of Mozartian modularity is never more evident than on the ludomusical stage set by the breathless overture to Così fan tutte, the unsentimentally promiscuous combinatorial logic that anticipates the Marivauxesque games of seduction and deception to follow. Throughout the finale of the Sonata for Two Keyboards, passages such as mm. 17–24 in Figure 59 (Audio 11) and mm. 278–307 in Figure 61 (Audio 12) bring these features to the fore in complementary
ways. The former illustrates that the principle of imitation need not connote contrapuntal “learnedness” so much as the playful pursuit of follow-the-leader. The latter, an elaboration of Gjerdingen’s monte principale schema, conflates a display of erudition with a childlike delight in mimicry. Having previously appeared in the dominant as an element of the movement’s sonata-rondo design, Mozart’s monte principale returns to the scene of the crime, creeping back onstage with finger to lips: Mozart’s pp indication here signifies a Leporellian “piano, piano” as much as an urbane pianissimo.

As Gjerdingen points out, a hidden beauty of the rising sequence produced by the monte principale’s repeated up-a-fourth, down-a-third motion can be drawn out by using it to generate canonic motion between two voices offset by a single note. Taking advantage of this property, Mozart’s comic strategy is to overlay contrapuntal artifice on the most baldly homophonic textures of the entire sonata, not so much praising learnedness as burying it (a ceremonial act satirically set to the unremittingly homophonic strains of the “Marche funebre del Signor Maestro Contrapunto,” K. 453a [1784], which Mozart jotted down in Barbara Ployer’s zibaldone). As did the descending broken chords in Figure 59 (mm. 17–22), the ascending scales that zigzag between the players at mm. 286–89 in Figure 61 adhere to protocol while mischievously hinting at what William Kinderman characterizes as the “careless abandon” with which the subsequent motive will be “tossed back and forth” (m. 293f.), copycat-style. Predicated on the independence of voices (and hands) even as it compels each to march in mimetic lockstep with the others, the ludus of canon is strictly playful.

All this goes to show that imitative rigor can be as evocative—and invocative—of playful badinage as it is of ecclesiastical propriety or pantheistic sublimity. For Mozart, the rule-bound yet irreverent joy of such play was associated with a sacramalized profanity most explicitly on show in scatological canons such as “Leck mich im Arsch” (K. 231/382c, 1782), a miniature six-part “box” designed using a similar schematic profile and contrapuntal mechanism to those from which the finale of the “Jupiter” Symphony was extrapolated and retrospectively laid out in thematic sequence. Another pair of such canons, written to be performed at the expense of Mozart’s Bavarian friend Johann Nepomuk Peyerl, illustrate how both the observation and the breach of contrapuntal protocol can involve a streak of malice and one-upmanship that intensifies rather than dampens the prevailing ludic mood. For Mozart, affection and mockery went hand in hand, as was vividly displayed by the caricatures he and his family commissioned as air-gun targets for the long-running series of Bölzlschiessen tournaments they hosted in Salzburg. The pleasure taken by the Mozarts and their guests in taking aim at avatars of one another might be understood to index the popularity of digital games in general, and the first-person-shooter (FPS) genre in particular: both activities are agonistic tests of skill and nerve that take place in domestic settings, but encourage boisterous and ribald behavior. It is in this sense that the Sonata for Two Keyboards unites its players in a shared endeavor while setting them at competitive odds. As a non-zero-sum game that is at once cooperative and potentially agonistic (at least for
those keeping score), it provides a convivial experience analogous to two-player arcade games in the tradition of Taito’s *Bubble Bobble* (1986).

Ludomusically entrained players of K. 448/375a join forces to reel off skeins of luxuriant passagework in thirds and sixths, a facility that Clementi branded as a signature technique and displayed to impressive effect during the contest with Mozart. Yet if even Mozart felt at a disadvantage when enjoined to compete with such a “mechanicus,” so must his female students have thought twice before daring to joust with their teacher in public according to the professional code of conduct enumerated by his sonata’s score. In particular, Josepha Auernhammer’s performance of gender led her to occupy an ambiguous position vis-à-vis Mozart: as a gifted keyboardist and composer who served as dedicatee as well as pupil and coperformer, she both fascinated and discomfited her teacher, who felt compelled to draw his father’s attention to the sexual undercurrents that ebbed and flowed between them. Beyond the overanalyzed confines of the Mozartian male psyche, such episodes testify to the erotic charge of two-player action at the keyboard and the threat it could pose to the maintenance of social order as well as to the exertion of control over selves and others.

### 4–3 CONCERTED ACTION

Before taking lessons with Mozart, Auernhammer had studied with the Dutch keyboardist Georg Friedrich Richter. In Mozart’s unvarnished opinion, Richter’s playing was comparable with Clementi’s: although technically secure, it was “coarse” and “belabored,” revealing an absence of the “taste and feeling” so evident in Strinasacchi’s violin playing. While Mozart looked more kindly on Auernhammer’s qualities at the keyboard, he reported that she too “plucks everything apart” and “lacks that true, delicate touch, that singing quality in the Cantabile.” Mozart’s unsparing criticism testifies to a competitive edge as well as the upholding of high standards, but it did not cool the personal warmth he felt for both. Richter was “the best fellow in the world—and not a bit conceited,” as borne out by the following exchange:

> When I played for him, his eyes were totally fixed on my fingers—then he burst out: Good God!—how hard I have to work, until I sweat, and—still I get no applause—and you, my friend, your playing is so playful.—Yes, *I said*, but I too had to work hard so that I don’t now have to work so hard *any more*.  

Written the day before the concert he rustled up with Strinasacchi, Mozart’s report to his father conveys Richter’s sheer bafflement at the ludomusical brilliance on display. As Karl Barth put it, “Mozart plays and never stops playing,” and yet “behind his play there is an iron zeal.” Mozart reaped the ludic fruits of his labor on multiple levels. In the background lay the countless hours of training from which his compositional, improvisatory, and performative skills had been honed (initially at Leopold’s bidding). *Within the scope of a particular musical occasion, the joys of play*
emerged directly from a process of planning and design, whether it involved dashing off a scatological canon or scripting an entire concerto. In the improvisatory moment, moreover, both forms of work were leveraged in the interest of play.

Much has been made of the etymology of “concerto,” in which the concepts of cooperation and rivalry contend with each other. While both apply to Mozart’s concertos, his role was also akin to the concertatore of the commedia dell’arte, who served as “artistic planner.” In lieu of formal rehearsals, the concertatore would “[go] over the plot outline with the cast . . . , [describe] any unusual behaviour that the characters are required to exhibit . . . , [give] directions for smooth entrances and exits, and generally [prescribe] the performance parameters within which individual improvisations are to be contained,” in Pietropaolo’s summary. This well describes the roles that Mozart must have played not merely as composer and star performer, but as coordinator and director of a scratch ensemble for which sight-reading was the norm and rehearsal a rare luxury. The performance of any given concerto was rare enough to qualify as a singular occasion, which surely played to Mozart’s strengths as musical event planner extraordinaire. Sensitive to matters of location, personnel, instrumental forces, and social register, Mozart tailored his musical materials to suit the circumstances as well as to outfit the performers to their best advantage.

In the case of the concertos that Ployer performed, evidence of such bespoke handicraft can be found in the adjustment of passagework to display her technical ability in a flattering light as well as in the way they measured up to the performance spaces afforded by her Viennese apartment (well suited to the scalable K. 449 in E flat) and her country house in Döbling (which could accommodate the larger forces and grander scope of K. 453 in G). Mozart took just as much care over concertos he was to perform himself, even if that entailed paying less attention to the legibility of the solo part and more to the calculation of the cumulative effect. Levin and John Irving observe, the keyboard part in the autograph of the Concerto in C minor, K. 491 (1786), is untidy to the point of occasional chaos: whereas Levin draws a parallel between the visual image of the score and the “disturbed . . . emotional content of the work itself,” Irving suggests that it was Mozart’s frantic haste in the face of a looming performance deadline that led him to litter it with erasures, reorderings, and variants, giving rise to ambiguous instances such as Figure 62. At once archaic and galant, the cadenza composta di salto underpinning the soloist’s trill that signals the close of the exposition is clinched by a taut 4–3 suspension, pixelated by the Alberti figuration of the soloist’s left hand and haloed by the thrum of the accompanying violins (mm. 263–64). Immediately beforehand, however, the arcing flow of the right hand’s long-established stream of sixteenth notes suddenly dries up on the rocky outcrops of B flat and E flat as the horns blazon the climactic 6/4 triad (mm. 261–62).

Are Mozart’s dotted half notes shorthand or plaintext? Should players take Mozart’s unexpected measures at face value or treat them as an invitation to take their own? On the surface, this passage echoes numerous others from the solo
parts of Mozart’s concertos that call for touching up with decorative filigree: the score is suggestively bare, offering a skeletal outline that invites the player to flesh out the musical surface in the manner commended to Miss Cecilia by Czerny. At such junctures, the strokes of Mozart’s quill might be perceived as cautionary signs delimiting improvisation-shaped fissures for the performer to fill. For many, however, this apparent hole in the score’s fabric (already marred by Mozart’s messy rejiggering of the right hand’s passagework in the previous four measures) calls less for spontaneous ingenuity than for discreet patchwork, the inconspicuous joining of Mozart’s dots by a string of pitches that he would have deemed unobjectionable (if clearly not quite noteworthy). If successful, distinctive utterance is camouflaged as unmarked discourse by merging with its context.

Insofar as the notes that Mozart wrote at this point stage an unexpected interruption of the undulating passagework, the literal route is in some ways the less foreseeable. Rather than opposing the spirit and letter of Mozart’s notation, however, we might take account of both its mensural and its neumic aspects by
treating the B flat (which, as can be seen in Figure 62, survives only sous rature) not merely as a stand-in, but as a cadential springboard. From this perspective, the E flat becomes a ceiling to be touched or even a bar to be cleared, while the preceding passagework forms the run-up to an acrobatic vault rather than a pattern to be dutifully extrapolated. The player is thus impelled to improvise, not so much in the sense of spontaneously producing a sequence of notes that conform to compositional protocol as in their presentation of an immediate and nonnegotiable challenge: get from here to there by any means necessary.

Both Levin and Irving observe that Mozart’s score can be ultimately opaque in its refusal to yield (to) a “correct” reading, suggesting that we might understand its textual anomalies as indices of an ongoing process rather than as problems in need of definitive solutions. As it systematically unravels the irresolvability of certain ambiguities, Levin’s detailed chronology of the layers in which Mozart’s nib deposited the work’s literal traces frames the writing of his score as a performance in its own right. The score stands as source code that makes legible the operations of selection, transformation, and recombination that brought it into being via paratactic cognitive processes carried out on paper (where they are indexed not only by notes, but also by erasures, cancellations, corrections, alternatives, and an extensive range of sigla). As Knepler noted, this type of code defies the “traditional musical terminology” of “variation” and “development” applied to ontologically stable “themes.” The realization of Mozart’s document at the keyboard involves (re)compilation rather than interpretation or mere execution, especially if we construe his compositional predicament regarding K. 491 to stem from his penchant for sailing close to the wind, putting himself in uncomfortable yet exciting proximity to the exigencies of improvisation impromptu.

In this ludomusical light, the question of why Mozart’s carefully contrived stepwise passagework should suddenly give way to a bounding leap might be met by his own parry of “warum nicht?” Any given grado or salto may be staged in precise accordance with contrapuntal protocol, but the kinetic sequence of running and jumping in his concertos is more often a matter of navigating their challenging terrain with pyrotechnical aplomb. The topography of the keyboard constitutes a field of play that facilitates and constrains the hands’ choreographed sequences of shapes and gestures as they run Mozart’s gauntlet of ludomusical obstacles. In the case of Figure 62, it seems plausible that performing a show-stopping leap, physically and sonically arcing above the heroic arpeggiation of the horns, might be even more dramatic, more surprising, or simply more fun than continuing to hurtle up hill and down dale en route to the cadence.

In hailing the “compositional bravura” as well as the “combinatory agility and quick reflexes” from which the “performative fireworks” of such quasi-improvisatory Spielepisoden are launched, Roman Ivanovitch deploys ludic terminology: Mozart shows off by virtue of “contrapuntal tricks” performed
via “keyboard tactics” that might momentarily threaten to hijack formal strategy, but ultimately serve to expose the “rich playfulness of . . . Mozart’s virtuosic Spielfreudigkeit.”\(^{123}\) Citing the passage culminating in Figure 62, Ivanovitch describes Mozart’s sonorous “dressing up” of simple alternations between tonic and dominant harmony in ways that capture “different poses or attitudes.”\(^{124}\) Writ large, this elemental polarity between tonic and dominant is the source of the dialectical energy that animates Mozart’s concertos, from the syntax of their initial propositions and ripostes to their deepest formal articulations.\(^{125}\) Open-ended and yet operationally closed, its \textit{fort-da} allows Mozart to revel in the ludomusical pleasure of oscillation, which is particularly evident throughout the Arcadian adventures that the score of the Keyboard Concerto in F, K. 459 (1784), holds in store.\(^{126}\)

The sylvan romp of K. 459’s finale departs from the most understated of tonic-dominant alternations in the fortepiano, which, polyp-like, proceeds at once to divide and to multiply in the process of becoming a contredanse (Figure 63, Audio 13).\(^{127}\) First the oscillation is revoiced and extended into what Gjerdingen dubs a “converging cadence”; then the four measures are reiterated, but with the twist of a \textit{cadenza composta di salto} that flips the script, turning what was dominant into a momentary tonic of its own; and then, after all eight bars have been reprised by the raucous winds, the pattern of call and response is repeated (mm. 17–32),

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure63.png}
\caption{Mozart, autograph score of Keyboard Concerto in F, K. 459 (1784), iii, mm. 1–15 (woodwind and solo parts only). Reproduced by permission of the Staatsbibliothek zu Berlin. CC BY-NC-SA 3.0 DE.}
\end{figure}

\textbf{Audio 13.} Mozart, Keyboard Concerto in F, K. 459, iii, mm. 1–33, performed by Malcolm Bilson, John Eliot Gardiner, and the English Baroque Soloists (Archiv 415 111–2).

To listen to this audio, scan the QR code above with your mobile device or visit DOI: http://doi.org/10.1525/luminos.16.20
restoring the tonic via a vertiginous series of diminished triads, each of which ambiguously hints at a dominant or diminished seventh.\textsuperscript{128}

Throughout the finale, the playful oscillation between tonic and dominant is matched by the ludic ambiguity of the opening rhythm, which insistently raises an analogous question: an-\textit{-a-pest} or \textit{-dak-ty-los}?\textsuperscript{129} While metrical, harmonic, melodic, and gestural factors might mitigate on either side in any given instance, deciding on one way is less important than recognizing how easily it could go the other. Regardless of whether it was compositionally prescribed, the taking of such liberties was heard to suffuse the concerto’s extemporized performance: Philipp Karl Hoffmann, who witnessed Mozart play K. 459 in Leipzig as part of the festivities celebrating the coronation of Leopold II in 1790, reported that he embellished the slow movement “tenderly and tastefully once one way, once another according to the momentary inspiration of his genius.”\textsuperscript{130}

The passage leading up to the first movement’s cadenza (Figure 64, Audio 14) reprises in the tonic a sequence of themes that had itself first appeared in the dominant (m. 203f.). This music departs from the previous script by landing on a dominant pedal (m. 430), over which anticipation rises via an ascending chain of 7–6 suspensions, busily embroidered by the fortepiano’s sixteenth notes and punctuated by perky anapestic exchanges that ping-pong across the wind section. At m. 441, the attainment of the tonic marks not so much an arrival as a redoubling of the pace of harmonic and rhythmic change: orchestral dialogue becomes breathless hocket as the keyboardist breaks out into a double-handed descending series of broken chords that outline a Romanesque alternation of 5/3 and 6/3 sonorities, subsequently echoed by the orchestra (m. 447f.) as a more rustic sequence of root-position triads homing in on the 6/4 chord—a momentary amalgam of tonic and dominant functions—that will serve as the cadenza’s launch pad.\textsuperscript{131}

The movement ends by way of a process of multiplication through division that mirrors its opening gambit: quick-fire dominant-tonic cadences are repeatedly flung across the ensemble via what Janet M. Levy described as a spate of “copycat mimicry” that “brainlessly and playfully” brings proceedings to a frantic close.\textsuperscript{132} To reflect and enact the “short-winded, back-and-forth chatter” of these closing measures, Levy provided (and even performed) a paratext somewhat akin to that which Mozart wrote for Leutgeb in the autograph of the Horn Concerto in D: “Will you, won’t you, will you, won’t you, will you . . . close this piece?”\textsuperscript{133} As Levy’s antics indicate, the nested series of playful calls and responses that animate the movement as a whole evoke the “classical” virtues of symmetry, balance, reiteration, and formal dialogue less vividly than the scalable and reiterable logic of a children’s game.

In her book \textit{The Games Black Girls Play}, Kyra D. Gaunt addresses the music and movement that emerge from the playground via ludic activities such as skipping, improvised rhyming, and double-dutch, describing “game-songs [as] embodied scripts of music, inscribed into space, experience, and memory.”\textsuperscript{134} Adopting such a ludic
Figure 64. Mozart, autograph score of Keyboard Concerto in F, K. 459, iii, mm. 395–448. Reproduced by permission of the Staatsbibliothek zu Berlin. CC BY-NC-SA 3.0 DE.


To listen to this audio, scan the QR code above with your mobile device or visit DOI: http://doi.org/10.1525/luminos.16.21
approach promises to illuminate the processes by which Mozart’s finale emerges, is remembered, and is recreated via the performance of mimicry. In the insouciant spirit identified by Levy and Gaunt, we might seek to convey the irresistible ludomusicality of the thematic, harmonic, and rhythmical oscillations that propel Figure 64 by resorting to Mozart’s glossolalic predilection for setting nonlexical vocables to music, traceable to a childhood bedtime ritual at which he sang the cod-Italian “Oragna fiagata fa marina gamina fa” to the storied Dutch melody of “Wilhelmus van Nassouwe.” The habit never left him: traversing the polyglot territory between Vienna and Prague in 1787, Mozart and his companions devised rhyming nicknames for one another. The organist Franz Jakob Freystädter became known as Gaulimauli, the clarinetist Anton Paul Stadler as Nâtschibinischi, the violinist Kaspar Ramlo as Schurimuri, and Mozart himself as Pünkitiitti; his servant Joseph was dubbed Sagadaratà, while his keyboard pupil Franziska von Jacquin rejoiced in the name of Signora Dinimininimi. Later that year, Mozart musically deployed “Gaulimauli” as the canonic payoff of a Hanswurstian prank played on the unfortunate Freystädter (“Lieber Freystädter, lieber Gaulimauli,” K. 232/509a).

By catachrestically following Mozart’s lead and distributing Gaulimauli’s fellow sobriquets across Figure 64, I claim no insight into the “deeper meaning of the names of this brother- and sisterhood,” as Einstein described it, but aim instead to imagine the sonorous conditions under which such meaning(lessness) could conceivably have emerged. The rhythmic profiles and phonemic articulations of vocables such as “Pünkitiitti,” “Nâtschibinischi,” “Dinimininimi,” and “Sagadaratà” stand as culturally plausible means by which this music might have been imagined, embodied, entrained, remembered, performed, and represented without being yoked to conceptual or interpretive models predicated on semantic meaning. As Novalis put it, “babbling . . . is the infinitely serious side of language” precisely insofar as its “play is self-sufficient” and yet precisely mirrors “the strange play of relationships among things” through “its tempo, its fingering, its musical spirit.” From this perspective, perhaps the most musically suggestive nickname is that bestowed on the addressee of Mozart’s letter from Prague, Gottfried von Jacquin, whose hemiolic moniker of HinkityHonky maps neatly onto the three-against-two played out between the soloist’s hands in the wake of the cadenza (m. 454f.).

Although they flowed from Mozart’s pen, these nonsensical names did not issue from his mind alone, but rather from the high-spirited interplay among all the occupants of the carriage traveling from Vienna to Prague—and perhaps even from their impressions of the unfamiliar languages and dialects to which they were exposed en route. Analogously, Mozart’s virtuosic choreography of the rhythmical, melodic, harmonic, and contrapuntal schemata that compose the finale of K. 459 relies on the actions of others as both stimulants and respondents. Alongside the chattering strings and loquacious fortepiano, the brashness of the winds completes a triangulation that pushes at the limits of dialogical approaches to the movement. As Karol Berger remarks, the “rule-governed improvisation” of the commedia
dell’arte provides a more compelling model for the staging of encounters among such a cast of characters, played by or as Mozart and Company. The grammelot of their real-life stage names testifies to the subjunctive logic of mimicry, the actuality of its make-believe, the logic of its nonsense, the bottom line of its invertibility—and vice versa. Is the game real, or reality a game? Is the stage a world, or the world a stage? As with tonic and dominant, dactyl and anapest, the answer lies not in between, but in the processes of turning and shuttling from one to the other.

Germaine de Staël invoked the playing of instrumental music in her characterization of the “well-being [engendered by] a lively conversation,” contending that “the principal interest does not lie in the ideas and knowledge that can be developed; it is a certain manner of interacting with others, of giving reciprocal pleasure.” Bypassing the representational dilemma of whether this stands for that, Mozart’s ludomusical processes circumvent the allegorical imperative to assign deeper meaning to one term or another in line with nomenclatural conventions, social mores, or hermeneutical hierarchies. Lusus enim suum habet ambitum: observing, breaching, and drafting rules need not be synonymous with innocence, guilt, and the passing of judgment. Accordingly, the theatrical mechanics of play cannot be explained (away) solely by attributing significance to the adherence to or deviation from formal principles, semiotic procedures, or narrative expectations. Whether imposed from outside or within, such boundaries have ludomusical properties and functions that supplement—and even defy—the constraints they nominally enforce.

As a genre, the concerto has been dogged by the discrepancy between its popularity as a quasi-gladiatorial musical event to be relished in the flesh and its cooler reception in print: the live(li)ness of its play is attenuated when recollected in tranquility. From Sulzer to Allanbrook and Koch to Currie, critics have taken widely divergent positions on the ethos of the concerto, its construction of agency and identity, its dramatic and poetic qualities, its relation of the individual to society, and its broader political implications. Most, however, agree on the broad definition of its dramatic parameters, which are heard—or, more commonly, read—to articulate contrast and difference, whether between soloist and orchestra, style and content, virtuosity and substance, or competition and cooperation. Positively or negatively, the dialectical implications of such distinctions are typically redeemed in the moral currency of edification or the admission of guilty pleasure, both of which can be understood to respond to the concerto’s suspect character, its licentious weakness for the kitschy, the trivial, and the meretricious.

On these grounds, Levy’s insistence on the “brainless playfulness” of K. 459’s finale has been ambushed by a pincer movement from Allanbrook and Currie (unlikely though the alliance might seem). Whereas Allanbrook struck an uncharacteristically censorious tone in claiming that the ending “crowns the long-term development of an important rhythmic motto” and is thus “syntactically and affectively indispensable,” Currie draws an agonistic distinction between
the movement’s free and easy buffa idiom and the “authoritarian world of learned style” with which he identifies the theme that enters on the heels of the opening rounds of call and response (m. 32f., reprised at m. 416f. in Figure 64). Currie’s sharply delineated political reading thus relies on a dichotomous interpretation of musical features that, to my ear, are hopelessly and infectiously compromised from the start (at least in performances even minimally attuned to eighteenth-century sensibilities). On the theme’s initial appearance, its imitative properties are typical of what Allanbrook nicknamed the “lickety-split learned style,” the polyp-like outgrowths of which are less symbolic of ecclesiastical rigor than they are demonstrative of the welter of comic invention on display. The assiduously archaic working out of the theme’s polyphonic potential in the movement’s central double fugato constitutes a pedantic exception to the prevailing ethos even as it asserts the rule of contrapuntal law. As a result, the D-minor shadow it casts is that of a pantomime villain such as Mozart’s dottore (see Figure 44), whose pretensions are travestied by the brilliant figuration in which the theme is clothed at the keyboard (as in m. 416f. in Figure 64). Mozart’s canons gleefully demonstrate that learnedness can be a vehicle for (as well as the target of) grotesque, absurd, and scatological irony; at the same time, they reveal how the entraining force of comedy can itself convey elements of malice, coercion, and even tyranny.

Seeking to move beyond dialogical and rhetorical models, Edward Klorman posits a theory of multiple agency to take account of the “diverting forms of social intercourse” played out by the performance of chamber music. Similarly, and with specific regard to Mozart’s keyboard concertos, Timothy Jones notes the “untidiness of the clamour of multiple agents and their dynamic relations,” which strike a “precarious balance” between the “containing forces of formality and decorum” and the “anarchic threat of heteroglossia.” Testifying to the delightfully dizzying capacity of ilinx to “inflict a kind of voluptuous panic” on the regulative operations of rationality, the pantomimetic virtuosity exhibited by this music reflects and gives rise to the riotous yet harmonious (mis)adventures of a Harlequinesque figure, his allies, and his foes as they unfold against a carnivalesque backdrop. In this regard, Mozart’s scores can also be seen and heard to anticipate the antics of another digitally rendered Italianate avatar, who would take to the electronic stage two centuries later.

Regardless of their stylistic and terminological orientation, readings of Mozart’s music often run into a stumbling block in the form of the atemporal fixity that they both discover and manifest. The most imaginative attempt to overcome this limitation in the interest of registering the playfulness of Mozart’s music has been undertaken by Pesic, who provides entertaining commentary on the “game plan”
of the finale of the Keyboard Sonata in B flat, K. 570 (1789). In finding musical
analogs for the *jeux innocents* of chasing, catching, hiding-and-seeking, racing,
dueling, leapfrogging, daring, guessing, and pretending, Pesic draws attention both
to the intensity of the experience that Mozart’s score represents and to the ludic
qualities that emerge from reading it to articulate the rules of a musical game. Yet
even this compelling strategy ultimately offers an *ex post facto* rationalization
of music’s playful phenomenality, a written account beholden to the authority of
the score as determined by Major League Mozart. The same applies to the realms
of performance and recording: insofar as it involves the dutiful declamation of a
well-known text, a contemporary rendition of K. 459 stands at a far remove, aesthetically as well as historically, from the live-wire contingency of the concerto’s emergence as ludomusical event.

Iconic signs of play are occasionally to be found in the scores of Mozart’s concerto. A folio in the autograph of K. 449 features a mysterious array of marginalia consisting of geometrical symbols, numbers, and doodles (Figure 65) that seem to have been ludically motivated, whether as stimulation or distraction. In the case of K. 491, as we have seen, Mozart’s extensive process of revising and reordering necessitated the deployment of an unusually wide range of sigla: having exhausted his customary lexicon of circles and crosses, he resorted to cartoon-like depictions of human hands (Figure 66) and faces (Figure 67). The former iconically perform the indexical function of pointing to the location at which material is to be inserted, while the latter retrospectively look in its direction.

Beyond the whimsy of these iconographical correlations, the sweeping strokes of Mozart’s pen do more than convey, delimit, and distinguish between different types of musical information. To the extent that they stand as traces of physical gestures, their neumatic qualities testify to the physical forces of inertia and gravity, leaps and arabesques, slides and bumps, ricochets and recoveries. As suggested above in relation to K. 491 (Figure 62), these attributes come to the fore when, rather than reading Mozart’s scores exclusively for the musical contents they distribute across an abstract two-dimensional plane, we approach them as ludomusical landscapes that map terrain to be (more or less) dexterously navigated by the hands of players and registered via their facial expressions. The barbed annotations aimed at Leutgeb reveal Mozart’s awareness—and manipulation—of the expectation that a similar principle applies in reverse to the neumatic gestures by which such scores are instrumentally realized via embodied acts. At the fortepiano, as Pesic points out, players’ actions at once defy and accede to the prevailing physical constraints: “despite the apparent uniformity of the keyboard, not every direction is the same. . . . Ascents are dizzying and falls vertiginous, but in an ideal realm without the possibility of harm.” Play affords the excitement of testing physical limits over the subjunctive safety net that ensures its consequences will not be fatal, even for the hapless Leutgeb.
FIGURE 65. Mozart, autograph score of Keyboard Concerto in E flat, K. 449, folio 9r., i, mm. 166–70. Reproduced by permission of the Biblioteka Jagiellońska, Kraków.

FIGURES 66 & 67. Mozart, sigla in autograph score of Keyboard Concerto in C minor, i, mm. 90 and 491.
The promise—if not quite the guarantee—that barbs will not pierce, that muck will wash off, and that, if all else fails, one can always play again is particularly characteristic of K. 459’s urbane pastorality, different dimensions of which are on display in all three movements. The artful artlessness of the central Allegretto evokes Marie Antoinette’s Hameau de la Reine, the notorious rustic retreat built at Versailles in 1783 for the queen and her closest friends to play at being shepherdesses and milkmaids. At once a real farm and a simulation of one, the Hameau framed laborious tasks as ludic (re)enactments to be performed with studied naïveté. In Mozart’s Allegretto, the flute’s riff on the opening material flowers into a rustic tune over the cushioned tonic-dominant undulations of the strings (m. 44f., Figure 68 and Audio 15). After the fashion of Mozart’s comic rounds, the bassoon’s ingenuous echo stumbles upon the melody’s serendipitous suitability for imitation, which the fortepiano notes via the strict mimicry of follow-the-leader (mm. 48–51).

As Andreas Staier observes, this music “almost starts to link arms and sway from side to side,” but the blissful entwining of limbs engenders unexpected
Shepherded by the soloist’s right hand, the bassoon reprises its trick on the theme’s return in the tonic (m. 103f.). This time, having learned its contrapuntal lesson, the keyboardist’s left hand tacitly cues the oboe to enter at the theme’s third measure before bringing up the rear one measure later, laying bare the full extent of the theme’s fourfold canonic potential. The self-evidence of this complexification suggests how processes of variation, elaboration, departure, and return might be understood not merely in abstract formal or relational terms, but as iterative elements of ludomusical design. Such elements shape the embodied experiences of players by staging the acquisition of knowledge and skill via the navigation of obstacles and the solving of puzzles that become progressively more demanding—and thereby revealing.

Super Mario Bros., conceived for the Famicom (known outside Japan as the Nintendo Entertainment System) by Shigeru Miyamoto and Takashi Tezuka in 1985, stands as a locus classicus of such design. As Mario moves from left to right against the pastoral backdrop of the opening course, the latter stages of which are illustrated in Figure 69, he encounters an assortment of blocks, pipes, and shiitake-like Goombas that pose various types of challenges. Negotiating the first stepwise set of symmetrically ascending and descending blocks requires Mario to learn how to leap between them; in the case of the second set of blocks, a broader takeoff area only slightly mitigates the cruel fact that if Mario fails to clear the gap, he will plummet into an abyss. If he succeeds, however, he will be rewarded with the opportunity to climb a far more imposing staircase of blocks, which will in turn afford the chance not only of completing the course by taking down his archrival Bowser’s flag, but of showing off (and gaining extra points) by shimmying down the entire height of the flagpole.

Like a Mario game, the playing of a Mozart concerto primarily involves interactive digital input: in prompting both linear and looping motions through time and space, it responds to imaginative engagement rather than hermeneutical exegesis. While “Mozart” and Mario star as protagonists, they share the stage with other characters who act as allies, cheerleaders, foils, and foes. Beyond the specific functions of individuals, the ensemble puts forth its concerted efforts in the interests of communal pleasure, whether it take the form of raw exhilaration, sentimental delectation, or—perhaps most tellingly—the lieto fine of hard-won
triumph over the frustrations posed by obstacles, blockers, and platforms that are liable to tilt.\textsuperscript{165}

This catalog of elements implies that certain attributes held in common by Mozart and Mario can be triangulated by reference to the ludic system of the \textit{commedia dell’arte}, in which light it is revealing that Miyamoto has characterized Mario and his fellow cast members as “one big family, or maybe a troupe of actors.”\textsuperscript{166} As a manual laborer, physically resourceful yet capable of speaking only in cod-Italian \textit{grammelot} and besotted with a woman out of his league, Mario is closely related to Harlequin: while the outlines of the plot and the rules governing the operation of the game are prescribed, unforeseen complexities inevitably emerge when either figure enters the field of play.

As the ever-changing score reflects, no two games are alike, and a qualitative reckoning of the ludic experience does not necessarily correspond with the quantitative ranking of one above the other. The uncertainty, surprise, laughter, profit, and even enlightenment that can emerge from what might appear to be a frivolous diversion are indicative of a ludomusical system designed not only with great care and precision, but also with attentiveness to the diverse needs, desires, and qualifications of its users. Through the playing as well as the writing of his concertos, Mozart created roles with which a wide range of performers and listeners could readily identify. In this regard, his most famous remark concerning his concertos can be set alongside a statement by Miyamoto, Mario’s celebrated designer, concerning \textit{New Super Mario Bros. Wii} (2009):

These concertos [K. 413–15] are a happy medium between what’s too difficult and too easy—they are Brilliant—pleasing to the ear—Natural without becoming vacuous;—there are passages here and there that only connoisseurs can fully appreciate—yet the common listener will find them satisfying as well, although without knowing why.\textsuperscript{167}

I hope that a wide range of users will be able to enjoy [\textit{New Super Mario Bros. Wii}] in a wide variety of different ways. . . . We’ve come up with a title that everyone, from those who are relatively unskilled right through to those who are highly skilled, can all enjoy.\textsuperscript{168}

Players, spectators, and listeners of all stripes have been entrained by the dexterous traversal of the ludomusical landscapes designed by Mozart and Miyamoto for the playing of their \textit{jeux innocents}. Relying on a variety of props as both aids and hazards, both blocked out sequences that made stringent yet negotiable demands of performers while affording them ample opportunity to display their virtuosity and ingenuity.\textsuperscript{169}

The affinities between the composition of a Mozart keyboard concerto, the design of a digital game, and the playing of both are easier to perceive when Mozart’s scores are apprehended in the terms of “new” as well as “old” media.\textsuperscript{170} To explore the resonances between “Mozart” and Mario as digital avatars, we must take a second ludomusical pass at the helter-skelter passage from the finale of K. 459
notated in Figure 64. This time, instead of strewing the music with the echolalia of eighteenth-century nicknames, I have set Staier and Concerto Köln’s recording of the passage (Audio 14) as a soundtrack to the “super-skilled” playing of an advanced course (World 9–7) from *New Super Mario Bros. Wii* (Figure 70 and Video 8). As with Mozart’s initial presentations of his own keyboard concertos, such adroit and imaginative performances issued from the digits of those responsible for the game’s creation and were put on display to delight and impress a broad range of players, regardless of their capacity to emulate them (or even to appreciate their subtleties).

Insofar as the staging of this encounter between “Mozart” and Mario seeks to realize types of ludomusical motion implied by the concerto’s notation, it echoes Malinowski’s melographic animation of the Sonata for Two Keyboards (Figure 60), further repercussions of which will be traced in Key 5–4. Placing these unlikely interlocutors in audiovisual dialogue here does not posit one-to-one correspondences between their motives, actions, and effects, but rather activates a ludomusical counterpoint from which suggestive sonorities might emerge. Unlike Kōji Kondō’s celebrated soundtracks, Mozart’s music was hardly written to Mario’s order, just as Mario’s movements were not choreographed to Mozart’s score; as a result, even the most salient points of comparison are profoundly asynchronous.¹⁷¹ That notwithstanding, Mario’s initial gaining of momentum is matched by “Mozart”’s teetering from triplets to sixteenth notes in mm. 403–4, from which point both

---


To watch this video, scan the QR code above with your mobile device or visit DOI: http://doi.org/10.1525/luminos.16.23
embark on a series of gratuitous yet perfectly calibrated vaults, pirouettes, and somersaults. At the appearance of the “lickety-split learned” theme, Mario powers up into Fire Mario: the ensuing pyrotechnics spread a whiff of gunpowder over the Arcadian scene. The excitement built over the dominant pedal at m. 430f. finds a visual analog in the lengthy horizontal platform of ice blocks upon which Mario slides, under which he ducks, and over which he leaps, outwitting enemies and filling his pockets to the acclaim of the diegetic audience. Finally, the hurly-burly of the twofold Romanescan burrowing toward the 6/4 chord that will trigger the cadenza is matched and inverted by Mario’s gratuitously acrobatic leap to the apex of the pole that marks the course’s conclusion, flagging up the triumphant completion of this leg of his quest and impelling him to break the fourth wall in acknowledgment of the audience (which, in the case of K. 459, is primed to acclaim the successful navigation of the ensuing cadenza and postlude).\(^72\)

From this perspective, Mozart’s keyboard concerto is not a work, a text, or even a script, but a game: its score is a rulebook that encodes, facilitates, and regulates the behavior of its players. In the neoclassical light of *New Super Mario Bros. Wii*, we might say that Mozart designed the finale of K. 459 not merely as a *canovaccio*, but as a first-person adventure to be witnessed from a third-person perspective. He mapped out runs and leaps fit for a daredevil; he provided players with the means and incentives to display their most fleet-fingered combinations in the face of risk and reward; and he sketched the algorithmic outlines of Harlequinesque interactions with the nonplayer characters (NPCs) of the orchestra. With the reverse skeuomorph of Mozart’s concerto in our fingers and ears, conversely, we might discover ways of feeling and hearing Mario’s graceful play with fire and ice to be imbued with an extra layer of affective nuance, its irrepressible kineticism in thrall neither to the mensural grid of bar lines nor to the pedantic precision of the CPU’s clock.\(^73\) By way of the ludomusical sensibilities of Mozart and Mario, the rhythmical mechanics by which notes can be organized and gameplay systematized are rendered both tangible and abstract. Mediated via digital interfaces, playful experiences thus become available for mental processing, embodied performance, and social circulation.

**4–5 Beethoven’s Recursive Feedback Loops**

As the most celebrated documents of their kind, Beethoven’s Fifth Symphony, op. 67 (1804–08), and the laudatory review by Hoffmann that subsequently appeared in the *Allgemeine musikalische Zeitung* stand in synecdochic relation to the nineteenth-century canonization of “classical” music and to the interpretive mode that proceeded to define music criticism, each of which sustained the other.\(^74\) Hoffmann hailed the symphony’s thematic economy as a demonstration of organic unity rather than of associative, aggregative, and combinatorial ingenuity, and thus the outcome of intelligent design rather than autopoietic play: the “absolute authority” of Beethoven’s “rational genius” had left nothing to chance.\(^75\) At the
same time, Hoffmann set out to convey how the elevated and immersive register of Beethoven’s music could transport listeners far from their mundane surroundings. This presented a challenge: How could the ennobling and transfigurative qualities of aesthetic immediacy be captured and transmitted to readers via the cold medium of print? On the one hand, they were invoked and imagined via Hoffmann’s perusal of musical notes, the most significant (which is to say the least redundant) of which were excerpted and transcribed for subscribers to apprehend at their own keyboards. On the other, the meanings of such notes were transcoded into letters via an elaborate hermeneutical process that Hoffmann teased out and modeled for his readers, making the case that great music must be (re)viewed, not merely heard, in order to assume its rightful standing in the artistic pantheon.

As Hoffmann was all too aware, irony glared from the fact that music’s corona tion as “the most Romantic of all arts” had to be articulated and performed by words, and in particular by his distinctive suturing of poetic and technical discourses. Both despite and by way of Hoffmann’s rapturous paens to sound’s enchanting powers, his multifarious writings demonstrated how the creation and perception of Romantic music could be represented—and even made conceivable—by literary media and processes of writing, whether figured as inscription, prescription, or transcription. The imbrication of the rhapsodic and the analytical, the natural and the artificial, played an important role in establishing the channels through which instrumental works could be simultaneously approached as portals to other realms and reified as quasi-scriptural textual artifacts. Both functions depend upon reiterability, which enables a work to serve both as the grounds for performance of a ritual (in which Platonic capacity it is at once repeatable and variable) and as an object of analysis (in which form it remains obstinately stable, just as Socrates had complained). An article attributed to Giuseppe Maria Cambini that appeared in the Allgemeine musikalische Zeitung six years before Hoffmann’s review of Beethoven’s Fifth illustrates the antiludic implications of such reiterability in the context of Haydn’s string quartets, the performance of which should be tackled as serious work rather than commediated play. The author exhorted instrumentalists to “repeat often the foremost works in this genre, thus learning all of the nuances of the intended execution. . . . [Even] the best actor would not dare to give a scene from a distinguished play without having often gone through it. It causes me grief, and I must shrug my shoulders helplessly, when I hear musicians say: ‘Come, let’s play quartets!’ just as lightly as one says in society, ‘Come, let’s play a game of Reversis!’”

Across literary as well as musical and theatrical realms, as Esterhammer has shown, written texts began to constitute “the norm against which all . . . production must be measured.” In Samuel Taylor Coleridge’s terms, a poem becomes “essential” by dint of its capacity to be observed in light of previous observations; conversely, its un(re)readable counterparts fade into obscurity, however much
fleeting pleasure they might have given. By this criterion, the power of a piece of music lies in its ability to draw both players and listeners back repeatedly, a feat it can only perform if it is understood to exist primarily as text rather than utterance, pattern rather than instance, a phenomenon to be beheld rather than enacted. Hewing closely to Aristotelian principles, Coleridge rejected the idea that unforeseen events could shape poetic form and matter, declaring his “full faith” in the notion that “poetry . . . is essentially ideal, avoiding and excluding all accident.” In a similar spirit, the staunch classicist Pietro Giordani decried poetic improvisation as “nothing but LUDUS IMPUDENTIAE.”

Despite the rhetorical downplaying of improvisation, however, the phenomenon of extemporaneity was scarcely eliminated: instead, it was reassigned to the performance and representation of inscriptive and interpretive acts themselves. Coleridge, who was fond of delivering off-the-cuff public lectures, even “extemporized” an introduction, dialogue, and poem called “The Improvisatore” (1828), which he claimed to have spontaneously written and dispatched to the publisher, the ink still wet. Similarly, the masked imbroglio of Hoffmann’s novelistic “capriccio” Prinzessin Brambilla (1820), set during the Roman carnival season, thematicizes the improvisatory Spieltrieb of the commedia dell’arte while promoting it not only as a principle governing the text’s own generation, but also as a strategy to be adopted by the conspiratorial reader.

The ontological and medial assumptions on which Coleridge and Hoffmann predicated artistic significance held negative implications for the type of encounters scored and staged by Mozart, which, as we have seen, were often tailored to the demands of specific figures and occasions. In stark contrast to such attentiveness to worldly exigencies, Hoffmann's Kapellmeister Kreisler describes the act of composition as an unforeseeable and quasi-unconscious process: it involves the transcription of rarefied sounds audible only to those chosen few blessed with the preternaturally acute sense of hearing that bespeaks the soul of an artist. The generation of unforeheard material, whether cast in the terms of originality or novelty, could no longer be outsourced to the paper machinery of Würfelspiele or even to their more respectable pedagogical counterparts. Instead, paper served as a storage medium for the symbolic output of sonic signals recursively turned inward to be processed by mind and body, a symbiosis most recognizably personified by the figure of Beethoven wandering through the woods with sketchbook in hand, at once conducting his fieldwork and illegibly transcribing the quasi-oscillographic contours of its data as heard and imagined.

Under these conditions, improvisation was caught in a double bind owing to the ever-greater authority ascribed to the written note. A watershed is famously marked by the score of Beethoven’s “Emperor” Concerto, op. 73 (1809–11), in which he deemed it necessary to forbid the performer—whose identity was now formally severed from that of the composer—from improvising: “Non si fa una cadenza, ma
The written cadenza simultaneously indexes improvisation and expunges it, literally scoring it out. This narrowing of improvisatory scope is in line with the Romantic fixation on particularity and autonomy that disavowed the comic fungibility of play, with the rise of Goehr’s work concept, and with the mediological onset of Kittler’s “discourse network 1800.”

It also happens to map neatly onto biographical narratives involving the deterioration of Beethoven’s hearing, the transition from his “early” to his “middle” period, and his concomitant withdrawal from Mozartian sociality into Kreislerian solitude.

Yet the fact that the score of the “Emperor” Concerto is peppered with figured-bass numerals indicates not only that the wholesale identification of Beethoven’s music with these tendencies is historically suspect, but also that the criteria used to distinguish between prescriptive, descriptive, and suggestive textual elements are themselves historically mediated. Within Beethoven’s oeuvre, the hermetic qualities of op. 73’s cadenza form a striking contrast to the Mozartian insouciance with which Beethoven had approached the Concerto in C minor, op. 37 (1802–03): according to Ignaz von Seyfried, he performed the solo part from “a few unintelligible Egyptian hieroglyphics” scattered over otherwise empty staves, and when Ferdinand Ries dared to ask for a cadenza, Beethoven refused, telling him to come up with his own.

This suggests a degree of continuity with the ludomusical patterns established by Mozart’s appearances as composer-performer on the Viennese scene, intensified by specific resonances between op. 37 and K. 491 and even agonistically staged by the cadenzas that Beethoven supplied for Mozart’s Keyboard Concerto in D minor, K. 466. At the same time, it implies that the attenuation of Beethoven’s public profile as an improviser at the keyboard in the first decade of the nineteenth century was coeval with a relocation of the act of realization from the making audible of sketched “Egyptian hieroglyphics” in op. 37 to their literary transformation into the Fassung letzter Hand of the “Emperor.” Kramer finds evidence of this process in Beethoven’s sketches for the “Tempest” Sonata, op. 31, no. 2 (1802), which reveal that “the act of writing is itself an improvisational reach for the idea that needs to be coaxed from the hidden recesses of the imagination.”

Whereas the “Tempest” is cast in a self-consciously tragic mode, it is bookended by sonatas in G major (no. 1) and E flat major (no. 3) that strike an overtly ludic tone. (It is noteworthy that all three were commissioned by Nägeli, an outspoken proponent of music’s playful qualities, for publication in his ambitious “Répertoire des clavecinistes” series.) Affective disparities notwithstanding,
each sonata in the op. 31 set plays with the rhetorical and gestural lexicon of commencement. If no. 2 ostentatiously raises the curtain, then no. 1 brings it down with a thump, barking out a seemingly definitive answer that proves to be decidedly questionable. In this context, Claudia Maurer Zenck invokes Michaelis’s description of “humorous” music that “begins in such a peculiar way, perhaps extremely simply, with some notes that appear insignificant, that one would not have suspected the interesting and amusing work that develops.” 197

The same could be said of no. 3, which steals upon the ear in medias res (Figure 71, Audio 16) to “set in motion . . . an amusing game,” as Michaelis characterized such strategies. 198 In stark contrast to the tenebrous vocality and mercurial affective shifts of the “Tempest” Sonata, much of which is redolent of C. P. E. Bach’s fantasies, this opening Allegro is firmly grounded in a galant idiom, evinced by stylistic markers such as the brisk Trommelbaß (m. 17f.) and the subsequent Alberti figuration that powers the movement once it is up and running (m. 46f.). Yet its slyly playful opening seems calculated to raise eyebrows and furrow foreheads: despite Czerny’s parsing of the opening gesture as a “question,” it does not so much pose a riddle as attempt to come to terms with an unstated conundrum. 199

The confusion thereby sown can be measured by the range of critical responses this music has prompted, which fail to reach consensus on even the most basic issues of syntax and character. Whereas Barry Cooper hears the opening to set a “capricious and light-hearted tone” that pervades the whole sonata and Robert Taub delights in the “good-humored, quizzical, unsettled sensation” it stimulates in the performer, Charles Rosen took the opening gambit more seriously, describing the sonata’s initial measures as “emotionally the most unsettling that Beethoven had written.” 200 Regardless of their affect, these measures can be heard to enact a hypotactic process that gradually rationalizes the problematic condition(s) in and under which the sonata enters the audible realm. At the hands of the performer, this process is dramatized as the operation of a ludomusical feedback loop: the sonata’s affordances and constraints are determined and tested via the rule-bound interplay of utterance and response, which listen and adjust to each other in turn.

After the reiteration of the opening measure, constants and variables are systematically permutated, tentatively extending the musical counterpart of a “word ladder.” 201 First, the harmonic parameter is kept constant while the rhythmic profile is transformed (m. 3); subsequently, the rhythm stays constant while the harmonies shift (mm. 3–6); and finally, once the relative security of a tonic 6/4 chord has been gratefully grasped, the left hand continues in the same rhythmic pattern (mm. 7–8) while the right hand performs the cadential formalities with a flippant shimmy. 202 Belatedly arriving at what should have been the sonata’s point of departure, it simultaneously launches the first of the movement’s increasingly extravagant roulades, mock-operatic fioritura perhaps belatedly triggered by the familiar prompt of a fermata over a 6/4 chord in m. 6. The stumbled-upon 6/4 also
FIGURE 71. Ludwig van Beethoven, Piano Sonata in E flat, op. 31, no. 3, i, mm. 1–88 (Bonn and Paris: Simrock, 1804). Reproduced by permission of the Beethoven-Haus Bonn (Collection H. C. Bodmer).

Audio 16. Beethoven, Piano Sonata in E flat, op. 31, no. 3, first movement, performed by Malcolm Bilson (fortepiano after Johann Schantz [ca. 1795] by Thomas and Barbara Wolf [1991]).

To listen to this audio, scan the QR code above with your mobile device or visit DOI: http://doi.org/10.1525/luminos.16.24
constitutes archaeological evidence that the *cadenza composta di salto* (Example 2) is the guiding protocol behind this stepwise sequencing of events. The entire sequence is then repeated with the introduction of an additional parameter: octaval transpositions partition the keyboard into distinct registral zones (a tactic that will later be deployed with ludicrous rigor to herald the arrival of the polonaise-tinged second theme and to pull the rug out from under the would-be graceful footing of the Minuet’s Trio).

Despite the growing confidence with which the additive procedures of these opening sixteen measures harden into a quasi-syllogistic logic, the suspicion remains that something is awry. The problem lies not so much in what is written as in what is not. From the very outset, why does the music seem to be laboring toward a close? What might we have failed to hear—or to imagine having heard? These puzzling questions are encapsulated by the ambiguity of the sonata’s opening chord. From Rameau’s *double emploi* to Gjerdingen’s *indugio*, theorists have accounted for the classification and function of this sonority in contrasting ways: while some, including Schenker, considered it to be an inverted supertonic seventh chord, others, such as Riemann, apprehended it as an altered subdominant chord. Among this latter group can be counted the plain-speaking Donald Francis Tovey, who claimed that the “honest old empiric name of ‘Added Sixth’ correctly describes the chord. . . . Its present bass is A flat, which, in the judgment of human ears, as distinguished from abstract theories, may pass for its ‘root.’” When confronted with the looping arpeggios that herald the recapitulation (mm. 128–39, Figure 72 and Audio 17), however, Tovey tempered his bluster, acknowledging that the opening figure “floats in over the F minor 6th on A flat. So the famous opening chord now becomes a chord of the added 5th.” In other words, the pitch of E flat—the tonic itself—becomes a foreign element at the very moment of its anticipated return.

Rather than passing judgment on whether the opening chord is either an inverted F-minor seventh chord or an A-flat triad with an added sixth, we might consider it as an amalgam of both, a sonic double exposure composed of the perfect fifths (A flat–E flat and F–C) that outline each sonority, which combine to inflect the opening with the pastoral evocation of a musette. These elements are subtly separated just before the recapitulation in the manner of a harmonic chromatogram: the active agent is the voice that chromatically ascends from E flat, to F₃ via E natural (mm. 128–30), articulating a shift from an A-flat-major to an F-minor triad. The process of recapitulation thus sheds light on the formation of the movement’s opening by anatomizing its construction. It allows us to hear the chromatic rise of the outer voices in mm. 139–42 (and, retrospectively, in mm. 3–6) as the continuation of a process that lies latent within the opening sonority rather than as a distinct generative strategy.

In the interim, this process can be tracked over the course of the exposition; beyond that, it extends across the movement’s primary formal caesura, the double-barred point at which it is spatially and temporally divided in two (m. 88).
Precisely where the exposition is subjected to the most conventional mode of replication, repetition becomes revelatory rather than redundant. The strategy is foreshadowed by the plain first-inversion chords in mm. 83–84, which anticipate the recapitulation in articulating the separated-out harmonies of the local sub-dominant (m. 83) and supertonic (m. 84) that are overlaid, transposed down a fifth, in the opening measure. The subsequent reiteration of the right hand’s dotted half notes in mm. 87–88 endows them with a thematic quality: doubled by the left hand and now outlining a pure E-flat sonority, they assume the guise of the missing melodic and harmonic tonicization that went unplayed and unheard the first time around.

With mm. 87–88 tacked in front of them (Figure 73, Audio 18), the repeated mm. 1–8 finally become comprehensible as a thematic gestalt that conforms to the generic norms of opening gambits pursued elsewhere by Mozart as well as
Perhaps most importantly, the E flats in m. 88 restore the puzzling remnants of the opening *cadenza composta di salto* to working order, rationalizing the dissonance in m. 1—and, by implication, its counterpart that puzzled Tovey in m. 139—as the by-product of their suspension.

If further proof were required of the thematic substance and consistency of this newly constituted theme, it might be placed alongside the movement’s second theme, which is more directly comparable in its recapitulatory guise (Figure 72, m. 170f.). Here, the intervallic outline of mm. 83–84 and 87–88 (which had been adumbrated as early as m. 19) is echoed an octave higher: the chirps of mm. 172–73 outline the descending fifth of mm. 1–2, while the thumb of the left hand reenacts the recapitulatory chromatic ascent that transforms an A-flat-major into an F-minor triad (here even treated canonically within the Alberti texture from mm. 172–74). Although the consequent phrase takes a different trajectory in mm. 174–76, it returns to the tonic via an analogous *clausula perfecta* after a brief detour occasioned by a *cadenza finta*.

The two themes also share the same design insofar as they consist of two distinct iterations of the same cadential pattern separated by a monophonic melisma in the soprano register. Furthermore, as suggested by Adolf Bernhard Marx and subsequently pursued by Nathan L. Fishman in his edition of the Wielhorsky sketchbook, the origins of the second theme can be traced by considering it in rhythmic parallel with the material derived from the opening gesture that unfolds over the *Trommelbass* (m. 18f.). The repeat of the exposition thus reveals the first theme to be a schematic outline of the second, and vice versa. As the unheard is sounded and the imaginary rendered concrete, the missing riddle is simultaneously posed and answered.

While all repeats are in a sense unprecedented, the closing of the feedback loop between mm. 88 and 1 recursively completes and reinitiates the process of parametric transfer pursued at the movement’s outset. Traveling back to the exposition’s origin reframes its destination; at the same time, the audible future reveals its inaudible prehistory. Left to its own devices, the exposition could loop indefinitely, as m. 89 intimates. Like the flapping of a butterfly’s wings, however, m. 91’s subtle departure...
from m. 3 suffices to open up an alternative musical destiny. Both procedures indicate how Beethoven's sonata format defies both the linearity of its presentation on the page and the temporality of its performance at the keyboard, reconfiguring the musical manipulation of space and time via techniques that would have to wait for newer media to provide them with names: not only loops, but also cross-cuts, wipes, fades, replays, and even retroactive continuity. On the one hand, the ambiguous playfulness of op. 31, no. 3, emerges from its reliance on the distinctive clarity of its eighteenth-century materials; on the other, its manipulation of these elements displays features associated with the technical mediation of autopoietic emergence.

The sonata's feedback loops also exhibit a new order of reflexivity, an awareness of self-awareness that echoes through history like Beethoven's sardonic laughter at the expense of hapless performers and listeners. Compelled to observe his or her own observation of the sonata’s galant cues, which stand at an ambiguously ironic distance from the musical protocol of an ancien régime, the performer demonstrates its operational closure in the very process of becoming hermeneutically coupled to it. As Kramer writes of op. 31, no. 2, those who wish to play (with) Beethoven’s music must simultaneously divine the rules of the game.

In what might be construed as a Romantic rejoinder to Bernard le Bovier de Fontenelle’s bafflement at what a sonata might possibly want of him, Hoffmann decisively shifted the burden of responsibility: “What if it is only your inadequate understanding which fails to grasp the inner coherence of every Beethoven composition? What if it is entirely your fault that the composer's language is clear to the initiated but not to you?” Commentators on the op. 31 sonatas have often seized on evidence to support the contention that Beethoven aimed therein to pry open a gap between the detritus of the generically combinable elements that had composed the galant style and the forging of a distinctly new idiom, at once idiolectical and universal. In a sense, however, Beethoven was simply adhering to the terms of his commission: despite the archaic ring of its title, Nägeli touted his “Répertoire des clavecinistes” as a series featuring “solos in the grand style, of great scope, with many departures from the usual sonata form,” which he solicited from such luminaries as Jan Ladislav Dussek, Johann Baptist Cramer, and Daniel Steibelt alongside Beethoven. We might thus consider the work’s eighteenth-century pedigree to coexist with imperatives of originality, complexity, and ambition in terms that do not issue solely from the vantage point of Beethoven’s subjectivity.

Beyond the role played by op. 31, no. 3, in the articulation of Beethoven’s compositional development, how was its playful problematization of listening and performing materially mediated? A point of departure for such inquiry was flagged up by Riemann, who, in the course of accounting for the sonata’s tantalizing opening sonority, located its source of expression in the eighteenth century: his description of the opening motive as “a true Mannheim sigh” nods to the galanterie of
Johann Stamitz. As well as tracing a compositional genealogy, Riemann was concerned with the Mannheim school’s transformative approach to the medium of musical delivery, which he addressed in terms of keyboard technique, specifically the *Staccatospiel* promoted by eighteenth-century instruments, pedagogy, and aesthetics. (The issue of instrumental medium takes on greater definition in light of the care Beethoven took to fit the op. 31 sonatas within the compass of a five-octave keyboard, the physical limits of which are made amusingly explicit in mm. 44–45.)

For Riemann, as Scott Burnham stresses, the sonata’s meaning could not be decoded from the score alone: it had to be demonstrably conformable with his own theory of phrase structure and its articulation via iambic hypermeter. Beyond an archaeological approach to gesture, this necessitated reading (and writing) between the lines of Beethoven’s notation in order to convey what Riemann perceived as the opening figure’s refusal to be confined by slurs, bar lines, the acoustic properties of the instrument (witness the crescendo that accumulates over the course of a rest in Figure 74), and even its own repetition in order to “arrive” on the hypermetrical downbeat of the second measure. Riemann’s neumic rewriting of Beethoven’s opening gesture charges it with communicative urgency, transforming it into a signal that demands an interpretive response.

Glossing Goethe and Schiller, Kittler identified the sigh (*ach!* as “the sign of the unique entity (the soul) that, if it were to utter . . . any signifier whatsoever, would immediately become its own sigh of self-lament; for then it would have ceased to be soul and would have become ‘Language’ instead.” In this light, Riemann’s imaginary performance of Beethoven’s Mannheim sigh, instrumentally liberated from all traces of its linguistic armature, represents its own unrepresentability: each iteration is not the index of an author’s sentiment, but the actualization of the affect at which even *ach!* can only hint. Such wordless sighs cannot be disentangled from musical representations of “the secret harmonies of nature” that Hoffmann “limned so effectively with the precision of *words,*” as Ferruccio Busoni expressed it. Beethoven himself was also fluent in this discourse: “No one can love the country as much as I do. For surely woods, trees, and rocks produce the echo that Man desires to hear.”

This suggests one more way of hearing the opening of op. 31, no. 3, first noted by Jacques-Gabriel Prod’homme in 1930. In place of Riemann’s perception of a Mannheim sigh, Prod’homme heard the dotted rhythm to represent the call of
the quail (Audio 19), which was explicitly invoked by Beethoven in his setting of Samuel Friedrich Sauter’s “Der Wachtelschlag,” WoO 129 (1803). This song, along with the depiction of the quail in the “Pastoral” Symphony, op. 68 (1808), accords with Hoffmann’s image of the composer as nature’s sounding board: Beethoven purportedly told Anton Schindler that the Szene am Bach was composed on location while “the goldfinches up there, the quails, nightingales, and cuckoos circling around composed along too.”

Beethoven’s pantheistic fervor imbued environmental acoustical phenomena with creative significance, for birdsong was nothing less than nature’s performance of improvised composition.

Accordingly, throughout “Der Wachtelschlag” the quail’s call is underlaid with religious sentiments: Fürchte Gott (“Fear ye God”), Liebe Gott (“Love ye God”), and Lobe Gott (“Praise ye God”). The variation of melodic, harmonic, and rhythmic details in both vocal and keyboard parts transduces its cry into the realm of human expression, modulating each repetition into a meaningful utterance.

In this light, we might construe the discursive desperation of the “Heiligenstadt Testament,” written in close proximity to op. 31, no. 3, and “Der Wachtelschlag,” as an attempt to endow the intransigent and inhuman world with a spiritual significance accessible via hermeneutical divination rather than raw sensation.

While the quail could articulate the wondrous mysteries of creation, however, its relentless ostinato also carried connotations of toylike miniaturized automation, as David Wyn Jones notes. The tradition of simultaneously mechanizing and infantilizing birdsong passes through the “Toy Symphony” variously attributed to Haydn and Leopold Mozart as well as Bernhard Romberg’s “celebrated Toy Symphony,” more properly known as the Symphonie burlesque, op. 62 (ca. 1825), which included a prominent part for Wachtelpfeife (“quail whistle,” Figure 75).

If, with Prod’homme, we hear the first movement of op. 31, no. 3, to channel a quail, Carl Reinecke’s observation that the opening rhythm recurs about one hundred times throughout the movement becomes less a reflection of Beethoven’s ingenious motivic economy and more a Rombergian acknowledgment of bird-brained obstinacy and redundancy.

When quantizing the pitch of the quail’s call as F₄ and its rhythm in the terms of what would become its standard dotted notation in his Musurgia universalis, Kircher transcribed its acoustic signature as the resolutely unpoetic “bikebik” (Figure 76); conversely, he credited the parrot perched next to it not merely with the capacity of speech, but with conversational fluency in ancient Greek. In a manner at once frivolous and profound, Kircher thus depicted two modes by which avian feedback loops could be incorporated into the mimesis of audible discourse, represented by the meaninglessness of the quail’s musical repetition and the parrot’s anthropic ability to make linguistic sense. In Beethoven’s day, these communicative channels were blended by Sauter’s earnest religiosity as well as by Hoffmann’s pantheism. From this perspective, we might understand Beethoven’s
TOY-SYMPONY.

 Allegro maestoso. QUAIL. B. Romberg.

FIGURE 75. Bernhard Romberg, Wachtelpfeife part from his so-called “Toy Symphony” (Symphonie burlesque, op. 62), i, mm. 1–49 (London: Augener, ca. 1880 [composed ca. 1825]).

FIGURE 76. Kircher, detail from Musurgia universalis, 1:30.

AUDIO 19. Field recording of the common quail (Coturnix coturnix), made in Dahme-Spreewald, Brandenburg, by Sonnenburg (2015). CC BY-NC-SA 4.0.
To listen to this audio, scan the QR code above with your mobile device or visit DOI: http://doi.org/10.1525/luminos.16.27
imaginative modulation of the quail’s “rigid monotone drone” throughout op. 31, no. 3, to mark a transformation through which both the natural and the mechanical become infused with expressive potential: by elevating the initial pitch of the quail’s $F_4$ monotone by a perfect fifth, Beethoven transforms it into a Mannheim ach! Nowhere is the quail’s sigh more affecting than at mm. 33–34, where the $C_5$ is flattened by a poignant dash of modal mixture: the ardently rising harmonic sequence that ensues conjures a prototype of that most enduring symbol of Romantic longing, the “Tristan” chord (m. 36f.).

Yet if we neglect the sheer playfulness with which this sonata disguises, dissembles, defers, and delays proceedings by way of deadpan repetition, hesitant exploration, and finally “a flurry of excited clatter that motors around through the registers,” as Burnham aptly characterizes it, we find ourselves aligned with Riemann’s straight-faced mission to “rid artistic creation of every vestige of caprice and make it into a logically necessary imperative.” The set of seven bagatelles that Beethoven gathered together and issued as op. 33 (1803) in the wake of the op. 31 sonatas gives the lie to Riemann’s lofty rhetoric. Several play whimsical games with slapstick elements that also stud op. 31: absurdly florid passagework, derailed processes that require a kick-start, casual oscillations between outlandish keys, rhythmical and registral bumps, thuds, and collisions, and comically desynchronized hands abound.

The indoor table game of bagatelle, a forerunner of pinball and pachinko in which players aim to guide balls into holes guarded by wooden pegs, swept through Europe toward the end of the eighteenth century. Although it is possible that Beethoven named his set of pieces after this ludic pursuit, it seems more likely that, after the fashion of François Couperin’s rondeau “Les bagatelles” (1717), he chose the term simply to indicate his pieces’ trifling scale and lack of pretension. That notwithstanding, the Bagatelle in C, op. 33, no. 5, evokes its ludic namesake in its pinball-like simulacrum of acceleration and inertia. Initially propelled upward as though by a plunger, the “ball” slowly descends via musical bumpers and spinners before being flipped up eleven times more. On the final occasion, however, it gets stuck (m. 58f., Figure 77 and Audio 20), forcing the player to tilt the machine with increasing force. It is telling that, in harmonic terms, this sticking point is identical to that encountered just before the recapitulation in the first movement of op. 31, no. 3: the obstacle consists of a subdominant chord (implied throughout mm. 59–63) that needs to be chromatically nudged into a first-inversion supertonic chord in order for the music to proceed to the cadence.

The overt playfulness of this mere bagatelle does not detract from the high seriousness of Beethoven’s music writ large; on the contrary, the distinction between Mozartian and Beethovenian play lies in the dialectical distance from which the latter observes the former, strategically deploying it as a token in a game of Schillerian loftiness. Beethoven’s bagatelles are fragmentary in the Romantic manner of a sonic Schlegelian hedgehog, at once irrevocably implicated in and defiantly
isolated from the play of the world. This music plays with play, interrogating the ludic logic of mimesis by constructing feedback loops that yield unpredictably emergent results: in the terms that Hoffmann brought to bear on the Fifth Symphony, its first-order “genius” is observed by second-order “awareness.”

It is in this sense that the matter of Beethoven’s deafness can be brought to bear on the mediation of play at the keyboard. What remains unheard at the beginning of op. 31, no. 3, thereby eluding Tovey’s “judgement of human ears,” and what gets stuck in op. 33, no. 5, testify to a form of deafness defined not only as a spiritual crisis to be overcome, but also as the material obstruction of a communicative channel. For Beethoven at the turn of the century, deafness could take the form of a low-pass filter (“at a distance I cannot hear the high notes of instruments or voices”) or the inability to hear at all (“What Mortification if someone stood beside me and heard a flute from afar and I heard nothing”). The issue of audibility created its own feedback loops that coursed within and between bodies. This made it possible to conceive of the “unheard” as a function of repetition...
within an individual work, as indicative of sonorous intertextual relationships that span broader repertorial and sonic networks, as a condition that constructs (and is constructed by) a sovereign subject who imposes narrative order on musical events, and as a material artifact of Beethoven's malfunctioning auditory system. As revealed by his attempts both to keep that channel open and to bypass it via all available technological means, its obstructions could be at once constituted and mitigated by the writing of notes or the pressing of keys. In all these senses, op. 31, no. 3, can be heard as a recursive “discourse on discourse channel conditions,” in Kittler’s phrase: it establishes its mode of transmission by calling it into question, and vice versa.

After the “Emperor” Concerto, the function of the keyboard was to shift again for Beethoven. Although it no longer served as a medium for public performance or improvisation, its deployability as a compositional prosthesis was complemented by its capacity to amplify sound as his hearing deteriorated. The Broadwood piano he received as a gift in 1818 was subsequently fitted with devices designed by Matthäus Andreas Stein and Conrad Graf; operating according to the same principles as a phonograph horn, Stein’s tin cupola fed back the instrument’s sound to Beethoven’s ears as he composed his final piano sonatas. The recursion of this feedback loop blurred the distinction between digital input and analog output, between the generation and recreation of Beethoven’s single-player games. The question of how this music is to be imagined, contemplated, heard, and reenacted continues to be motivated by the epiphanic moments that can arise from hermeneutical processes, but it also entails media-archaeological inquiry into the conditions that make these phenomena imaginable: notational systems, instrumental interfaces, sonata formats, tin cupolas, ear trumpets, and the physiological networks that have filtered and processed the audible world in order to render it playable.

“I am an altogether patient thing, I let myself be used by everyone. Through me the truth, the lie, erudition, and stupidity are proclaimed to the world.” So begins Mozart’s second Zoroastrian riddle. The answer lies not within the sender, or the receiver, and is not even encoded in the signal, but is enmeshed in the communicative channel itself, the very medium by which the riddle was inscribed, replicated, and disseminated: paper. In musical as well as ludic terms, scores rendered on paper give essential yet incomplete information, a rough outline of the improvised, performed, and replayed actions they prompt or reflect. Witnessing the emergence of what would later be cataloged as Mozart’s K. 454 from a virtually empty page, Joseph II might have been confounded by the concept of music that was heard but not seen; the score of Beethoven’s op. 31, no. 3, conversely, makes visible what goes unheard at its outset. In both cases, the score alone cannot account for how the compositional game was played or how it might be replayed in performance.
Yet while Mozart’s notes on paper are readily apprehended as rules or scripts, Beethoven’s scores have been revered as unbreakable records rather than read as invitations to join the ludomusical fray. Reified in the authoritative form of the *Fassung letzter Hand* and enshrined in the musical Hall of Fame, Beethoven’s keyboard works helped set the nineteenth-century standard by which music could transcend material limitations, revealing itself to be better than it could possibly be played. Concomitantly, and in line with the misgivings expressed by Herder and Hegel, the Schillerian currency of play was devalued and its stature diminished. Instead of being celebrated as a vital cultural force, play became associated with the second-order functions of recreation and remembrance, the affective tone of which could easily shade into childishness and sentimentality. Stored as canonical highlights and cherished keepsakes, musical scores were played back as a means of emulating or revisiting the past, whether construed as a glorious cultural heritage, as halcyon days to be nostalgically relived, or both at once.

As a vehicle of personal and cultural memory, recreative play at the keyboard might nonetheless be heard not only to supplement its improvisatory and performative counterparts, but also to syncopate the phonographic emphasis with which the history of recording and reproduction has most commonly been recounted. Today, moreover, the interface of the keyboard continues to provide conceptual and material access to human and mechanical modes of digital recreation that recursively index these historical functions in contemporary terms, reformatting the past to make it replayable in the present. These modes are both addressed and adopted by this book’s fifth and final Key.