

# Hans Keller and the Media of Analysis

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**Abstract:** Developed in the late 1950s, Hans Keller's method of "functional analysis" (FA) sought to analyze music in audible form, without verbal argument or conceptual labels. Keller composed analytical interludes which repeated, recontextualized, and recomposed recognizable thematic and rhythmic elements from the compositions he studied, and placed them in between the movements of those works in live performances or radio broadcasts. Drawing on early twentieth-century music analysis, mid-century media theory, and recent studies of analysis for performance, this article reads Keller's early analyses against a series of annual updates he published, chronicling FA's development from a polemical philosophy of music criticism to a dynamic mode of wordless musical argument.

**Keywords:** Hans Keller, Franz Joseph Haydn, functional analysis, chamber music, radio broadcasting, BBC Third Programme, music theory

The Austrian British musician, critic, and broadcaster Hans Keller (1919–1985) did not initially set out to banish language from musical analysis. But once he did so, he felt that very little had been lost. In a series of essays and broadcasts most densely concentrated in the period from 1956 to 1960, Keller developed a remarkable theory and method for understanding music, which he called "Functional Analysis" (often abbreviated "FA"). The method initially emerged in a pair of 1956 essays concerned with the music of Mozart.<sup>1</sup> Those texts attempted to reclaim the notion of "analysis," and offered a harsh rebuke to the music critics of his time. Finding the writings of Donald F. Tovey, Cuthbert Girdlestone, and others to be too full of descriptive language and blow-by-blow narration,<sup>2</sup> Keller wrote:

What usually goes by the name of analysis is nothing of the sort. Description gives a verbal account of what you hear and is essentially unnecessary.... Verbal or symbolic analysis shows, on the other hand, the elements of what you hear. In a great piece, these are always the elements of unity, not of diversity, because a great piece grows from an all-embracing idea. Great music diversifies a unity; mere good music unites diverse elements.<sup>3</sup>

The project began, then, not with an outright rejection of “verbal and symbolic analysis,” but rather a refocusing and refinement of it: instead of annotating forms or themes, Keller argued, analysis ought to show the “elements of what you hear” and how they are psychologically unified. Such an approach, he argued, was a way to appeal to musicians and casual listeners alike: both experts and amateurs would be best-served not by having the second theme pointed out to them, or by reading a slew of vivid adjectives, but instead by having the subtleties of motivic development revealed and traced through a composition. Keller’s earliest forays into Functional Analysis (which he often described as “both a theory and a method”)<sup>4</sup> were modeled on Sigmund Freud’s famous theory of dream interpretation: the idea that the initially disjunct images of a dream (its “manifest content”) can be shown, through the probing form of listening practiced by the psychoanalyst, to be deeply unified (the dream’s “latent” content, to use Freud’s term).<sup>5</sup> It was these deep connections that music analysts should concern themselves with, Keller argued, rather than formal labels or descriptions of a piece of music’s character. In playful prose accompanied by copious musical excerpts, Keller did just that in his 1956 essays, offering first an account of thematic unity across and between the movements of several of Mozart string quartets, and then in the Piano Concerto in C Major, K. 503.

Within a year, however, Functional Analysis had taken on the entirely new form by which it is now remembered: that of a nearly wordless radio broadcast on the BBC's Third Programme (an arts and culture station launched after the Second World War). Airing on the night of September 7, 1957, "The Unity of Contrasting Themes" was a unique presentation of Mozart's D Minor String Quartet (K. 421). After a brief spoken introduction, the movements of the quartet were interspersed with analytical interludes, and even a three-minute interval of silence, which was meant to offer a few moments for the listener's reflection.<sup>6</sup> This wordless broadcast and the dozen more that followed were the logical endpoint of Keller's experiments in criticism, and the crystallization of a distinctive philosophy of music analysis. In the weeks leading up to the broadcast, Keller wrote:

It may be noted that I have changed or rather radicalized my mind since February, 1956, when I suggested that "it will be possible to analyze unities simply by way of music examples...with hardly a word in between." The development of FA has meanwhile taken a more drastic and, it seems to me, decisive turn, in that the whole content of those "lectures" I had in mind is now being expressed in music, so that instead of played music examples "with hardly a word in between," we get the performance of a continuous score without any words at all. It was not an altogether easy step to take...[but] the gain is immeasurably greater than the loss.<sup>7</sup>

Keller's work thus took on a whole new significance in the space of a year: from refocusing the work of musical analysis, to changing the very medium in which it was delivered. Writing in 1974, Keller confessed that throughout his career, he had been caught between two opposing forces—"verbal complication and verbal simplification"—and consumed with the difficulty of addressing two audiences: the amateur (who wants simplification, which Keller

fears is too often inadequate), and the expert (whose interest in “technical [secret] language...distorts and obscures the truth,” creating a “superfluously professional world” that is dangerously removed from musical practice).<sup>8</sup> Along with a contrarian persona and an intentionally ironic style of prose writing, which he cultivated throughout his career, the turn to wordless analysis was Keller’s favored solution to this conundrum. Not only did he wish to replace the “twaddle” (a favorite epithet of his) peddled by his contemporaries in the pages of British journals and magazines, he wished to render both text and image superfluous, in pursuit of a purely musical criticism—“the musical analysis of music,” as he frequently put it—that would challenge and stimulate expert listeners while remaining accessible and vivid for amateurs.<sup>9</sup> Just as in Freud’s therapeutic model, the listener should be gently guided to analytic revelation, not simply told by the analyst. A new model of radio-based analysis, which allowed Keller to eschew text completely, was the last puzzle piece his project needed.

This chapter takes a media-theoretical approach to contextualizing Keller’s method of Functional Analysis within the larger spheres of notation-based music-analytical practices, and ideas about the relationship between analysis and performance, then and now. I take as my primary texts a trio of essays published in the British journal *The Music Review*, in which Keller outlined his analytical method and tracked its progress over the course of four years.<sup>10</sup> While these texts are not a complete encapsulation of Keller’s analytical philosophy, they were written during the short period from 1957 to 1960 in which his method developed the most rapidly, in the form of nearly a dozen essays and eight of his eventual fifteen analytical scores. They offer his most cogent thoughts on the practicalities of a purely musical form of analysis, and valuable insights on his analyses as pieces of music that are themselves being performed. Departing from Keller’s own reflections, various secondary accounts of his theory, and a brief examination of

one of his analytical scores, I place Keller's ideas about non-verbal musical communication within the context of the notation-based forms of analysis that inspired him in the 1950s; the study of "analysis for performance" that emerged shortly thereafter; and the modernist notion of "medium specificity," through reference to the writings of art critic Clement Greenberg (1909–1994) and media theorist Marshall McLuhan (1911–1980).

## An Introduction to Functional Analysis

Keller's FA broadcasts generally followed the template of the first outing: the work in question was performed, with analytical interludes placed between the movements. These interludes usually refer back to the music that has just been heard, and occasionally preview the music to come as well. With only two exceptions—FA12, on Benjamin Britten's Second String Quartet, and FA13, on J.S. Bach's Third Brandenburg Concerto—all of Keller's analytical scores were concerned with the music of Mozart (seven analyses), Haydn (four), and Beethoven (two).

But despite the focus on the Viennese classics, Keller did not conceive of his method as restricted to the Classical repertoire. In fact, in July 1957, several months before the broadcast of FA1, Keller proposed a sequel concerned with "The Melodic and Rhythmic Style of George Gershwin."<sup>11</sup> Keller had been an advocate of Gershwin's music for several years, and saw an opportunity to honor the composer on the 20th anniversary of his death, and simultaneously to demonstrate his analytical method's flexibility.<sup>12</sup> Treating Gershwin's songs seriously on the air would have been an aesthetic watershed for the Third Programme, but in the end Keller acknowledged that numerous letters from BBC listeners were unanimously pointing him towards a more canonical subject for his next analysis: Beethoven.<sup>13</sup> This choice seems to have set the direction for the future of Functional Analysis, helping to enshrine both the Classical repertoire

and the notable focus on chamber music—Keller's favored genre—that characterizes his analytical output.

The background unities in which Keller was interested often manifested themselves as inter-movement motivic connections, so his interludes tend to demonstrate prominently the transformation of one theme into another. This is the basis, for instance, of his first Functional Analysis, on Mozart's D Minor Quartet, K. 421. By re-arranging and juxtaposing the first movement's themes, Keller represents a process of transformation from the original first theme, through the parallel major-key form from the recapitulation, into the major-key second theme. Later, he audibly compares the first movement's opening theme with the other movements, making clear the motivic connections between them. By surrounding each movement with recapitulations of previous ones, and often previews of what was to come, Keller's analytical interludes make a wordless argument for the unity of a multimovement work, and they attempt to turn the listener's linear experience of the piece into a more synoptic overview.

A brief example from another of Keller's analytical scores will demonstrate some of the nuances of his method. Keller's FA4 dealt with Haydn's String Quartet in D major, op. 64, no. 5 (the "Lark" Quartet, from 1790) and was the first FA to be intended for live performance, at Dartington Summer School in 1958.<sup>14</sup> In an essay in *Music Review* that year, Keller described his plans for FA4, acknowledging that the circumstances for a live FA might be different than the apparently difficult studio recording for FA2 (Beethoven's op. 95, "Serioso" Quartet).

The analysis will, I hope, take the practical requirements of a concert performance fully into account. That is to say, the relative simplicity, from the playing point of view, of FA no. 1 will as far as possible be combined with the analytic complexity of FA no. 2. I do not mean to imply, however, that FA no. 2 is unsuitable for live

performance; only it would need very extensive rehearsal for the purpose. With more or less normal rehearsal time, I had to do a considerable amount of tape-editing (the number of sectional re-takes having been correspondingly high).<sup>15</sup>

FA4's form is sketched in [Table 1](#). It is an especially long analytical score; its first interlude (A1) is as long as the first movement itself, and the intermission is bookended by a pair of analytical interludes, widely separating the two halves of the quartet. It is sometimes difficult—and always against the spirit of the endeavor—to describe Keller's wordless analyses in prose, and for that reason, I will not offer a full interpretation of the analysis here. It is worthwhile, however, to explore a few characteristic techniques that arise in the "Lark" analysis, which will inform the contextualizing discussions of Keller's project later in this chapter.


[Insert Table 1]

Unlike FA1, which begins its analysis by reprising the beginning of Mozart's quartet, FA4 picks up immediately with the last few bars of the first movement. [Figure 1](#) reproduces two brief excerpts from Haydn's original score: (a) the first four measures and (b) the last four measures of the first movement. [Figure 2](#) reproduces the first thirty-five measures of Keller's FA4. Keller's analysis begins by restating a modified version of the cadential figure that ends the first movement. But while Haydn's ending uses a quick dotted rhythm (see [Figure 1b](#)), Keller pairs the cadential fragment from the end with the rhythm and articulation found at the beginning of the movement ([Figure 1a](#)). The ensemble texture mimics Haydn's opening as well, as the upper strings exchange a call-and-response with the cello. This re-combined material thus serves as a transition from the end of the first movement, back to its beginning.

**Table 1:** Formal Diagram of Hans Keller, Functional Analysis #4 (on Haydn's String Quartet in D Major, op. 64, no. 5)

<b>As written</b>	<b>Added by Keller</b>
First movement: Allegro moderato	A1: Allegro moderato; Adagio
Second movement: Adagio cantabile	A2: Adagio; Allegro; Adagio; Allegro
<i>Interval: 3 minutes</i>	
Third movement: Menuetto Allegretto	A3: Tempo di primo movimento; Menuetto
Fourth movement: Finale Vivace	A4: Menuetto; Allegro; Vivace
	A5: Tempo di primo movimento; tempo di finale





(a)


Violin I

Violin II *staccato*  
*p*

Viola *staccato*  
*p*

Violoncello *staccato*  
*p*

(b)  
176



[Insert Figure 1a]

[Insert Figure 1b]

In mm. 7–8 of Keller’s analysis (Figure 2), we hear a direct quote from the beginning of the movement: these measures come from mm. 3–4 of Haydn’s original. Up to this point, the first violin has been playing the melody, but in Haydn’s orchestration, the first violin is silent for the first phrase. In m. 9 of FA4, the first violin drops out; its *staccato* figure is taken up by the second violin and viola on beat 2. In a sense, then, Keller’s introductory figure “passes the baton” to Haydn’s original arrangement. Given FA4’s origins in a live performance at a chamber music festival, it is possible that this transition might have been clearer to a live audience (who would be able to *see* the first violin stop playing and the second pick up precisely where they left off) than it would have been to a radio listener. Additionally, the rhythm created by the second violin’s assumption of the theme—staccato attacks on beats 2, 3, and 4—seems to anticipate the theme that the first violin will soon take up in m. 16 in FA4 (echoing m. 8 of the original). These compositional strategies—audibly comparing the movement’s end with its beginning, allowing the quartet’s original introduction to emerge through a series of gradual melodic transformations, and using a change in instrumentation to imply the rhythmic shape of m. 16’s theme—initiate Keller’s argument for a background unity that spans the entire piece.

[Insert Figure 2\_a]

[Insert Figure 2\_b]

[Insert Figure 2\_c]

The first violin takes up a truncated version of its melody a few bars later, in m. 16. Keller reduces the melody in scope and register, centering it on “D” (the tonic) rather than

(a)  **L'istesso tempo (attacca)**

Violin I  
Violin II  
Viola  
Violoncello

6 un poco rit a tempo  
un poco rit a tempo  
senza sord.  
senza sord.  
(sempre pp) (sempre pp) un poco rit a tempo senza sord.  
pp

11  
pp p

(b)

16 *mf* *tr*

20 *pp* *tr* *niente*  
*ppp* *mf* *f*  
con sord.

24 *ritmico, ma pp* *tr* *p*

(c)  
29 pizz. arco  
*pp* *p*

pizz. pizz.  
*pp* *pp*

senza sord.  
pizz. *p* *pp*

32 *p* arco  
*p* *pp*

arco  
*mf* *mf*

arco  
*pp* *p*

“F<sharp>.” The initial four-measure phrase is followed with repetition of its second half (mm. 21–22), seeming to emphasize the figures “D–E” (articulated across the downbeats of mm. 21 and 22) and “D–C<sharp>” (within m. 21). The first violin plays “D–C<sharp>” one more time in m. 23, echoing the first half of m. 21. The second violin plays the full figure in mm. 25–26, this time marked “ritmico”—an expressive marking not found in the original statement, or in Haydn’s quartet. Next, the “D–C<sharp>” relationship is heard several times in the *staccato* style of the introduction (mm. 27 and 30), and then twice more in its full form (mm. 32–34). Keller seems to be saying that the soaring melody that granted the quartet its nickname (the “Lark”) and the choppy eighth-note passages are related to one another—an association reinforced by the “ritmico” marking—though the precise nature of this relationship is not quite clear. The process by which the first violin’s melody is shorn of its details—its range, its alterations to fit the changes in harmony, and eventually its characteristic rhythms—mirrors the common musical process of *liquidation*, which involves “gradually eliminating characteristic features, until only uncharacteristic ones remain.... [O]ften only residues remain, which have little in common with the basic motive.”<sup>16</sup>

## Motivic and Graphic Analysis

As his Functional Analysis repeats and subtly varies Haydn’s recognizable motives, paring them down to basic gestures, Keller enters into a dialogue with numerous mid-century theories of music analysis. In order to better understand and contextualize Keller’s claims of a purely musical analytical method, it will be useful to consider his relationship to prior theories that turn music notation back on itself in various ways. This tradition is not new—in its modern form, it can be traced back at least to Rameau, whose fundamental bass made arguments and

clarifications in playable form.<sup>17</sup> But some more recent examples are more relevant, several of which are named by Keller himself.

Keller was keenly aware of his theoretical context, and counted Arnold Schoenberg among his predecessors. In one of his first essays on Functional Analysis, he thanked several musicians who had exerted an influence over his method: Rudolph Reti and Heinrich Schenker (who, for Keller, represent two opposite methodological errors: an over-emphasis on melody for the former and an over-emphasis on harmony for the latter); Schoenberg (“the first great composer who analysed in public,” and whose concept of the *Grundgestalt* or “basic shape” may also have informed Keller’s analytical thought); and Oskar Adler, who taught Keller viola and chamber music, and whose lifelong friendship with Schoenberg served as an indirect connection between the two Austrian emigres.<sup>18</sup> As I have just noted, Keller’s Functional Analyses often employ a technique akin to Schoenberg’s notion of liquidation. But both the form of Keller’s analyses, and their conceptual underpinnings, bear a stronger resemblance to those of the first two figures, Schenker and Reti, so for the moment I will focus on these connections between Keller’s work and the early- and mid-twentieth-century forms of graphic analysis associated with them.

Keller spoke favorably of Schenker’s theories, writing that “his *Urlinien* [fundamental lines] and *Ursätze* [fundamental structures]...open the analyst’s and the player’s ears alike to the latent driving forces of manifest form.”<sup>19</sup> While Keller was aware of Schenker’s work, there is no direct evidence that he had explored it in depth. Keller developed Functional Analysis as Schenker’s pupils and grand-pupils were disseminating his work in the United States (Felix Salzer’s *Structural Hearing*, for instance, had been published in 1952), but he never cited Schenker’s writings in detail; the reference given in the 1956 “Chamber Music” essay is to

Victor Zuckerkandl's article on Schenker in the *Harvard Dictionary of Music* (1946). Much later, in a more retrospective essay from 1970, Keller claims to have "pinched" two important concepts from Schenker for his own use: the notion of background and foreground. But while Keller may have been inspired by Schenker's formulation of different musical layers, he also delights in "lavishly changing their connotations" when incorporating Schenker's conceptual spaces into Functional Analysis.<sup>20</sup> In Keller's hands, foreground and background take on a psychological meaning that is mostly absent from Schenker's organic metaphors, though arguably an important facet of Schenkerian analytical work. For Keller, the background of a work is a site for the working out of the materials, the implied relationships between themes and motives. It is "both the sum total of the expectations a composer raises in the course of a piece without fulfilling them, and the sum total of those unborn fulfillments."<sup>21</sup> The foreground is that segment of those potentialities that are realized in the actual score. From this distinction flows perhaps the clearest way to view Keller's distinction between analysis and description: while "descriptive" critics narrate the music's foreground, Keller argues that the analyst's job occurs at the background level. "The background is what I bring to the fore in my wordless analytic scores," he writes. "The foreground is that which suppresses the background—often even represses it in the dynamic, psychoanalytic sense, so that the composer is unaware of what has happened and receives the analytic disclosure like a revelation."<sup>22</sup> Keller's statement here echoes not only Schenker's assertions that the great composers of the past did not need to have been aware of principles like the *Ursatz* in order to make use of them, but also one of Keller's proudest anecdotes about Functional Analysis. He reported on a few occasions that Benjamin Britten—whose second string quartet Keller had analyzed in 1960–62—told him "[FA] was the only type of music analysis that interested him, because it confined itself to the composer's own



pre-compositional thought, partly conscious, partly unconscious. He had thus learnt a lot about himself from my FA of his Second Quartet.”<sup>23</sup>

While Keller refers to Schenker only in passing, he engaged with Rudolph Reti's analyses on numerous occasions. He mentions Reti, “the respected author of *The Thematic Process in Music*,” favorably in an early essay on FA, and cites one of his theoretical concepts (“interversion”) in another.<sup>24</sup> In a 1959 review of Reti's posthumous *Tonality, Atonality, Pantonality*, Keller mentions FA's debt to Reti's work, calling him “one of the pioneers of the new age of genuinely musical analysis.”<sup>25</sup> The two men had also exchanged correspondence in the wake of Keller's *Mozart Companion* essay, with Reti praising Keller's “dynamic approach” and hoping that it might be part of a new wave of “creative musicology,” whose practitioners might be able to organize themselves in order to offer creative guidance to the emerging composers of the day. Keller responded, grateful for the enthusiasm but wary not only of the idea of collaboration—he describes himself as “characterologically incapable” of the intellectual compromise required by a shared research endeavor—but also of the notion that their shared interest in musical unity might inspire young composers.<sup>26</sup>

One important similarity that ties Keller's work to that of both Schenker and Reti is the creative use of musical notation to convey analytical insight. Both Schenker and Reti developed modified systems of notation that resembled conventional notation, augmented by descriptive applications of rhythmic and expressive details (such as Schenker's use of slurs to indicate relationships of dependency, or filled and open noteheads and stems to indicate hierarchy), or modifications of standard notation to highlight underlying shapes (such as Reti's use of differently sized noteheads). Keller's earliest essays use analytic notation not unlike Reti's: one of his 1956 essays on Mozart's Piano Concerto in C Major (K. 503), for example, ends with a

pair of motive shapes rendered in stemless noteheads, and the same article includes several passages annotated with brackets, akin to those used by both Reti and Schoenberg.<sup>27</sup> Along with these annotations, the K. 503 analysis is full of short excerpts, strung together one after the next, often with only a few words of description.<sup>28</sup> These collections of excerpts strive to present the evolution of a musical motive across a movement or work. With the transition to wordless analyses, performed live or broadcast on the radio, Keller left behind his prose descriptions, but the mode of argument remains the same. Keller asks his audiences to hear progressive transformations of basic musical materials, making explicit the assumption that accompanied his analyses in text and image: that readers are playing, singing, or imagining his incrementally different excerpts as they read his analyses—or, as has become progressively more likely beginning with the era in which Keller worked, listening to a recording.<sup>29</sup>

## Functional Analysis as a Modernist Project

Keller developed his method of Functional Analysis during the second half of the 1950s, amid the artistically tumultuous post-WWII decades that saw the rise of numerous new aesthetic theories. One such theory is especially appropriate in interpreting Keller's work: the notion of "medium specificity," associated most prominently today with the mid-century art critic Clement Greenberg, and the pioneering media theorist Marshall McLuhan.<sup>30</sup> Medium specificity describes the idea that individual artistic forms—painting, sculpture, poetry, music—have distinct affordances, and so must be analyzed according to their capabilities. This line of thinking is often traced back to Gotthold Lessing's *Laocoön*, a 1767 treatise in which Lessing, arguing against the idea that artistic expression could be approached as a unified field underlain by singular principles, wrote that different art forms ought to pursue the ends to which they are best attuned.

In his writings from the 1940s to the 1960s, Greenberg explicitly positioned himself as the latest installment in this interpretive lineage, invoking Lessing in the title of one of his early essays, “Towards a Newer Laocoön.”

Greenberg was primarily interested in contemporary American painting, and many of his influential writings are defenses of non-representational artwork. He was a staunch advocate for Jackson Pollock, and by extension, other major figures within the New York art scene of the 1950s (such as Mark Rothko and Willem de Kooning). In numerous essays, Greenberg argues that the essential qualities of painting are “the flat surface” and “the properties of pigment.”<sup>31</sup> In embracing qualities such as flatness, Greenberg argued, modernists were right to abandon perspectival imitations of the third dimension, and by extension to abandon representation altogether. It is this abandonment that leads to common characterizations of modernist paintings as being “painterly,” or somehow “about paint” itself.<sup>32</sup>

Constructing a heroic narrative for the American avant-garde, Greenberg folds the need to embrace each artistic medium’s nature into his definition of modernism itself, a central concern of his writings:

A modernist work of art must try, in principle, to avoid dependence upon any order of experience not given in the most essentially construed nature of its medium. This means, among other things, renouncing illusion and explicitness. The arts are to achieve concreteness, “purity,” by acting solely in terms of their separate and irreducible selves.<sup>33</sup>

Although Greenberg was primarily concerned with painting, it was modernist music that offered liberation to the other art forms in his narrative. He embraced instrumental music’s non-representational nature, describing it as “pure form,” and calling for a renewed emphasis on

medium-specific sensory faculties (in this case, sound and the ear) at the expense of those faculties and elements implicated in the perception of other arts: presumably narrative, metaphor, and representation.<sup>34</sup>

Greenberg's elision of medium specificity with the definition of modernism itself fits Keller's project precisely:

The essence of Modernism lies in the use of the characteristic methods of a discipline to criticize the discipline itself—not in order to subvert it, but to entrench it more firmly in its area of competence. . . . Modernism criticizes from the inside, through the procedures themselves of that which is being criticized.<sup>35</sup>

While both Schenker and Reti produced analyses that used modified forms of music notation as their own metalanguage, Keller's Functional Analyses are different in kind. His FA scores are not abstracted from musical practice; they are fully orchestrated, and include dynamics, articulation, and performance directives. They were meant to be performed, and they demand interpretation in much the same way any other composition would. Keller exalted in effacing the distinction between the original work and his analytic interludes, believing his job to have been done well if a listener was unable to differentiate them.<sup>36</sup> In brief: Keller's aim with FA was to "use . . . the characteristic methods of a discipline to criticize the discipline itself." This self-reflexive form of musical analysis required him to transform the tools of prose, annotations, and score excerpts, into fully composed analysis. Keller himself would have rejected this framing, however, on two counts: the idea that his analytical tools were developed from existing methods of prose-based analysis, and the idea that his analytical interludes are mere examples that stand outside the work being analyzed. It is these two imagined objections,

substantiated through a close reading of Keller's methodological reflections, which will occupy the second half of this chapter.

### “The unmusical fear of wordlessness”

There is only a short leap from Greenberg's anti-representational sentiments—couched in a desire to seek out and embrace the elements which make an artistic medium unique—to Keller's attacks on impressionistic, imagistic criticism, or indeed his professed disdain for verbal criticism itself. “The task of self-criticism,” Greenberg wrote, “became to eliminate from the effects of each art any and every effect that might conceivably be borrowed from or by the medium of any other art.... ‘Purity’ meant self-definition, and the enterprise of self-criticism in the arts became one of self-definition with a vengeance.”<sup>37</sup>

“Self-definition with a vengeance” might be an apt description of Keller's Functional Analysis. In his methodological writings, he was increasingly adamant that music criticism ought to unfold in musical form. Although he wrote often of FA's positive reception, Keller expressed frustration that his method was misunderstood, even among those who supported him enthusiastically.<sup>38</sup> (“I find my critics more helpful than my analytical comrades,” Keller wrote at one point).<sup>39</sup> These misunderstandings arose not at the level of his analyses—recall, for instance, his anecdote about Benjamin Britten finding Functional Analysis to be illuminating—but with the nature of his method itself.<sup>40</sup> Even his allies, he lamented, had a tendency to “translate” his musical thought back into verbal form. Keller insisted:

My analytical thought does not arise conceptually. What some of the most ‘advanced’ supporters of FA are in fact indulging is an act of cowardly *regression to conceptual analysis*. It is cowardly because it consists of two unobtrusive steps

backward after an obtrusive step forward; because it shows an unwillingness to face a future that is really different from the past; and below all, because it is a direct result of the unmusical fear of wordlessness, of having to remain within the sphere of purely musical thought, of having to feel and think without the security afforded by static terms which one can hold on to however bewildering the music's dynamism—if, that is, one is ready to sacrifice musical realism to the magic word, a sacrifice, be it added, that is so easy in this age of fear-inspired intellect-worship that none of the many who make it are aware of their escape.<sup>41</sup>

Keller's critique of verbal analysis, and particularly the figurative language often employed, was twofold. First, that the metaphors he so detested were dangerous for musical discourse because they tended to lead readers *away* from musical insight. Writers like Tovey and Girdlestone, Keller argued, were so enamored with finding the most compelling image with which to describe a musical moment, that they were unconcerned if the image reflected the musical events under consideration clearly and accurately.<sup>42</sup> Furthermore, as argued above, Keller believed that such analysis was pursuing the wrong ends: rather than describing for readers *what* was happening, a critic ought to focus on *how* musical processes were happening, and *why*. Describing the music as it was perceived, Keller wrote, was far from promoting the listener's deep understanding of it—a task that for him could be carried out only through Functional Analysis, in either its original prose examples or its mature, purely musical form.<sup>43</sup>

In both of these complaints, Keller was arguing that verbal musical analysis was frequently unmusical: in missing the latent forces at work in musical composition in favor of the manifest effects, verbal criticism had nothing to add to the conversation. Such analysis served neither experienced musicians, nor enthusiasts who wished to learn more. "Tautology is the

greatest insult to the dignity of human thought,” opens one of Keller’s earliest essays on FA. “Yet most so-called ‘analytical’ writings about music...boil down to mere tautological descriptions. I maintain that if you want to open your mouth or typewriter in order to enlarge upon music, you must have a special excuse.”<sup>44</sup> In later writings, Keller would put things even more bluntly: his rival critics were not so much misguided, as simply wrong in their understandings of music. “In a verbal written analysis you can fake a great deal, for the very simple reason that usually nobody reads it. In a composed analysis, it is well-nigh impossible to behave unmusically without immediately being found out.”<sup>45</sup>

But ensuring musicality in analysis was not the only reason to turn music back upon itself. Over and above a guarantee of accuracy and relevance, Keller saw wordless functional analysis as a way of actually *thinking musically*—he characterized his FAs as “sounding thought.”<sup>46</sup> As he refined his musical philosophy in the 1960s and 70s, he wrote occasionally of his notion of a musical logic which defied the syllogisms and consistency of conceptual thought.<sup>47</sup> Musical objects—if such a thing can even be defined, *pace* Keller—are constantly in motion, subject to change and growth. His explications of his first functional analysis (described briefly above) make it clear that FA1 is a critique of the very idea of first and second themes within sonata form—his juxtaposition and reordering of those themes argues that what analysts would label the “second theme” is not the same in the recapitulation as it was in the exposition, nor is it in any way secondary: it arises instead as a development (or a unity, as Keller would put it) with or from the first theme.<sup>48</sup> Free of the need to append static terms to dynamic phenomena that will quickly outgrow them, wordless functional analysis is thus the only authentic way to capture musical phenomena as they really exist, and to present them to an audience.

## Hearing, Seeing, Performing

“All conceptual thought about music is a detour,” wrote Keller in one of the strongest formulations of his central idea, “from music, via terms, to music, whereas functional analysis proceeds from music, via music, to music.”<sup>49</sup> His analytical scores, then, were not attempts to use music to express concepts that could otherwise be considered in verbal form; they were actually concerned with *musical* ideas, which could not exist in non-musical form. To borrow Greenberg’s term, Keller’s Functional Analyses were medium-specific, turning music back upon itself as both the means and the object of criticism, and using the affordances of the artistic medium—such as repetition, continuity, and contrast—as analytical tools.

An analogy from Nicholas Cook illustrates vividly the stakes of Keller’s project. Cook, in a 1999 essay on the relationship between music analysis and music performance, invokes a famous passage by Judith Butler. “There is no gender identity *behind* the expressions of gender,” writes Butler. Rather, “that identity is performatively constituted by the very ‘expressions’ that are said to be its results.”<sup>50</sup> Here, Butler is paraphrasing Friedrich Nietzsche, who argued that “there is no ‘being’ behind doing, effecting, becoming: ‘the doer’ is merely a fiction added to the deed—the deed is everything.”<sup>51</sup> In Cook’s hands, what began as a critique of the metaphysics of substance and was renovated into a theoretical cornerstone for gender studies, becomes a powerful critique of the notion that a musical performance ought somehow to express propositional, theoretical knowledge in auditory form. “[Musical] structure,” Cook paraphrases, “is performatively constituted by the very ‘expressions’ that are said to be its result.”<sup>52</sup> It is not that performers have the ability—or the responsibility—to project musical structures through their playing or singing; rather, that musical structure is constituted by the performance itself, not by channeling some a priori conceptual structure. Cook’s reworking of Butler’s thesis can shed



light on Keller's non-conceptual model of music analysis, for Keller too was interested in short-circuiting the notion that there is something standing "behind" the music. "There is no concept behind a Functional Analysis," we might imagine Keller saying, "rather, the analysis is performatively constituted." Taking Keller's method seriously means understanding it as the product of musical performance, in all its richness and none of its conceptual baggage.

I would like to close this chapter by placing Keller in dialogue with the school of "analysis for performance" that arose immediately after his formulation of Functional Analysis, with particular attention to a useful metaphor that arises in several sources: the analogy between music and visual art. This focus is meant both to intensify Keller's arguments for a musical way of experiencing music, and to add nuance to the arguments borrowed earlier from Clement Greenberg: I will argue that while compelling, the idea of separating music from other modes of experience is counterproductive, and that drawing on other modes of experience was actually a primary goal of Keller's Functional Analysis.

Keller's FAs existed for his audiences primarily as broadcasts rather than printed scores. While a few appeared in print in his lifetime, and some of his analyses were broadcast several times, a central feature of Keller's FA practice was that the listener might only hear a given analysis once, either performed live or broadcast in a single sitting. His analyses and methodological writings thus offer a fascinating lens through which to consider the oft-theorized relationship between analysis and performance. Keller expresses little interest in the idea of analysis *for* performance, *per se*; FA is formulated as a general theory of musical structure, relevant primarily for listeners, and to a lesser degree to the extent that it might explain the deep psychological structures of compositional practice. However, there is an undeniable connection

to the analysis of performance, in that both Keller and latter-day analysts of performance have been concerned with how music can be used to convey interpretive information audibly.

Fitting Keller into the timeline of modern music theory's entanglements with performance is a revealing exercise. As Ryan McClelland has argued, it was commonplace in the early twentieth century for theorists and analysts to draw connections between analytical insights and their implications for performance—a practice exemplified by well-known figures like Hugo Riemann and Schenker.<sup>53</sup> McClelland then diagnoses a lapse in this connection to performance, around the postwar decades during which music theory emerged as an autonomous discipline standing between musicology and composition. Keller's method of Functional Analysis blossomed during precisely this gap. A few years afterwards, the contemporary form of performance analysis began to take shape with Edward T. Cone's *Musical Form and Musical Performance* (1968) and later Wallace Berry's *Musical Structure and Performance* (1989). These works articulated a clear outlook on the relationship between analysis and performance: analysis came first, and it was the performer's responsibility to convey analytical insights to the audience through their performance. In Cone's work, for example, performance decisions were mostly concerned with rhythmic and grouping structures, from the small scale to the large. Berry names twelve open questions for investigation, from practical performance decisions—such as how to determine dynamics (#3) or tempi (#8) when none are indicated—and Cone-like musings on grouping structure (#5, #6), to questions about how aspects of a theoretical analysis such as motives (#2), voice-leading connections (#4), and points of imitation (#7) might be *projected* and made clearly audible for a listener.<sup>54</sup> Fred Maus argues that this view is so widespread that he refers to it as the “standard conception” of the relationship between analysis and performance.<sup>55</sup> While this approach has been significantly updated and expanded by contemporary theorists

(including Nicholas Cook, writing against the standard conception in the essay quoted above) who seek a more nuanced approach that blends the activities of analysis and performance more equally, this midcentury literature still offers a fascinating perspective on Keller's work.<sup>56</sup>

One of the chief characteristics of mid- to late-twentieth-century models of analysis for performance, then, is the idea that analysis allows a performer to settle on a single interpretation, which is then conveyed in performance, with analytical details highlighted either implicitly or explicitly through dynamics, articulation, and so forth. It is here that Keller's Functional Analyses offer an intriguing alternative, and one that can inform contemporary models of public music theory. Encapsulating the tension between preliminary, private analysis and the need to express a single interpretation in performance, Edward T. Cone writes:

We read pictures, statues, and buildings, just as surely as we read poems. We cannot view them simultaneously; we must choose our own paths through them.... Just as we can call every reading of a poem—even a silent one—a performance, so we might say that really to look at a picture or to view a statue from all sides or to walk through a building, is to perform the picture or statue or building. Actually the contemplation of a work of spatial art almost always involves not one but several performances—or at least several partial performances. ...

[This] is not unlike the silent reading of a poem, or of a piece of music. Here, too, we can choose our own pace, speed up or slow down as we like, look back or ahead, pause, repeat—again, a multiple performance or a multiplicity of partial performances. But when we read a poem out loud, or actually play a piece of music, we must choose a single complete performance. The more complex the

poem or the composition, the more relationships the performance must be prepared to explain—and the less likelihood that a single performance can ever do the job. The composition must proceed inexorably in time; we cannot go back to explain.”<sup>57</sup>

According to Cone, the tension between analyst and performer arises because although one may entertain numerous interpretations during score study or in the practice studio, a single complete performance must choose only one set of those interpretations. Keller's FA scores, however, offer a way around that quandary. Not only are they integrated within and between the movements of the work being performed; their musical rhetoric mirrors the very processes that Cone describes. Keller's FAs allow the analyst to “look back or ahead, pause, repeat”; figuratively, they grant the power to “choose our own pace, speed up or slow down as we like.” Thus, while Keller sought to embrace music as a medium for analysis, in lieu of spoken or written language, his analytical method also sought figuratively to embrace the perceptual modes associated with visual or spatial art. Keller fought hard to keep music on one side of the binary opposition between the conceptual and the non-conceptual, but he eagerly effaced the difference between the linear, temporally directed nature of musical performance and listening, and the spatial, self-directed modes of score study, analysis, and demonstration.

This analogy was not lost in FA's reception. “Their effect is like looking at a painting,” goes an unsigned 1958 column in *Time* magazine, “then watching a series of lantern slides of different portions of the painting, stripped of minor embellishments and arranged to stress the picture's harmonies and tensions.”<sup>58</sup> Keller recoiled at this description, though he was disturbed not at the visual metaphor, but rather at the suggestion of discontinuity that the image of “slides” conjures. Indeed, the tension between the fragmentary “multiple performances” about which

Cone fantasizes (and which Keller attempts to enact by juxtaposing disparate fragments of a composition in order to demonstrate their unity) and Keller's own intense desire for a linear, "continuous" mode of musical argument that mirrors the continuity he hears in musical materials, is perhaps the defining feature of Functional Analysis as a creative act. "If, in creative work, the basic technical problem is that of contrast and continuity, it is continuity alone that is FA's basic requirement. But continuity there must be, otherwise the purely musical train of thought, the musical experience, is interrupted, and the whole aim of FA destroyed," he wrote.<sup>59</sup>

After quoting and expressing his disagreement with the *Time* column, he argues that a truly musical experience is so reliant upon continuity that even the label "musical examples," applied by some critics to his analytical interludes, is inaccurate—the analysis must be considered as *part* of the work itself, in order to have the proper effect. Far from offering disconnected slide views, Keller meant FA's analytical interludes as connective passages that would be closely integrated within the trajectory of the work, rather than pausing or stepping away from it—lest the "purely musical train of thought" that he described, be derailed. Keller thus restores the "multiple performances" that Cone laments are lost by the need to perform in real time. His Functional Analyses enact the private processes of analysis and rehearsal, allowing listeners to hear the branching paths and cross-movement connections without disrupting the continuity of the musical experience.

## Conclusions

It is telling that, even though Keller's project is not widely considered successful, he continues to inspire listeners and scholars well into the twenty-first century. As an enigmatic and compelling figure in mid-century music analysis, he left, through his broadcasts, a powerful impression on

those who heard his work. When I first published on Keller's work, numerous Britons reached out to me with memories of those late 1950s broadcasts. While his central body of work resists simple explication, taking both his analytical scores and his methodological writings seriously yields a variety of insights into the nature of music analysis and theoretical discourse, and the possibilities of creative and experimental forms of musical communication.

Keller's idea of a purely musical form of analysis plays a significant role in the history of twentieth-century music theory. His connection with the "Schoenberg analytical legacy," for instance, is relatively clear,<sup>60</sup> and this chapter has placed his work in dialogue with both twentieth-century media theory and the analysis of musical performance, underscoring how a broad musical and non-musical context can help us to understand his significance. But much more work remains to be done in assessing the role he played and the insights his work offers. What connections might be drawn, for example, between Keller and the creative forms of criticism developed at and around Princeton in the 1960s and 70s, by figures such as Benjamin Boretz, Elaine Barkin, and J.K. Randall? Keller reminds us, after all, that the content of an analytical project cannot be separated from the form it takes. And what lessons might his remarkable broadcasting career have to teach us about contemporary public music theory? Keller shows us how vivid, *performed* analyses might have something to offer to amateurs and experts alike, meeting each group where they are without the stratifying effects of verbal discourse. Timothy Warner has offered musical mashups as one example of FA-like analysis via arrangement and juxtaposition, and my own research on YouTube cover songs argues that creatively minimalist arrangements offer analytical insights in the form of performance, making them Kellerian in spirit if not in intention.<sup>61</sup> And Keller's musically and intellectually serious analytical broadcasts anticipate in fascinating ways the contemporary public interest in song

composition and music theory, as exemplified by the popularity of podcasts like *Dissect*, *Song Exploder*, and *Switched on Pop*, and YouTube personalities like Paul Davids, Adam Neely, and Nahre Sol, who blend music theory, composition, performance, and improvisation (see Sloan, this volume; Grasso & Arnold, this volume). Keller's legacy offers a powerful reminder that music analysis can be a creative act for both the analyst and the listener.

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## Further Reading

Carpenter, Humphrey. *The Envy of the World: Fifty Years of the BBC Third Programme*.

London: Weidenfeld & Nicolson, 1996.

Cone, Edward T. *Musical Form and Musical Performance*. New York: W. W. Norton, 1968.

Dunsby, Jonathan. "Thematic and Motivic Analysis." In *The Cambridge History of Western Music Theory*, ed. Thomas Christensen, 907–26. Cambridge: Cambridge University Press, 2002.

Garnham, A.M. *Hans Keller and the BBC: The Musical Conscience of British Broadcasting, 1959–79*. Aldershot: Ashgate, 2003.

Garnham, A.M. *Hans Keller and Internment: The Development of an Émigré Musician, 1938–48*. Woodbridge, UK, and Rochester, NY: Boydell and Brewer, 2011.

Garnham, Alison, and Susi Woodhouse. *Hans Keller (1919–1985): A Musician in Dialogue with his Times*. London: Routledge, 2019.

Greenberg, Clement. "Towards a Newer Lacoön," *Partisan Review* 7, no. 4 (1940): 296–310.

Greenberg, Clement. "Modernist Painting [1965]." In *Modern Art and Modernism: A Critical Anthology*, ed. Francis Frascina and Charles Harrison, 5–10. New York: Harper and Row, 1982.

Keller, Hans. "The Unity of Contrasting Themes and Movements—I and II." *The Music Review* 17 (1956): 48–58 and 120–29.

Keller, Hans. "The Chamber Music." In *The Mozart Companion*, ed. H.C. Robbins Landon and Donald Mitchell, 90–137. London: Rockcliff, 1956.

Keller, Hans. "Functional Analysis: Its Pure Application." *The Music Review* 18, no. 3 (1957): 202–6.

Keller, Hans. "Wordless Functional Analysis: The First Year." *The Music Review* 19, no. 3 (1958): 192–200.

Keller, Hans. "The Home-Coming of Musical Analysis." *The Musical Times* 99, no. 1390 (1958): 657–58.

Keller, Hans. "Wordless Functional Analysis: The Second Year and Beyond—I." *The Music Review* 21, no. 1 (1960): 73–76.

Keller, Hans. "Wordless Functional Analysis: The Second Year and Beyond—II." *The Music Review* 21, no. 3 (1960): 236–39.

Keller, Hans. *Essays on Music*. Edited by Christopher Wintle with Bayan Northcott and Irene Samuel. Cambridge: Cambridge University Press, 1994.



Keller, Hans. *Functional Analysis: The Unity of Contrasting Themes; Complete Edition of the Analytical Scores*. Edited by Gerold W. Gruber. Frankfurt am Main: Peter Lang, 2001.

McClelland, Ryan. "Performance and Analysis Studies: An Overview and Bibliography." *Indiana Theory Review* 24 (2003): 95–106.

McLuhan, Marshall. *Understanding Media: The Extensions of Man* (1964). Repr. Cambridge, MA: MIT Press, 1994.

O'Hara, William. "Music Theory on the Radio: Theme and Temporality in Hans Keller's First Functional Analysis." *Music Analysis* 39, no. 1 (2020): 3–49.

Reti, Rudolph. *The Thematic Process in Music*. New York: Macmillan, 1951.

Wintle, Christopher. "Hans Keller (1919–1985): An Introduction to his Life and Works." *Music Analysis* 5, no. 2–3 (1986): 342–65.

**Figure 1.**

Franz Joseph Haydn, String Quartet in D Major, Op. 64, no. 5 ("Lark") a. mm. 1–4; b. mm 176–79

**Figure 2.**

Hans Keller, Functional Analysis no. 4 (1958; on Haydn, String Quartet in D Major, Op. 64, no. 5), based on Keller's manuscript, held in the Music Division of the Cambridge University Library. Used by the permission of The Cosman Keller Art and Music Trust.

**Table 1.**

Formal Diagram of Hans Keller, Functional Analysis no. 4 (on Haydn's String Quartet in D Major, op. 64, no. 5)

As written

First movement: Allegro moderato

Added by Keller

A1: Allegro moderato; Adagio

Second movement: Adagio cantabile

A2: Adagio; Allegro; Adagio; Allegro

*Interval: 3 minutes*

A3: Tempo di primo movimento; Menuetto

Third movement: Menuetto Allegretto

A4: Menuetto; Allegro; Vivace

Fourth movement: Finale Vivace

A5: Tempo di primo movimento; tempo di finale

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<sup>1</sup> See <<<REFO:JART>>> Hans Keller, “The Unity of Contrasting Themes and Movements—I and II,” *The Music Review* 17 (1956): 48–58<<<REFC>>> and 120–129;

<<<REFO:BKCH>>> Hans Keller “The Chamber Music,” in *The Mozart Companion*, ed. H.C. Robbins Landon and Donald Mitchell (London: Rockcliff, 1956), 90–137

<<<REFC>>>.

<sup>2</sup> See Keller, “The Chamber Music,” 48–49 and 54–55. As Keller archivists Alison Garnham and Susi Woodhouse note, a relative lack of venues for institutionalized musical study in the wake of the Second World War created an environment in which freelance critics, commentators, and broadcasters like Keller (and many colleagues and contemporaries, including not only Tovey but Oliver Neighbour, William Glock, Donald Mitchell, Colin Mason, Geoffrey Sharp, and many others) were some of the most visible and influential authorities on music in English public life. See <<<REFO:BK>>> Hans Keller (1919–1985): *A Musician in Dialogue with his Times* (London: Routledge, 2019), 59–60<<<REFC>>>.

<sup>3</sup> Keller, “The Chamber Music,” 90.

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<sup>4</sup> See <<<REFO:BK>>>Keller, *Essays on Music*, ed. Christopher Wintle with Bayan Northcott and Irene Samuel (Cambridge: Cambridge University Press, 1994), 122<<<REFC>>>.

<sup>5</sup> See Keller, “The Chamber Music,” 91. Keller’s first professional publication was an essay on “Male Psychology,” and he often drew on psychoanalytic concepts in his writing, in essays such as “A Slip of Mozart’s: Its Analytical Significance.”

<sup>6</sup> Keller mentions the interlude in a brief article previewing the broadcast in *The Listener*, a magazine published by the BBC; see “The Musical Analysis of Music” (1957) in Keller, *Essays on Music*, 126.

<sup>7</sup> <<<REFO:JART>>>Hans Keller, “Functional Analysis: Its Pure Application,” *The Music Review* 18, no. 3 (1957), 202–6, at 203–4<<<REFC>>>.

<sup>8</sup> Keller, *Essays on Music*, 179.

<sup>9</sup> See Keller, *Essays on Music*, 126.

<sup>10</sup> These essays are the one cited above (“Functional Analysis: Its Pure Application,”) along with <<<REFO:JART>>> Hans Keller, “Wordless Functional Analysis: Its First Year,” *The Music Review* 19, no. 3 (1958): 192–200<<<REFC>>>; and <<<REFO:JART>>> Hans Keller, “Wordless Functional Analysis: The Second Year and Beyond—I and II,” *The Music Review* 21, no. 1 (1960): 73–76<<<REFC>>> and 21, no. 3 (1960): 236–39.

<sup>11</sup> Garnham and Woodhouse note that FA’s near-exclusive focus on late-eighteenth-century chamber music was also at odds with the work he had been doing, and continued to do, in various print media outlets, where he was deeply engaged both with new music and film music. See *Hans Keller (1919–1985)*, 199–200.

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- <sup>12</sup> Garnham and Woodhouse chronicle Keller's interest in Gershwin, including plans and correspondence about a potential FA. See *Hans Keller (1919–1985)*, 174–76 and 288–300.
- <sup>13</sup> “The impression seems to have been that Beethoven would prove a harder nut for FA than Mozart,” Keller mused after the fact. “The truth is, of course, exactly the reverse: Beethoven's thematic background unities are usually nearer the foreground than Mozart's, because his conscious intentions were more thematic anyway. But his contrasts often happen within a far narrower space than Mozart's; perhaps this is the reason why people think that they are, as such, greater.” See “Wordless Functional Analysis: The First Year,” 194.
- <sup>14</sup> Keller's FAs are numbered according to their *intended*, not actual, BBC broadcast order. While FA4 was written at the same time or even before FA3, it followed FA7 on British airwaves. For a list of Keller's FAs, including circumstances of their composition and broadcast, see <<<REFO:JART>>> O'Hara, “Music Theory on the Radio: Theme and Temporality in Hans Keller's First Functional Analysis,” *Music Analysis* 39, no. 1 (2020), 3–49, at 7–8<<<REFC>>>.
- <sup>15</sup> Keller, “Wordless Functional Analysis: The First Year,” 196.
- <sup>16</sup> <<<REFO:BK>>> Arnold Schoenberg, *Fundamentals of Musical Composition* (London: Faber and Faber, 1967), 58<<<REFC>>>.
- <sup>17</sup> On Rameau's notation, see <<<REFO:BKCH>>> Allan Keiler, “Music and Metalanguage: Rameau's Fundamental Bass,” in *Music Theory: Special Topics*, ed. Richmond Browne (New York: Academic Press, 1981), 83–100<<<REFC>>>.
- <sup>18</sup> <IBT>Keller, “The Chamber Music,”</IBT> 93.

<sup>19</sup> Ibid. While I have provided in brackets the standard English translations of these terms, Keller prefers to translate them as “basic lines” and “basic structures.”

<sup>20</sup> <IBT>Keller, *Essays on Music*, </IBT> 123.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid.

<sup>23</sup> <<<REFO:JART>>>Keller, “Functional Analysis of Mozart’s G Minor Quintet,” *Music Analysis* 4, no. 1–2 (1985): 73–94, at 73<<<REFC>>>.

<sup>24</sup> See Keller, “The Chamber Music,” 51 and Keller, *Essays on Music*, 139. Reti’s “interversion” describes moments when the notes of a motive are re-arranged in a different order (as opposed to more conventional retrograde or inversion, the latter of which the term derives from).

<sup>25</sup> <<<REFO:JART>>>Keller, “Review of Reti, *Tonality, Atonality, Pantonality*,” *Tempo* 50 (1959): 31<<<REFC>>>.

<sup>26</sup> This exchange is reproduced with commentary in Garnham and Woodhouse, *Hans Keller 1919–1985*, 205–207. The reference to Reti in the 1956–57 essay “A Slip of Mozart’s” (in *Essays on Music*) also implies that Keller has been in communication with Reti about FA and other issues; there, Keller rejects Reti’s suggested title for the method, “processual analysis.”

<sup>27</sup> See Keller, “The Unity of Contrasting Themes—I,” 58 and 51–54, respectively. For Schoenberg’s bracket notation, see <<<REFO:BK>>>Schoenberg, *Style and Idea*, ed. Dika Newlin (New York: Philosophical Library, 1950), 74<<<REFC>>>. Brackets also appear throughout <<<REFO:BK>>>Reti, *The Thematic Process in Music* (New York: Macmillan, 1951)<<<REFC>>>.

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- <sup>28</sup> See, for instance, a passage that includes fifteen separate musical examples in only four pages, in Keller, “The Unity of Contrasting Themes—I,” 53–56.
- <sup>29</sup> While I have not done so because of space considerations, it is suggestive to try to perform “model analyses” of Haydn’s D major quartet in the styles of Reti and Schenker, and then to speculatively reformulate Keller’s functional analysis in the notational style of his earliest writings on the topic.
- <sup>30</sup> See, for instance, <<<REFO:BK>>> Marshall McLuhan’s *Understanding Media: The Extensions of Man*, 2nd edition (Cambridge, MA: MIT Press, 1994) <<<REFC>>>, which includes brief chapters analyzing media from the written and spoken word, to the telephone, the radio, and the television, and even comics, clocks, money, and modes of transit.
- <sup>31</sup> <<<REFO:BKCH>>> Greenberg, “Modernist Painting [1965],” in *Modern Art and Modernism: A Critical Anthology*, ed. Francis Francina and Charles Harrison (New York: Harper and Row, 1982), 5–10, at 6 <<<REFC>>>.
- <sup>32</sup> See <<<REFO:BK>>> Greenberg, *Art and Culture* (Boston: Beacon Press, 1961), 133–38 <<<REFC>>>. Greenberg’s ideas successfully crossed over from artistic circles to the general public; see <<<REFO:BK>>> Alice Goldfarb Marquis, *Art Czar: The Rise and Fall of Clement Greenberg* (Boston: MFA Publications, 2006) <<<REFC>>>.
- <sup>33</sup> Greenberg, *Art and Culture*, 139.
- <sup>34</sup> Greenberg, “Towards a Newer Laocoön,” 565.
- <sup>35</sup> Greenberg, “Modernist Painting,” 5.
- <sup>36</sup> See Garnham, *Hans Keller and the BBC*, 36–37.
- <sup>37</sup> Greenberg, “Modernist Painting,” 5–6.

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- <sup>38</sup> On the reception of Keller's first FA, see Garnham, *Hans Keller and the BBC*, 2003, 29–61; and O'Hara, "Music Theory on the Radio," 3–9. On Keller's correspondence surrounding FA, see Garnham and Woodhouse, *Hans Keller, 1919–1985*, 197–252.
- <sup>39</sup> Keller, *Essays on Music*, 139.
- <sup>40</sup> See Keller, "Functional Analysis of Mozart's G Minor Quintet," 73.
- <sup>41</sup> Keller, "Wordless Functional Analysis: The Second Year and Beyond—I," 76.
- <sup>42</sup> See, for instance, the sharp critique of Girdlestone in Keller, "The Unity of Contrasting Themes—I," 48–49.
- <sup>43</sup> See Keller, "The Unity of Contrasting Themes—I," 48.
- <sup>44</sup> Keller, "The Unity of Contrasting Themes—I," 48.
- <sup>45</sup> <IBT>Keller, "Wordless Functional Analysis: The First Year,"</IBT> 198.
- <sup>46</sup> Ibid.
- <sup>47</sup> See Keller, *Essays on Music*, 1s23 and 198–199.
- <sup>48</sup> See <<<REFO:JART>>> Hans Keller, "The Home-Coming of Musical Analysis," *The Musical Times* 99, no. 1390: 657–58<<<REFC>>>; and Keller, *Essays on Music*, 144–50.
- <sup>49</sup> Keller, *Essays on Music*, 127.
- <sup>50</sup> <<<REFO:BK>>> Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity* (New York: Routledge, 1990), 25<<<REFC>>> (emphasis mine).
- <sup>51</sup> Quoted in Butler, *Gender Trouble*, 25; see also Essay I, §13 in <<<REFO:BK>>> Nietzsche, *On the Genealogy of Morality* (1887), ed. Keith Ansell-Pearson, trans. Carol Diethe (Cambridge: Cambridge University Press, 2007), 26<<<REFC>>>.

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- <sup>52</sup> <<<REFO:BKCH>>> Nicholas Cook, "Analysing Performance, Performing Analysis," in *Rethinking Music*, ed. Nicholas Cook and Mark Everist (New York: Oxford University Press, 1999), 239–61, at 243 <<<REFC>>>.
- <sup>53</sup> See <<<REFO:JART>>> Ryan McClelland, "Performance and Analysis Studies: An Overview and Bibliography," *Indiana Theory Review* 24 (2003): 95–106, at 97 <<<REFC>>>.
- <sup>54</sup> See <<<REFO:BK>>> Wallace Berry, *Musical Structure and Performance* (New Haven and London: Yale University Press, 1989), 10–43 <<<REFC>>>.
- <sup>55</sup> <<<REFO:BKCH>>> Fred Everett Maus, "Musical Performance as Analytical Communication," in *Performance and Authenticity in the Arts*, ed. Salim Kemal and Ivan Gaskell (Cambridge: Cambridge University Press, 1999), 129–153, at 130–31 <<<REFC>>>.
- <sup>56</sup> See, for instance, <<<REFO:BK>>> Janet Schmalfeldt, *In the Process of Becoming: Analytic and Philosophical Perspectives on Form in Early-Nineteenth-Century Music* (New York: Oxford University Press, 2011), 113–16 <<<REFC>>>; <<<REFO:BK>>> Jeffrey Swinkin, *Performative Analysis* (Rochester: University of Rochester Press, 2016) <<<REFC>>>; and <<<REFO:BK>>> Daphne Leong, *Performing Knowledge: Twentieth-Century Music in Analysis and Performance* (New York: Oxford University Press, 2019) <<<REFC>>>, all of whom emphasize that analysis and performance are activities whose insights can flow in both directions, each informing the other.
- <sup>57</sup> <<<REFO:BK>>> Edward T. Cone, *Musical Form and Musical Performance* (New York: W. W. Norton, 1968), 33–34 <<<REFC>>>.



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<sup>58</sup> <<<REFO:PERD>>> “Music: Twilight of Twaddle?” *Time*, February 17, 1958,

81 <<<REFC>>>.

<sup>59</sup> Keller, “Wordless Functional Analysis: The First Year,” 198.

<sup>60</sup> See <<<REFO:BKCH>>> Jonathan Dunsby, “Thematic and Motivic Analysis,” in *The Cambridge History of Western Music Theory*, ed. Thomas Christensen (Cambridge: Cambridge University Press, 2002), 907–26, at 912–14 <<<REFC>>>; and

<<<REFO:JART>>> John Covach, “The Schönberg Analytical Legacy,” *Journal of the Arnold Schönberg Center* 16 (2019): 99–111 <<<REFC>>>.

<sup>61</sup> See <<<REFO:BKCH>>> Timothy Warner, “Approaches to Analysing Recordings of Popular Music,” in *The Ashgate Companion to Popular Musicology*, ed. Derek Scott (Farnham, UK: Ashgate, 2009), 131–45, at 138 <<<REFC>>>; and <<<REFO:CONF>>> William O’Hara, “The *Techne* of YouTube Performance” (Paper, Annual Meeting of the Society for Music Theory, Columbus, OH, November 9, 2019) <<<REFC>>>.