

# Introduction

## Remembering David Benjamin Lewin

In 1987 David Benjamin Lewin published what was to become a classic in music-theoretical literature of the late twentieth century: *Generalized Musical Intervals and Transformations*, hereafter GMTI.<sup>6</sup> Immediately following the completion of his book manuscript, seemingly in a single burst of energy, the residue of having completed the book, Lewin wrote a separate, lengthy article, “Music Theory, Phenomenology, and Modes of Perception.”<sup>7</sup> At the time, at least to me, the article didn’t seem to engage the ideas presented in the book. It seemed just another burst of creativity from Lewin’s fertile and quick-grasping mind.

Lewin passed away in 2003, and it’s too late now to ask him if he thought of the phenomenology article at least in part as providing another perspective on the matters discussed in GMTI. It took me a long time to see a connection; others may have been more perspicacious, but I now understand that the book and article are more related than they first appeared to be.

Lewin, who has been described as the most gifted and influential music theorist of his generation, was dauntingly intelligent, fluent in at least a half-dozen languages, conversant in I don’t know how many more, widely read, a brilliant pianist, and a Harvard-educated mathematician. He was also a great wit.



Lewin was my dissertation advisor, my topic being Arnold Schoenberg’s opera *Moses und Aron*. Prior to my study, Lewin had published a remarkable essay on the opera that remains one of the most insightful discussions

of Schoenberg's work to date. Like me, Lewin was a baseball fan. Within the essay on *Moses und Aron*, Lewin describes the crux of the opera by analogy with a triple play in baseball: God to Moses, Moses to Aron, Aron to Volk Israel. The triple play breaks down between Moses and Aron. It's not so much that Aron drops the ball, it's simply that Moses's throw cannot be caught: Aron's formidable skill with language cannot but betray the ineffable vision of Moses. In conversation about the essay, Lewin told me that he had been advised that the baseball reference was inappropriate and that he should remove it from the essay. I'm glad that he didn't, and I suspect that most readers would agree.

At Yale, at least in those days, as a graduate student, one had to pass a preliminary exam prior to the approval of one's dissertation topic. Mine was to be a study of Schoenberg's opera, a work based on Schoenberg's twelve-tone method. I had discussed the topic with Lewin, and he was enthusiastic. My ability to study the work wasn't challenged by Lewin, but I hadn't taken a course specifically devoted to twelve-tone theory, and this became a point of contention at the preliminary exam. At the end of the session, it was determined that I would survey some of the key documents in twelve-tone theory, Lewin's and Milton Babbitt's essays among them, and that I would write a written report on my findings; only then would I be given permission to proceed with the dissertation. In coming to that determination, things got a bit contentious, as they will in such circumstances. In truth, I felt a bit beleaguered. As we were leaving the room, Lewin sidled up next to me, saying in the sing-song of *Sprechstimme*, "Cherlin ist ein guter Mensch, ein guter Mensch."

Readers who know Alban Berg's opera *Wozzeck* will recognize the source. Early on in the opera, the much-beleaguered Wozzeck is harangued by both his captain and by his doctor. At one point, just after the doctor has lectured poor Wozzeck with dire predictions about his health, the captain imagines the mourners weeping at Wozzeck's funeral. "Aber sie werden sagen: 'Er war ein guter Mensch, ein guter Mensch'" ("But they will say: 'he was a good man, a good man'"). Lewin knew that, beyond the reference to the opera, the word "Mensch" would have a special resonance for me, the child of Yiddish-speaking parents.



David Lewin was one of the two greatest teachers that I have encountered, the other being Harold Bloom. (In naming my teachers, I omit my

mother and father only in that their impact is unfathomable, far beyond my capacity to assess.)

GMIT, at least in large part, reads like a mathematics textbook: definitions, theorems, proofs, functions and formulas. Like Milton Babbitt, Robert Morris, and some few others that I have known, David Lewin's mathematical formulations seamlessly connected with his musical intuitions. Both the mathematical underpinnings of Lewin's approach, as well as the direct application of his ideas toward the analysis of musical structures and transformations, have been well and even brilliantly addressed by the next generation of theorists.<sup>8</sup> Although I probably have spent more time and effort on reading GMIT than any other book of music theory, the essays of Milton Babbitt taking second place, its mathematical approach has never become second nature for me. Nonetheless, the big global concerns of the book, aside from how they give rise to its technical machinery, should be of concern to anyone who thinks or writes about music.

GMIT is divided into two halves. The first half, subdivided into "Generalized Interval Systems" and "Generalized Set Theory," imagines music in objectified space, as though projected on a Cartesian grid. Common-practice music notation can be understood more or less in this way: time is plotted on the horizontal, pitch on the vertical. Placed in objective space, we can measure musical intervals within a sound-object (chord, motif, melody, etc.) or between objects. In a similar way, we can tabulate ordinal permutations (e.g., C-D-E-F permuted to C-E-D-F), or the augmentation or diminution of temporal intervals measuring elapsed time from one object to another. We can invoke equivalences, like octave equivalence, or set-type equivalences (collections of musical objects, e.g., pitches, that share the same catalogue of intervals, however those intervals are defined), and we can invoke congruences (as when the duration of some object, motive, melody, whatever, is the same as the duration of another).

The second half of the book, titled "Transformation Graphs and Networks," considers ways to think about the ways a musical shape (motive, melody, whatever) can be morphed into a subsequent shape. "Given locations *s* and *t* in our space, this attitude does not ask for some observed measure of extension between reified 'points'; rather it asks: 'If I am *at s* and wish to get to *t*, what characteristic gesture . . . should I perform in order to arrive there?'"<sup>9</sup> To use a homey analogy, the first, intervallic approach asks, "what is the distance and time it takes to get from my study to the kitchen?" while the second, transformational approach asks, "what do I have to do to get from my study to the kitchen?" The first

objectifies space and time, while the second is gestural and experiential.

In what follows I modify Lewin's description just a bit, hopefully shedding light on its parallels with other creative thought while still keeping to the spirit of what Lewin intended. Instead of saying "how do I get from s to t?" I want to ask how I can imagine t so that it seems to emerge out of s, or, alternatively, what potential in s allows or causes it to transform into t. Moreover, while recognizing the power and utility of quantification, I am content to leave mathematical formulations to those better qualified than myself, and instead look to ways that prose and poetry have expressed these same qualities in disciplines other than music, as well as in descriptions of music.

One more thought on GMT before going on: if we read Lewin's transformations as resulting from the application of the various functions as it were *from the outside*, then the transformational model slips back into a Cartesian grid, just what Lewin wanted to avoid. If the internal pressures of the events generate their emergent transformations, and the listener or interpreter perceptually participates in that experience, as it were *from the inside*, then we escape projection from without. In the first model, a subject (the theorist or whomever) considers and interprets an object (the musical score or the acoustic event in a musical performance). The second model, to the extent that it succeeds, eradicates subject/object opposition. Something happens, and then something else happens as a result of the first thing that happened. Music imagined this way emerges out of itself, and the listener or interpreter is a participant, not an external observer. Agent—that which does the action—and patient—that which undergoes the action—are one and the same. Put another way, Lewin's models are successful to the degree to which we hear *through* the transformations. Hearing *through*, generalized to knowing *through*, is a major theme of the present book.

Lewin's phenomenology article touches on a good number of topics. Perhaps better than any other single publication, "Music Theory, Phenomenology, and Modes of Perception" gives us a window onto the capacious and singular human being whom I knew as David Lewin.<sup>10</sup> The article's principal model for a phenomenology of music, applied to a Schubert song, imagines a moving time cursor that hovers over each subsequent musical event.<sup>11</sup> Each event either confirms or denies what was anticipated given a previous event (I expect X to happen here and it does or does not). Each event is understood in its own light (here's what seems to be happening right now). And each event projects or anticipates a subsequent event or

events that in turn will either be confirmed or denied. In this sense, what defines a musical object/event is not a singular thing (the acoustic event), but rather something that takes on multiple aspects as we move through experiential musical time-space. Moreover, the subject, performer or listener, and the multivalent object/event are fully interactive: as we interpret and reinterpret, the separation of subject and object becomes diffused. To be sure, the listener and performer have separate tasks, but it's not the case that listeners are passive while performers are active. Both tasks are interactive. As such, Lewin's phenomenological model does some of the same work that his transformational model did in GMIT.

Before proceeding to the main body of this book, I want to mention two other aspects of Lewin's work, one that anticipates developments in GMIT and another that is seemingly independent, although that independence may be an assumption worth questioning. To get at the first body of work, we can contrast generic ways of describing musical relationships with context-sensitive ways. For example, transposition-by-some-interval is generic, what Lewin calls a *canonical operation*. Transposition by some interval, let's say by a perfect fifth, can potentially be applied to any passage or song or, for that matter, to an entire composition. Transposition by a fifth globally moves all the musical matter up or down a fifth; it doesn't matter what that matter is. Now, if the passage or song or motif is internally rich in perfect fifths, as in the sequence C-G-D-A, then transposition by fifth will move multiple pitches onto their fifth-related notes, in this case three of four (transposition up a fifth moves C-G-D-A to G-D-A-E or transposition down a fifth moves C-G-D-A to F-C-G-D). "Transposition by a perfect fifth" doesn't capture the salient quality of preserving three of the four pitches in musical event. For the sake of comparison, let's posit another four-note motif, this one fully chromatic: C-C#-D-D#. If we transpose by a fifth, no notes are held in common, but if we transpose up or down a semitone once again, three of the four notes are held in common. As with transposition by a fifth in the previous example, here transposition by a semitone doesn't capture the salient quality of "transposition that preserves three pitches." But, more importantly, if the motif in fifths and the motif in semitones are interrelated compositionally through transpositions that preserve three of the four pitches, then naming the transformation accordingly better captures what's at stake, while the canonical operations do not. Both the generic and the context-sensitive ways of thinking have their place, but if we are trying to capture a sense of something emerging from something, then the salience of particulars

matters most. Lewin's work on context-sensitive operations predates GMIT, and much of GMIT comprises defining context-sensitive transformations.

A second area of Lewin's work that is important to the main body of this book comprises his many essays on music with text.<sup>12</sup> I was lucky enough to attend Lewin's seminar on this topic at Yale during the academic year 1979–1980. Lewin was a sensitive reader of poetry, and he was particularly astute in his understanding of the ways that music and poetry can mutually shape one another. The particulars of his analyses of texted music comprise some of the most engaging, insightful, and compelling essays on texted music that I have encountered. However, it wasn't the particulars that I learned from Lewin in studying texted music that mattered most: it was opening of possibilities, possibilities that I pursued during my career as an active teacher, and possibilities that I pursue in this book.