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„Einen guten Flügel und auch ein
gutes Clavicord haben“:
some reflections on the importance
of keyboard-instrument landscapes

»Imeti dober klavir ali dober klavikord«:
nekaj razmišljanj o pomembnosti
razgledovanja po instrumentih s tipkami

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IZVLEČEK

ABSTRACT

Študij haptičnih povratnih informacij v zvezi z različnimi zgodovinskimi instrumenti s tipkami postavlja vprašanje, zakaj je C. P. E. Bach med drugim spodbujal praktične glasbenike, da se posvetijo fenomenologiji mnogovrstnih instrumentov s tipkami in da se tako na vseh ustrezno verzirajo.

Studying the haptic feedback of various instruments within a historical keyboard instrument landscape raises questions about why C. P. E. Bach, among others, encouraged practicing musicians to engage with the phenomenology of multiple keyboard instruments, in order to develop musicianship at all of them.

I recently heard an American radio interview with a young pianist who had just flawlessly recorded, in a single take, a half-hour long work of Franz Liszt for her new CD. She played it through in the studio a second time, just to be sure she had everything, but she wound up using the first take because she was passionate about recording what was true to her live performance. Her interviewer eventually asked her a leading question about why she had chosen the piano in the first place. The young pianist's answer stopped the interviewer in her tracks. She said she was often not all that excited about

the piano. Radio silence. Followed by what I can only describe as spluttering. Eventually, an incredulous follow-up question: “You just said you don’t like to play the piano?” The young woman rephrased herself, saying that she loved symphonic music more than piano music, but that the piano (as a musical tool) could come closest to making the kind of music she wanted to make.¹

I remember immediately thinking that Franz Liszt probably felt exactly the same way about the piano. He followed his own quest for expressivity in keyboard instruments. While pianos literally piled up in his front hallway, given to him by builders who hoped for free publicity from his concerts, Liszt himself was engaged directly in the design of an instrument that, we must assume, was motivated by a personal craving for more expressivity and tonal breadth than the piano alone could give him. The resulting clavichord consists of a grand piano by Érard sitting on a box with the same wing-shape as the piano and containing a French art harmonium by Alexandre. I count myself very lucky that I was able to play this instrument briefly several years ago while it was under restoration, and I still vividly remember the thrill of being able to play a chord on the reedy and clear Érard piano, and just as the sound nearly died away, begin filling the bellows of the Alexandre harmonium. It seemed literally possible to create a percussive piano chord whose afterglow never completely died away, seamlessly blending into the sound of the harmonium.

These two stories about Liszt have something in common. Each of them involves friction between the worldview of the music-producer and the worldview of the music-consumer. In the first case, we have a young musician who is trying to realize her musical potential and understands that the physical instrument is an imperfect tool for that realization, while the interviewer represents us music consumers, who begin with the assumption that this Liszt piece already exists inside all Steinway grand pianos and the musician’s only job is to push all of the right buttons to let it out for us. Standardized instrumentation and interpretation in modern recordings only strengthens this consumer view that the piece of repertoire is a kind of monument that has its own life separate from the performers.

In the second case, we might be forgiven for thinking from the musical consumer’s perspective that the “real” instruments that created Liszt’s career are those commercially-built pianos in Liszt’s hallway, each surrounded by a thoroughly modern aura of marketing hype and brand loyalty. The public created a legendary sideshow out of the musician-hero Liszt’s jousting battles with these great commercial pianos in his public concerts: who would win, man or machine? Was it a successful concert if no strings had broken? Yet Liszt himself probably saw these instruments in much the same way as our young modern pianist—as tools, with strengths, weaknesses and limitations to be used to develop his musicianship and communicate it with an audience. If he saw these pianos as static cultural monuments, as “givens” only to be used to deliver a specific repertoire, would he have been so personally engaged in a search for new sound in the construction of a clavichord for himself?

¹ 22-year-old Yuja Wang as interviewed on NPR’s Weekend Edition Saturday on January 23, 2010, after her debut CD *Sonatas and Etudes* garnered a Grammy Award nomination. David Patrick Stearns in the April 25, 2010 *Philadelphia Inquirer* commented as well on this moment in her interview: “Wang shocked National Public Radio listeners by saying she doesn’t necessarily love her chosen instrument, but that’s not quite what she meant. She’s about self-expression, and piano happens to be her best way of achieving that.” Accessed on February 10, 2011, <http://www.yujawang.dreamhosters.com/?cat=3&paged=2>.

And yet Liszt's claviorganum is really just the combination of two, well-developed commercial instruments both from the same time-period and aesthetic, which is, of course, why they blend together acoustically so perfectly. But the experience of physically combining the two instruments is extremely intriguing. The musician learns to create long arching melodic lines on the harmonium. It has a wickedly challenging stop called "expression" which, when drawn, bypasses the normal reservoir bellows, and sends the air under pressure created by the feet directly to the reeds. Anything you do with your feet affects the tone, its pitch, its strength, and its sustaining quality. If you pump it like a normal pump organ as if you were stomping grapes or walking on an exercise machine, you hear each rhythmic pump, wah, wah, wah, waaaah like a seasick tremulant. You must learn to tramp the bellows with overlapping movements from foot to foot, so that one pedal is always moving down, and then you have to learn at the same time, to do this while gradually increasing and decreasing the wind pressure to make dynamic contrasts. This challenge develops in the musician a really physical sense of responsibility for the creation of the tone and the development of the dynamic line. Combine this already well-developed harmonium with the quick percussive virtuosic passagework possible at the Érard piano and one has a high-quality aesthetically coherent musical tool that is also infinitely challenging and inspiring musically and technically for the performer. One probably even plays the piano differently for the experience of the harmonium, finding ways to create longer more expressive lines and greater dynamic contrasts at the piano through the inspiration of the harmonium's possibilities. I have experienced first hand as a teacher that when you develop your harmonium skills you will look for and find more ways to be expressive at the symphonic organ because you have had the physical experience of being responsible for, and in infinite control of, dynamic shaping. But, because this claviorganum of Liszt's was so commercially unviable, almost no one knows about it today.

When we turn to the earlier keyboard repertoire, with which our June 2010 conference in Ljubljana was engaged, there is a clear and inviting parallel to be drawn with Carl Philip Emanuel Bach's admonition that we should play everything interchangeably on the harpsichord and the clavichord.

Every keyboardist should own a good harpsichord and a good clavichord to enable him to play all things interchangeably. A good clavichordist makes an accomplished harpsichordist, but not the reverse.²

But from the music-consumer's point of view, many of us have been trained to place a high cultural value on knowing that we are listening to a piece of music on the right instrument. From the very beginning, the early music movement also had both "producing" and "consuming" participants. The consumers were trained to buy recordings that were marketed as "authentic" and therefore culturally more important. Then the third axis was heard from, loud and clear. The musicologists delivered the message to both producers and consumers that "authenticity" was not attainable. It involved too many unknowables, not just about whether the instruments and their playing techniques were accurately replicated, but also whether we could ever be sure that with our modern

² Carl Philipp Emanuel Bach, *Essay on the True Art of Playing Keyboard Instruments*, trans. William J. Mitchell (New York: Norton, 1949), 37.

sensibilities we were perceiving the music in the same way as those who listened to it hundreds of years ago. By the late 1980s, The early music movement had universally adopted the term “historically-informed performance practice” to reflect our now more mature, if not downright chastened, understanding of the complexities of recreating music from past eras, and treated the term “authentic” with understandable caution and nuance.³

In a recent dissertation on the problems of historically-informed performance practice using the case study of the reconstruction of a performance practice for the E Major Flute Sonata BWV 1035 of Bach, the flutist and musicologist Lena Weman Ericsson captures a new way of relating to the concept of authenticity. She turns to a branch of music philosophy called contextual musical ontology.

Contextual musical ontology is a branch of the philosophical field of music ontology. Music ontology can be briefly defined as the study of different existing musical elements that constitute a work and the relationships that hold them together. The definition of music ontology can also be formulated as the study of “...what kind of thing is a musical sound or a musical work?” Even more precisely it can be expressed as “...what exactly is a work of music. When is a work A the same as work B...? What is the relation between a work and a (true) performance of it?”

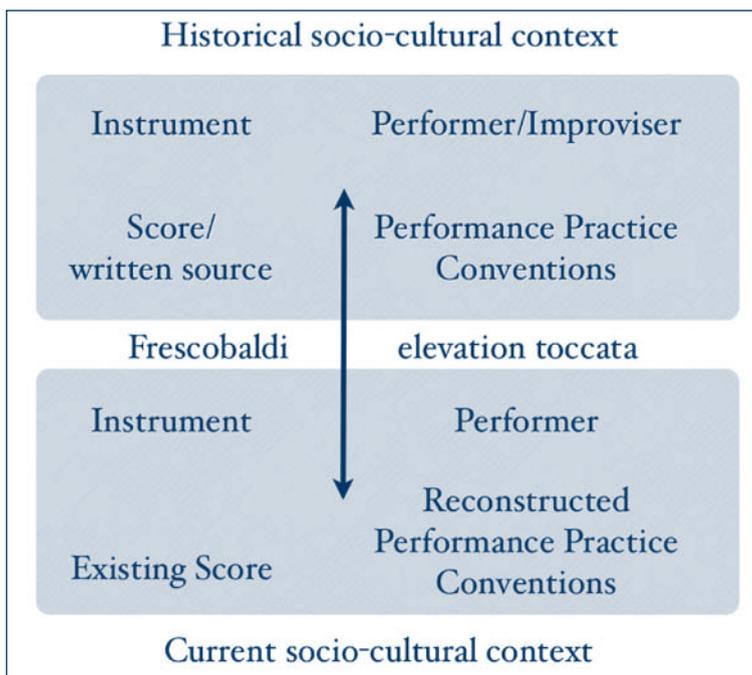
A central question for music ontology is in other words the relationship of the performance to the work... contextual music ontology views the work as made up equally of the notation and the performance. Contextual music ontology adds the requirement of performance. A fundamental idea within contextual music ontology is, as the name implies, that the musical work is a cultural phenomenon that is dependent on its historical socio-cultural context and though the work presupposes its performance it must take into account the context and in particular the part of the socio-cultural context that consists of historical performance practice conventions.⁴

From the contextual-music ontological perspective, the work doesn't exist if it is only on paper. For the work to exist it must exist in performance, and then being authentic, ontologically, to the work, can be judged on a kind of sliding scale. One can be more or less ontologically authentic to the work depending on how close we can reproduce factors that surrounded the work in its original context. We can learn more, for instance, about the performance practice conventions that were part of the musical culture at the time of the work's generation, and that simply didn't need to be written down at the time. *Notes inégales* in French baroque music for instance, was a conventional way of playing dotted rhythms in scales even when the note picture gives those scalar passages in simple eighth notes. Not knowing this, and playing straight eighth notes, we are being less ontologically authentic to the work.

Picture 1 attempts to give a simple map of the interactions between some of these factors.

³ See for instance Taruskin, Richard. *Text and Act*. New York: Oxford University Press, 1996.

⁴ Lena Weman Ericsson, ...*the world in a skater's silence before Bach*, 'Historically Informed Performance Practice in the Perspective of Contextual Musical Ontology, Illustrated through a Case Study of Sonata in E major, BWV 1035, by J. S. Bach' (Dissertation, Sweden, Luleå University of Technology, 2008), 13–14.



Picture 1: a work in its socio-cultural contexts.

If the work in Picture 1 is an elevation toccata by G. Frescobaldi, then the figure helps illustrate just how complex our task is as keyboardists when we are engaged with historical repertoire. The elevation toccata is a work with a high degree of dependence on its historical socio-cultural context. In the upper box, representing the work's original context, the score does not specify organ, but the work is meant for the organ, and not just any organ, but the Italian Baroque organ that Frescobaldi knew, and these organs have a stop called a *voce humana*, which is a second principal stop, slightly and gently detuned so that when it is used with the façade principal stop it creates an undulating, complex, almost random vibrato that is supposed to mimic the human voice. A modern pipe organ with a Principal 8' on high wind pressure and the tremulant turned on produces about as different an effect aesthetically from an Italian *voce humana* on low wind pressure as jet skiing differs from sailing. The elevation toccatas traditionally had this registration, which heightens the expressivity of their extensive use of chromaticism. Among the unwritten performance-practice conventions for this particular tradition, elevation toccatas were played or improvised during the celebration of the Roman Catholic mass in conjunction with the elevation of the host for adoration and were probably intended to create a meditative musical picture of Christ's suffering on the cross.

Our task as modern performing musicians, if we take on the responsibility of being ontologically authentic to the work, is to translate as much of the upper box as possible to our current socio-cultural context in the lower box. An Italian organist friend recently

sat in the jury of an organ competition where one of the contestants had read the word Toccata in the title, and played a Frescobaldi elevation toccata with full plenum registration and an aggressive *affekt* suitable to a powerful dynamic North German organ toccata, blissfully unaware of anything to do with the piece's original context. From the note picture alone, she was not wrong, and apparently it was a convincing performance, although wildly jarring to listen to if you knew and loved the tradition, because music-ontologically, the organist had been ignorant of almost all of the work's unwritten performance-practice conventions, and the performance, therefore was as far from authentic as it was possible to come without actually going ahead and playing it on a marimba. In fact, a marimba performance with the intention of recreating the piece's "beingness" as a specific liturgical musical act, might be judged as more authentic.

Let's look again at C. P. E. Bach's description, this time in a little more of its original context.

Every keyboardist should own a good harpsichord and a good clavichord to enable him to play all things interchangeably. A good clavichordist makes an accomplished harpsichordist, but not the reverse. The clavichord is needed for the study of good performance, and the harpsichord to develop proper finger strength. Those who play the clavichord exclusively encounter many difficulties when they turn to the harpsichord. In an ensemble where a harpsichord must be used rather than the soft-toned clavichord, they will play laboriously; and great exertion never produces the proper keyboard effect. The clavichordist grows too much accustomed to caressing the keys; consequently, his wonted touch being insufficient to operate the jacks, he fails to bring out details on the harpsichord. In fact, finger strength may be lost eventually, by playing only the clavichord. On the other hand, those who concentrate on the harpsichord grow accustomed to playing in only one color, and the varied touch that the competent clavichordist brings to the harpsichord remains hidden from them. This may sound strange, since one would think that all performers can express only one kind of tone on each harpsichord. To test this truth ask two people, one a good clavichordist, the other a harpsichordist, to play on the latter's instrument the same piece containing varied embellishments, and then decide whether both have produced the same effect.⁵

Bach sets up oppositions to show that both instruments have their strengths, but both instruments have weaknesses as well, (and he goes on to praise the new piano, but warns that its touch needs to be very carefully worked out in order to take advantage of its best traits). Although the clavichord is praised for generating technical and musical knowledge that helps get a different kind of sound out of the harpsichord, the musician who limits herself to the clavichord alone also develops habits that leave her less than a well-rounded keyboardist. The knowledge that a keyboardist possesses in order to be well rounded can only be found in the space *between* these two instruments, in a personal and hands-on exploration of more than one keyboard instrument.

From the music-ontological perspective, could authenticity to a specific work include the performer's training at multiple keyboard instruments? C. P. E. Bach seems to be

⁵ Carl Philipp Emanuel Bach, *Essay on the True Art of Playing Keyboard Instruments*, trans. William J. Mitchell (New York: Norton, 1949), 37.

saying this about his own time, where there is a landscape of keyboard instruments⁶ from which the skilled keyboardist needs to draw knowledge to inform performance. Thinking about Weman Ericsson's work in relation to the themes of our conference, I would like to suggest that, for keyboard players in each historical period, we can add a demand to both the upper and lower boxes of Figure 1: "skills gained at one keyboard instrument, expressed at another." An ontologically authentic approach would then be as simple and challenging as the following, admittedly leading, questions: Is it possible to give an ontologically authentic performance of Cesar Franck's Choral in B Minor on the organ with no experience of the French art harmonium? Is it possible to authentically perform C. P. E. Bach's Württemberg Sonatas on the harpsichord with no experience of the clavichord?⁷

Would this way of thinking shed new light on some old problems? The discussion still goes on about whether the pedal clavichord or the organ is the appropriate vehicle for J. S. Bach's trio sonatas. Johann Nikolaus Forkel's biography of Bach calls them "Six Sonatas, or Trios, for two keyboards and obbligato pedal. Bach composed them for his eldest son William Friedemann, who, by practising them, prepared himself to become the great performer on the organ that he afterwards was."⁸ Debating the "appropriate" instrument for performance is a music-consumer's question. From the producer-perspective, however, that final phrase "to become the great performer on the organ that he afterwards was," points directly to knowledge gained at one keyboard instrument in order to be used at another. Can a musician give an authentic performance of the Trio sonatas *on the organ* with no experience of the pedal clavichord?

And what kind of knowledge are we really talking about? The historical harpsichord, clavichord, organ and fortepiano in different times and socio-cultural contexts created time-specific landscapes of instruments, each reflecting the same technology of the moment, and each sharing similar tonal qualities and visual aesthetics, but each with different qualities, too, that led to a varied key-touch experience on each of them. This key-touch experience is currently being discussed in our field in terms of haptics. Haptics is literally the study of information we receive from our fingertips. An example of a haptic project we can all relate to: the Apple company spent a good deal of time and money doing haptic research in order to get the right feeling for their new laptop computer track pads. The surface has to be smooth enough to be pleasant to touch, but resistant enough to give us haptic response about starting and stopping a gesture, and there is a psycho-haptic response as well, because our eyes see the result of our gesture on the screen and it effects how we perceive or are aware of the sense data we receive from the track pad. On keyboard instruments, haptics involves not only information from the touch and feel of the keyplate material, but also the infor-

⁶ Bach also knows that the keyboard landscape is even broader. He says: "Of the many kinds [of keyboard instruments], some of which remain little known because of defects, others because they are not yet in general use, there are two which have been most widely acclaimed, the harpsichord and the clavichord." Bach, *Essay*, 36.

⁷ In this discussion we must keep in mind what Weman is quick to point out elsewhere in her dissertation: an ontologically authentic performance doesn't automatically have to be musically convincing, and the corollary is also certainly true!

⁸ "Sechs Sonaten oder Trio für zwey Claviere mit dem obligaten Pedal. Bach hat sie für seinen ältesten Sohn, Wilh. Friedemann, aufgesetzt, welcher sich damit zu dem großen Orgelspieler vorbereiten mußte, der er nachher geworden ist." Johann Nikolaus Forkel, *Über Johann Sebastian Bachs Leben, Kunst und Kunstwerk* (Leipzig: Hoffmeister und Kühnel, 1802), 60.

mation we receive about the way that the key is depressed and “psycho-haptically” how the resulting sound of both the action and the instrument seems to be related to that touch information. Some kinds of action noise, for instance, may be relevant for haptic feedback to the performer even if it isn’t necessarily actively perceived by the consumer.

The action of the clavichord gives an unusually high amount of haptic feedback coupled to acoustic feedback. A clavichord key pivots on a balance pin so that when the front end is depressed, the back end rises where a tangent (a standing triangle of metal, usually brass), is pushed against a pair of strings. This action defines the string length (and therefore the pitch) by making the second node point with the bridge, and gives the strings the energy to set them vibrating, as long as the tangent stays in contact with the strings. There is no bottom to the key action. If the key is played with more force or velocity, the sound is louder and the key usually travels deeper, and if it is played with less force or less deeply, the sound is quieter. If it is played and then pushed down further and relaxed a bit, and this process is repeated, the player can make a vibrato called *Bebung* in German, because she is literally altering the string tension enough to change the pitch. This action is difficult to control, and one technique that seems to work with many students can also be found described in Forkel’s biography of Bach, and further elaborated on by his student Griepenkerl.⁹ If you stand some of the natural weight of your arm on one finger, and “walk” that weight to the next finger without picking up your arm, it is possible to make a musical figure where the first note is louder than the second, and then there is a small natural articulation as the arm moves the hand to a new position for the next figure. The so-called Baroque musical rhetorical figures and their names (*circulatio, transitus, figura corta*, to name a few) have been used in an ongoing performance practice experiment I have been carrying out with myself and students to see how this way of figural playing affects tone production and performance at the clavichord.

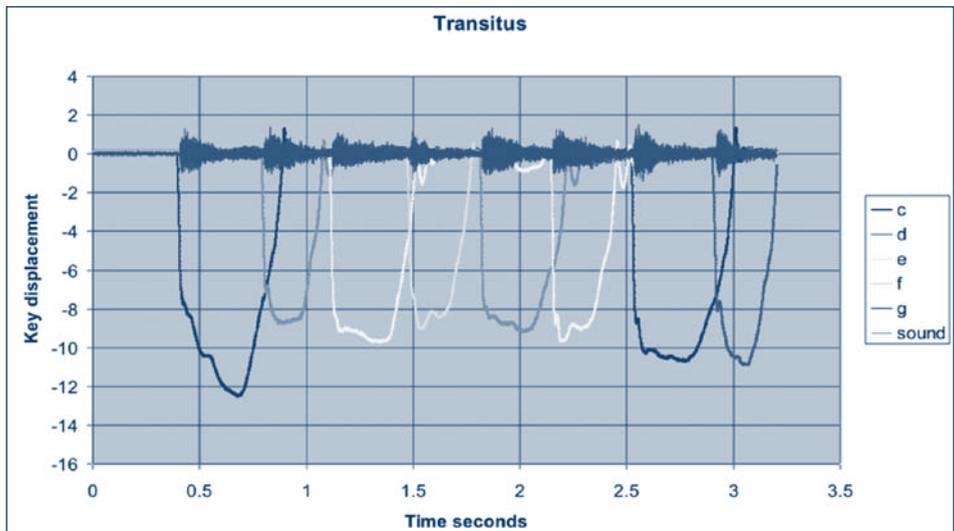
One primary advantage of this approach is that the performer develops a haptic memory of these figures, because the acoustic response gives such a rich amount of information back to the player when changes are made in parameters like acceleration, amount of mass application, manipulation of the position of the key and weight transfer from key to key. This haptic memory seems to make it easier for the student to repeat the figure with similar success in tone production. Last autumn, I made some measurements at the pedal clavichord at the University of Gothenburg in collaboration with Alan Woolley, a post-doctoral student at the University of Edinburgh, who is currently working on the role of performing styles in acoustic response from pipe organs. We decided to make some of the same measurements of figures on the clavichord as we had done on the North German Baroque organ in Göteborg. Picture 2 shows the measuring set-up on the upper manual of the pedal clavichord with five laser sensors over five consecutive natural keys giving the position of the key over time.

⁹ See: Joel Speerstra, *Bach and the Pedal Clavichord: an Organist's Guide* (Rochester: Rochester University Press, 2004), 95–128.

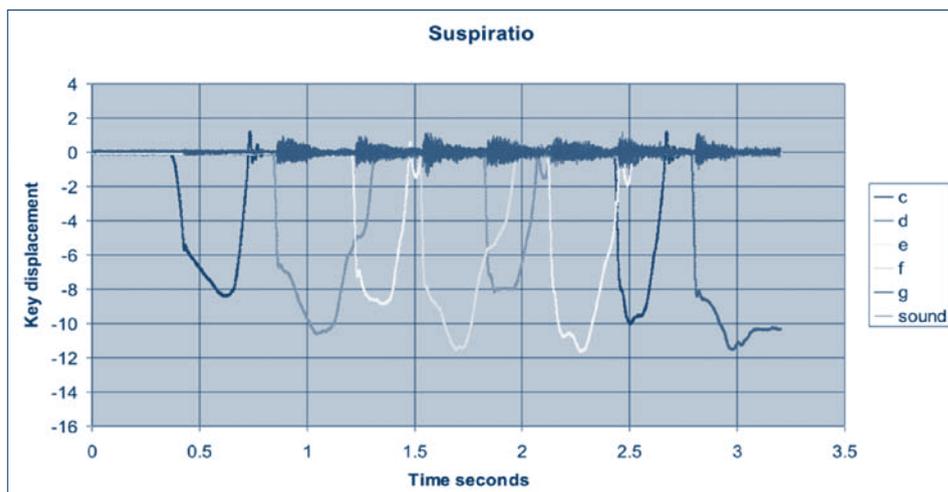


Picture 2: recording gestural figures at the clavichord.

In Examples 1 and 2 we see the same C major scale. Example 1 that scale is played with paired fingering (3 4, 3 4, 3 4 going up) in *transitus* figures. In Example 2, the scale begins with a figure called *suspiratio*, where after a rest, the next three notes (fingered 2 3 4) are an upbeat figure like the first three notes of J. S. Bach’s two-part Invention in C Major BWV 772. After the first three notes, the scale continues in paired fingering using *transitus* figures.



Example 1: *transitus* at the clavichord.



Example 2: *suspiratio* at the clavichord.

The line at the top of the graph gives the strength and duration of the sound signal. Compare the first notes of each example. In the *transitus* example, the first note is a good note. The weight is standing on the key so it goes deeper than the second bad note. It takes more time to play than the following bad note and is also overlapping it. After this pair, there is a distinct articulation. In Example 2, the first note is a bad note, as it lands after a rest, it does not go as deep into the key as the following good note, it is quieter, and there is a distinct articulation before the second note which is a good note. In fact, if you remove the first note from the *suspiratio* sample, the two graphs look very similar, but these three notes together are learned as a single *suspiratio* gesture, different from *transitus* with an extra upbeat note tacked on the front. One thing that sets the two examples apart is the relative strength of the fourth note in the *suspiratio* example. This is the note of the first *transitus* pair after the completion of the *suspiratio*, and it is deeper and longer than the good note in the middle of the *suspiratio* and produces more sound. All of these parameters affect how the figure is memorized haptically as a single gesture. It is perhaps the clavichord's ability to train haptic memory for different rhetorical musical figures that is one of its primary benefits when turning to the other historical keyboard instruments. An articulation pattern and control of micro-dynamics in strong and weak note patterns at the clavichord is necessary for tone production in a way that it is not at the organ or the harpsichord. Play a harpsichord or organ key relatively carefully with the finger alone, or with the finger balancing some of the weight of the arm, or with the back of your knuckle, or even with your nose, and you will get the same quality of sound. Not so with the clavichord. But, once these figures are learned at the clavichord, the dynamic shapes and shadings they produce leave not only a haptic memory that transfers to the other keyboard instruments, but a desire to find the same kinds of dynamic response at the other keyboard instruments through careful articulation.

If Carl Philipp Emanuel Bach is any guide in this matter, we should be asking more questions about repertoire and performance practice from the producer's rather than the consumer's perspective. How does this instrument contribute to the development of my technique and musicianship? How is improvisation affected by the phenomenology of this particular keyboard instrument tradition as opposed to another? How does this piece feel similar or different on various keyboard instruments? How do I play this piece differently on the harpsichord, the clavichord, and the organ? How do I develop and nurture my musicianship using all of the tools available to me? The current discussion of the appropriate keyboard instrument for pedaliter works in the North German Baroque would benefit strongly from remembering, exploring and honing this producer perspective, remembering that being authentic to our craft as keyboard players often may mean expressing skills, ideas and inspirations that we learned from one keyboard instrument when we sit down to perform at another.

POVZETEK

Neka novejša disertacija, ki se ukvarja z izvajalno prakso, je v meni vzbudila pozornost za kontekstualno glasbeno ontologijo in odprla novo pot mojemu ukvarjanju z zavozlanim konceptom avtentičnosti pri zgodovinsko ozaveščenih izvedbah. Kontekstualna glasbena ontologija smatra, da je izvedba neke skladbe integralni del koncepta glasbenega dela. Ontološko »avtentična« izvedba bi potemtakem morala npr. odsevati izvedbene konvencije časa, ko je delo nastalo, za katere pa ni nujno, da obstajajo ohranjeni viri; izvedbeno bi seveda moralo biti na instrument, za katerega je bilo napisano. Toda: kot izvajalci vemo, da obstaja množica instrumentov iz časov, ko je delo zgodovinsko nastalo, in da nam je na izbiro dobesedno

cela pokrajina instrumentov s tipkami. Namesto da bi iskala »ta pravi« instrument, razprava skuša postaviti vprašanje o tem, kaj se dogaja, ko se razgledujemo po določeni instrumentalni pokrajini. Ali se naučimo veččin in raziskujemo glasbene ideje na enem od instrumentov s tipkami določene instrumentalne pokrajine, ki jih je možno drugače izraziti na drugih instrumentih? Tudi če teh veččin in glasbenih idej tam ne najdemo, ali jih lahko tam izrazimo? Ali je ta dialog med instrumenti s tipkami zaželen ali sploh potreben za glasbenika, ki se želi lotiti zgodovinsko utemeljene izvedbe? Ali je kaj prostora znotraj definicije, da smo »ontološko avtentični«, kar zadeva neko delo, da lahko velja koncept, ki pravi: »tipkovne večšine pridobljene na enem instrumentu izraziti na drugem«?