Harmony Analysis Tasks in the Music Theory Admission Test for Higher Music Education in Norway: A Proposal for Development

By Esa Lilja

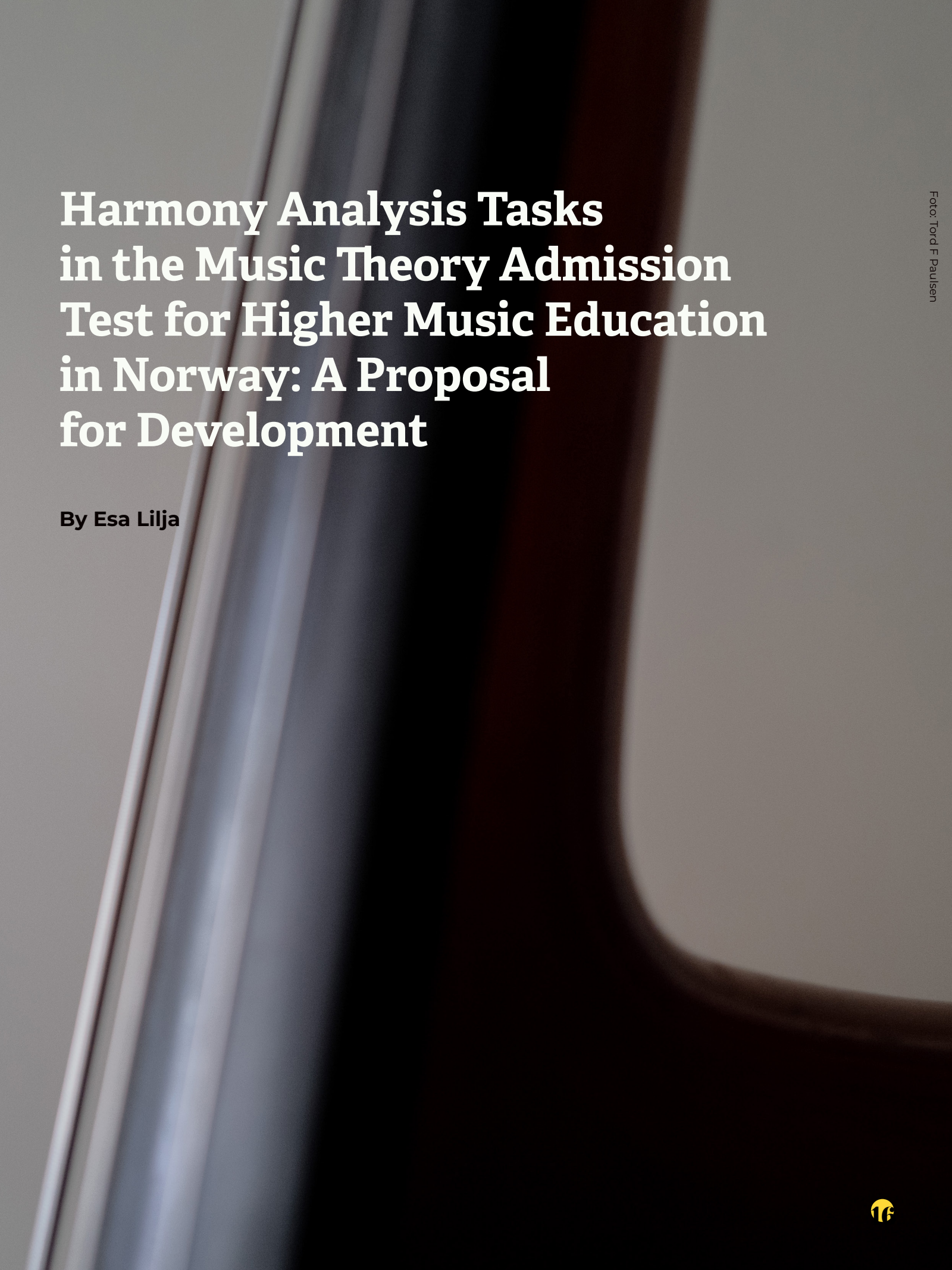

Foto: Tord F Paulsen

Esa Lilja
University of Stavanger
esa.lilja@uis.no
https://orcid.org/0000-0002-3066-6028

Harmony Analysis Tasks in the Music Theory Admission Test for Higher Music Education in Norway: A Proposal for Development

Abstract

The digital music theory admission test for higher music education in Norway uses two alternative symbol systems for harmony analysis. In the view adopted here, both systems are unnecessarily complex for an admission test, where a lower level of theoretical knowledge would suffice. In addition, both systems focus on the so-called Euroclassical music tradition and largely ignore the conventions of other musical styles. Moreover, the literature suggested for candidates preparing for the test is not properly aligned with the test. This article outlines the harmony tasks in the admission test, discusses issues with the test design, reviews the literature suggested for candidates, and explores the symbol systems used in the test. As a proposal for development, the article suggests that a different analysis system be used for the test.

Introduction

This is an analysis of and commentary on the harmony analysis section of the digital admission test used for higher music education in Norway.1 The joint theory/aural test is used by seven institutions that offer bachelor's programs in music performance.2 These include seven programs or study orientations in classical music (all institutions), five in jazz (Bergen, NMH, Stavanger, Tromsø, Trondheim), two in popular music (Agder, Tromsø), two in folk music (Bergen, NMH), and one in music technology (Trondheim). The jazz program and the music technology program in Trondheim and the electronic music program in Agder do not use the joint test.[3]

I explore the following issues in this article. 1) What kinds of problems are there in the test design? 2) How well does the suggested literature correspond with the test? 3) What kinds of problems are there with the analytical systems used in the test? 4) Are these systems fair, and do they account for different musical genres? 5) Are they relevant to different programs of study? 6) Should they be replaced with or complemented by a different system? Two alternative symbol systems are used in the test ("post-Weberian" and "post-Riemannian"), and candidates can use either system for the harmony analysis tasks. In my opinion, both systems are unnecessarily complex for an admission test, where I think it should be sufficient for candidates to demonstrate a basic understanding of fundamental concepts and skills. Moreover, both systems are biased toward so-called Euroclassical music[4] and largely, if not completely, ignore the harmonic and analytical conventions of jazz, folk, and popular musics. Therefore, I will propose another system to be used in the test.

The structure of this article is as follows. First, I introduce the wider context to which this article belongs. Second, I introduce the harmony analysis tasks in the test. Third, I address the suggested literature for candidates. Fourth, I discuss problems pertaining to the two symbol systems, and fifth, I propose that a third system be used in the test. I conclude with a discussion as to why I think all this is important.

As for key terminology, I discuss three chord-notation systems throughout this article. First, in need of a better term, the *post-Weberian* system refers to the practice in which figured bass numbers are attached directly to Roman numerals to denote chordal inversions. Second, I call the Norwegian function notation system *post-Riemannian* after Bjørnar Utne-Reitan (2022, p. 79). This system is based on Hugo Riemann's theory of harmonic functions, although in a simplified form. Third, the *Berklee system* is based on chord/lead sheet symbols (hereafter *chord sheet symbols*) in which Roman numerals are substituted for letters indicating chord roots (e.g., Imaj7 for Cmaj7 in the key of C; see Nettles & Graf, 1997). This system has been made popular by the Berklee College of Music and is widely used in analyzing jazz and pop/rock music in the Western world.

For the reader to better understand my viewpoints, I would like to say a few words about my personal position. From the 1990s until I entered the academy in Norway in 2019, I studied (and taught) using all three of these harmony analysis systems in Finland: the post-Weberian system in a classical conservatory and a music school, the Berklee system in a pop/jazz conservatory, and a post-Riemannian function system at a university. As for the post-Riemannian framework, however, I used Diether de la Motte's (1983 [1976]) adaptation of function theory, which differs in some ways from the Norwegian versions.[7]

Having been relatively recently introduced to the traditions of Norwegian music education, I still have some blind spots. Thus, this article also stems from my personal need to better understand the theoretical frameworks in Norway that are taken as self-evident. Moreover, in writing this, I can rely only on publicly available material, and the tacit knowledge about what is done in classrooms around the country is only slowly starting to become visible to me. For example, a colleague teaching ear training at another university recently argued that what I had called "the Norwegian system" would be better called "the Sigvald Tveit system" (after an influential textbook author) and pointed out that it was unclear how commonly ear training teachers in Norway actually use that system. The everyday reality is, hence, more complicated than presented here. However, against this backdrop, I feel that discussing the content of the entrance exam and the related literature is even more important. For example, it is not unreasonable to think that a candidate preparing for the test expects to be tested on the concepts presented in the suggested literature and not on something else.

Context: Admission Test Revision Project

Some of us who teach oral and aural skills, music theory, and related subjects in Norwegian music education institutions have perceived a high variety in the skill level among incoming students. Having spoken to my colleagues working in higher music education in Norway – e.g., in the Ear Training Pedagogic Conference organized in Stavanger in 2023 (UiS, 2024) – this seems to have been a growing trend since the new digital test was introduced in 2017. The strong students are still strong when starting higher education, but some students lack the knowledge and skills we previously took for granted. For example, every year we encounter students who do not know key signatures, cannot perform simple rhythms, and cannot differentiate an arpeggio from a stepwise melody or a major third from a minor third.

There are three interlocking ways we can approach the declining level of students' initial skills: 1) lower the level of requirements in final examinations; 2) adapt our teaching to meet the needs of the lowest skill level; 3) have several groups for different skill levels; or 4) change the admission test.

In 2022, we initiated a multi-institutional project with Maria Medby Tollefsen at the Arctic University of Norway (UiT) in Tromsø and Laura Gorbe-Ferrer at the Norwegian Academy of Music (NMH) in Oslo.

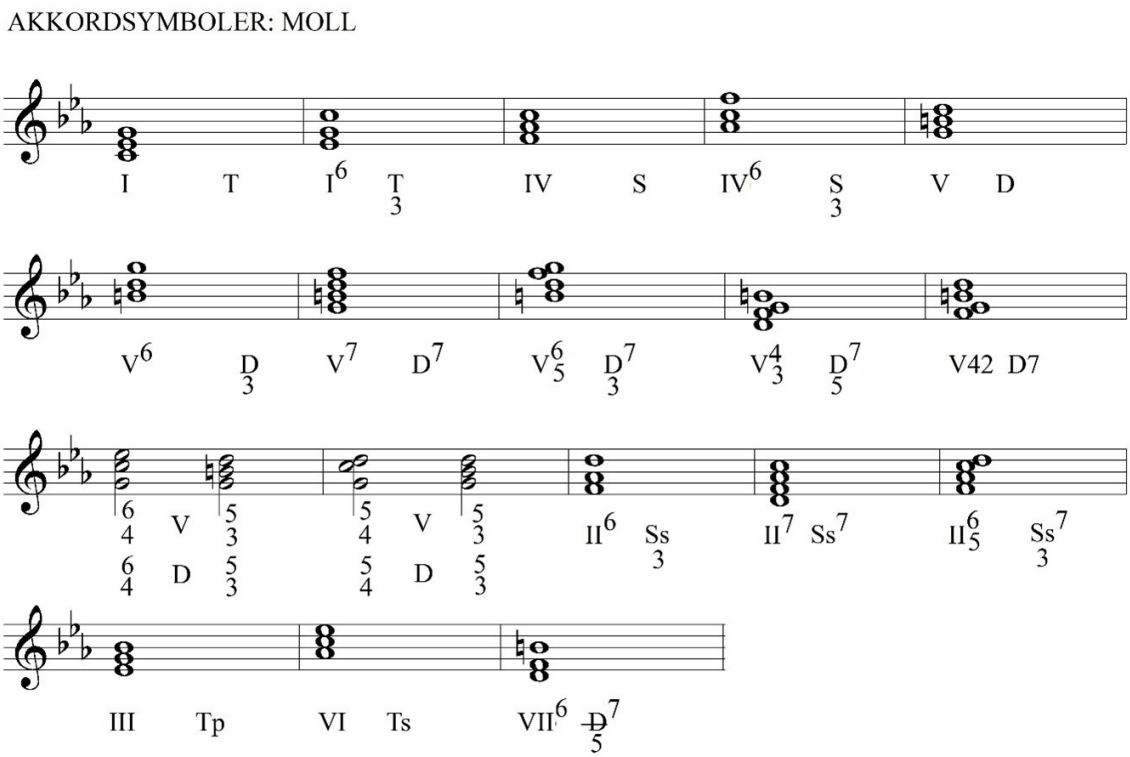

Figure 2. An instruction sheet for chords in the key of C-minor (Demo Test, 2024).

The aim of the project is to evaluate and revise the theory/aural test in the entrance examinations (see Tollefsen et al., 2023). Since 2024, the project has been partially funded by the national professional body for performing and creative music, i.e., FUM. As part of the ongoing evaluation process, we are looking closely at different sections of the digital test to spot possible areas for improvement. This article is part of that process, focusing on the harmony analysis section.

The admission test for music theory and aural skills was revised in 2017 (e.g., Bergby, 2023). The new test is fully digital and is conducted under supervised conditions in all partnering institutions. The test platform is provided by the company Inspera, which specializes in digital assessment products (https://www.inspera.com/). The website of the Norwegian Academy of Music in Oslo (*Norges musikkhøgskole*, NMH) provides a public demo test, which can be used by applicants for orientation prior to the actual test, and an instructional video as to how the test works (NMH, 2023a, 2023b).

The test is considerably shorter than the paper-and-pencil tests used previously. All questions are multiple-choice, which was apparently the most convenient and easily adaptable question type for the chosen digital application at the time the test was developed.

As another subproject, we gave the pre-2017 paper-format tests to our new students in 2022, 2023, and 2024, and compared the results with the students' results from the digital test. Students generally scored lower on the old tests than they did on the digital test, suggesting that the digital test could be easier than the old test; we also know that some areas that were included in the old test are not tested on the digital test at all (Tollefsen et al., forthcoming). Moreover, multiple-choice questions in general do not test deep knowledge to the same extent as constructed response tasks, and luck can also play a significant role (ibid.).

Harmony Analysis Tasks in the Test

The harmony section of the test ("Section 2: Harmony," *Demo Test*, 2024) contains aural and on-paper recognition of chord types and inversions, chord sheet symbols, and chord progressions, followed by two questions about relative keys, and two harmonic analysis tasks. The harmony analysis tasks have multiple-choice options, requiring candidates to drag and drop the correct answers into their appropriate places (Figure 1). Two symbol system options are provided, meaning that a candidate only needs to be familiar with one of these symbol systems. The options are Roman numerals combined with figured bass numbers (the "post-Weberian" system), and harmonic function nomenclature (the "post-Riemannian" system).

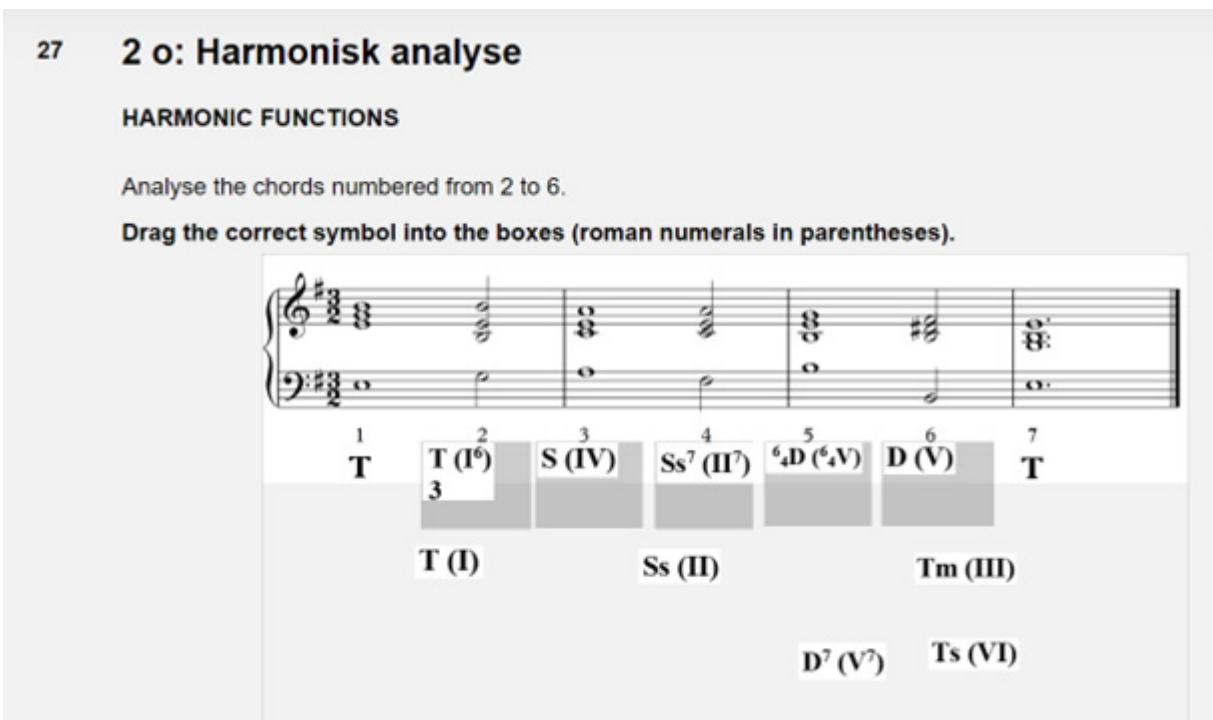

Figure 1. A screenshot of a harmony analysis task (*Demo Test,* 2024).

The instruction sheets in the test (Figure 2) are not entirely consistent with the tasks and do not cover all the cases a candidate encounters. For example, there is a different symbol for the chord on III in the instruction sheet (Tp) and on the test (Tm). The third option (Ds), which is given in the suggested preparatory literature (Figure 5), is not used in the instructions or in the test.

The cadential 6/4-chord can be problematic in a test designed like this. It is a two-chord phenomenon, but in the test, the candidate must choose one symbol for each chord. The 6/4-chord here is obviously built with tones of the chord I, but in its usual context, it is often thought of as projecting Dominant function[8]. In the instruction sheet (Figure 2), the cadential 6/4-chord appears in its normal context, preceding the tonic 5/3-chord, but in the task (Figure 1), the symbol $^{6}_{4}$V stands alone without any context. When the symbol stands alone like this, it is left in doubt whether the bass should be on scale degree 5 or 2 (i.e., the note B or Fs in the key of E-minor; in other words, are we talking about the chord Em/B or B/Fs). However, the alternative symbol I$^{6}_{4}$ is not given in the task; hence, a candidate who is not entirely confident whether to mark the chord as I or V can rule out the obviously wrong choices.[9]

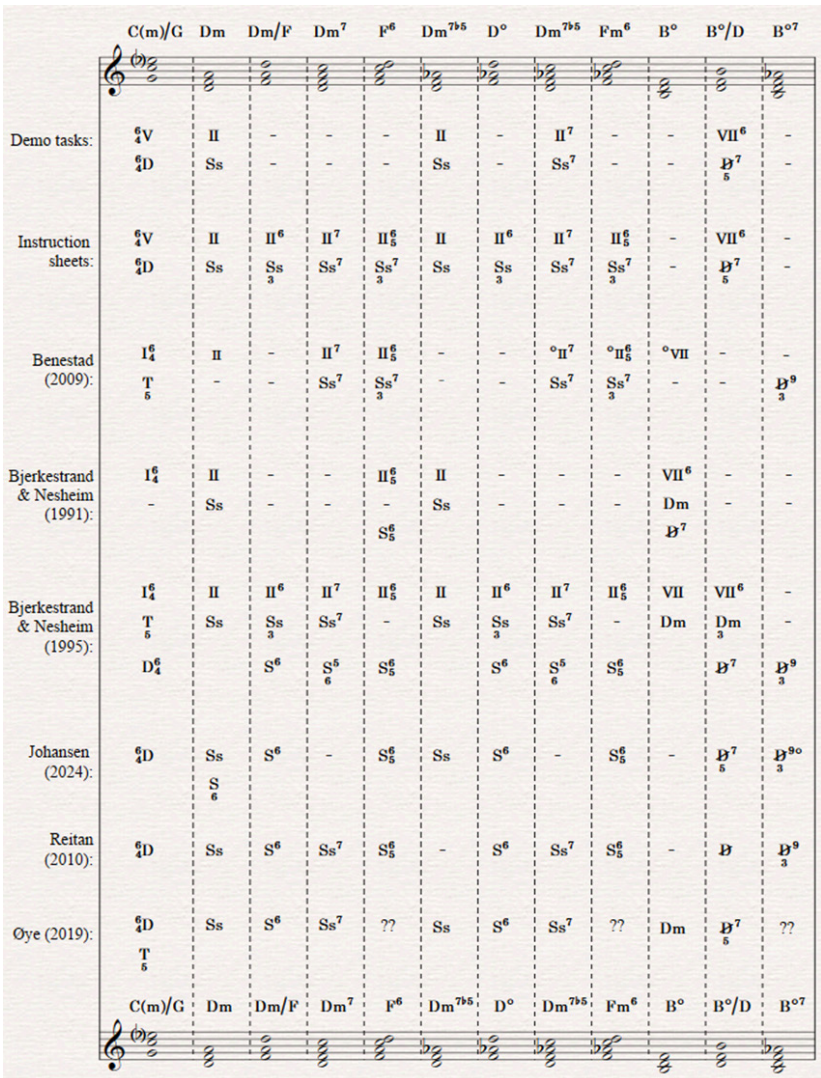

Figure 3. The 6/4-chord, various Subdominant chords, and the VIIo chord in C-major and minor keys as presented in the test and in the suggested literature.

Entrance Exam Literature

The NMH website (2023a, 2023b) provides a list of suggested literature for applicants preparing for the admission test. The literature list can be found only in the Norwegian and not in the English version of the website, and all the material is in Norwegian.[10] There are three music theory textbooks (Benestad, 2009; Bjerkestrand & Nesheim, 1991 and 1995), four ear training textbooks (Johansen, 2000, and 2006; Reitan, 2010; Øye, 2019), and one website (Johansen, 2024).

Johansen's two ear training books (2000, 2006) do not contain harmony. His website (2024) exploits post-Riemannian systems (Norwegian and Danish), but mostly sporadically and in a simplified fashion. The author explains that this is because the website's focus is on hearing similarities between different progressions and not on indulging in detailed analysis (see subpage "Generelt om materialet"). The three theory textbooks (Benestad, Bjerkestrand, & Nesheim) discuss Roman numerals briefly and are mainly concerned with function systems. Reitan's ear training textbook uses function symbols exclusively, as does Øye's.

None of the suggested literature uses a system entirely consistent with the test, and none discusses all the situations an applicant might face. For example, the symbols for the cadential 6/4-chord and the chords on II and VII differ between sources, and none of the sources have all the symbols that are used in the test. Thus, a candidate cannot trust that one source is comprehensive when preparing for the test. Figure 3 illustrates this. [11]

I will now address some disparate points that are depicted in Figure 3. They demonstrate inconsistencies between the literature and the test. Benestad (2009, p.52) and Bjerkestrand & Nesheim (1991, p. 83; 1995, p. 71) present a Roman numeral analysis for the 6/4-chord, which is different from the test, and a functional analysis that is similar to the test (1995, p. 71). Benestad's function symbol presents the chord as an inversion of the tonic chord (p. 52). He does not discuss it in a cadential context (pp. 53–55) and does not give it a symbol when dealing with double suspensions (p. 63). Reitan (2010, pp. 18–19) and Øye (2019, Chapter 3.1) are aligned with the test when dealing with the 6/4-chord. Chords on II have multiple symbol alternatives in the literature. Benestad's (2009) function symbols for Dm7 chord and its derivatives (p. 57) are in accordance with the test instruction sheet but not with the demo test. Moreover, Roman numeral symbols for minor chords are given with small capital letters and diminished with a circle ("o"), which differs from the test and the instruction sheet (Benestad, 2009, p. 57). Bjerkestrand & Nesheim (1995) present several symbols for chords on II and IV (pp. 56, 92–96), some of which (p. 56) are used in the test and the instructions. Diminished chords on VII are often treated as rootless V^7 chords (Benestad, 2009, p. 58; Bjerkestrand & Nesheim, 1995, p. 85; Reitan 2010, pp. 18–19; Øye, 2019, Chapter 1.2), which is in accordance with the test and the instructions. However, sometimes VII^o is treated as an independent harmony in the literature (Bjerkestrand & Nesheim, 1991, p. 83; 1995, p. 44; cf. Figure 5 below).[12] In conclusion, there are several points where the suggested literature is not aligned with the test.

Overall, Reitan (2010) comes the closest to using the symbols presented in the test and the instruction sheet. Hers is also the only textbook that presents a comprehensive table of function symbols (pp. 18–19). Some books explain function categories and symbols using Roman numerals (Benestad, 2009, p. 51; Bjerkerstrand & Nesheim, 1995, p. 44), but none covers the post-Weberian system in the way that it is used in the test. This is strange, because the system is given as an option.

As a final observation, the test seems to closely follow the guidelines set by Sigvald Tveit's textbook *Harmonilære fra en ny innfallsvinkel* (1990 [1984]), but the book is not included in the suggested literature. Tveit presents all analytical symbols used in the test, explains them in detail, and includes tables comparing Roman numeral analysis, function analysis, and chord sheet symbols (pp. 187–192), suggesting that it would be a suitable resource for test preparation.

Post-Weberian System: A Mixture of Two Systems

The post-Weberian system is a scale degree-based system that is commonly used in the classical world in most English-speaking countries. Pedagogical challenges that a teacher and a student face mostly arise from the fact that the system is a mixture of two separate systems, namely Roman numerals indicating scale degrees of the fundamental bass and figured bass numbers indicating chord inversions.[13]

In teaching this system, I have found it easiest to start with the figured bass, which is comparable to the chord sheet symbols of jazz and popular music.[14] Numbers attached to a bass note indicate which intervals should be added above the bass, but do not denote the order (Figure 4). For example, bass note C with figures $^5_3$ makes up the exact same notes as E with $^6_3$ and G with $^6_4$. In modern common usage, the latter two chords are regarded as inversions of the first. The theoretical chord root is the same note C for all three chords. The theoretical root is a result of arranging the notes in stacks of thirds inside an octave. The fundamental bass note (and not the figured bass note) is then marked with a Roman numeral indicating which scale step it is situated on in a musical scale. Finally, the figured bass numbers are attached to the Roman numeral (some numbers,

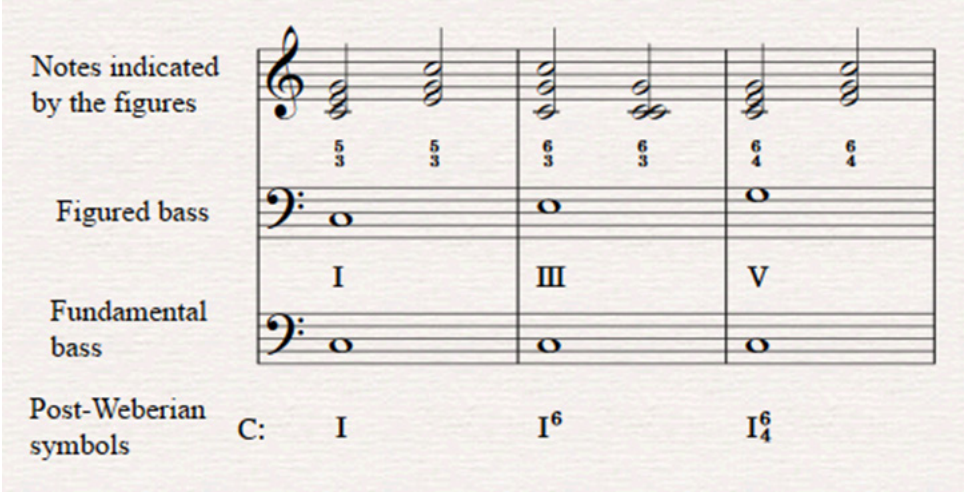

Figure 4. C-major triad with its first and second inversions in C-major.

such as 3 and 5, are omitted by convention). Note that interval numbers are attached not to the Roman numeral of the sounding bass note (from which they are counted) but to the non-sounding theoretical bass note instead.

The post-Weberian system requires a student to learn two systems in order to master one system. A teacher not only needs to explain how the systems work together, but also – to motivate a student – needs to explain why the system is so complicated. In my opinion, this can be a difficult task, especially if figured bass is not central to the repertoire in the educational institution using this system, and in my experience, many find this system very confusing. However, despite its weaknesses, this system has, to a large extent, been standardized in Anglophone music theory. One obvious advantage is there are a large number of English-language resources students and candidates can engage with.[15]

Post-Riemannian System: Harmonic Functions Simplified

Post-Riemannian systems in Norway are based on the simplification of Hugo Riemann's harmonic function theory. Moving from scale degrees to functions in Norway in the 1970s, the symbol system was made as simple as possible.[16] Riemann's original system was deemed complicated, and admittedly, it is.[17]

Riemann's (1896) theory postulates that it is not a chord's place in a musical scale that gives a chord its meaning (as in scale degree theories) but a chord's relationship to one of the primary triads (pp. 8–9). Primary triads are also not defined by their location within a scale but by their relationship to the key center. These triads are built on the keynote (Tonic) and the two fifths surrounding it – the Dominant resides a fifth above and the Subdominant ("under-Dominant") a fifth below. All chords are conceived as modifications or substitutions of the three primary triads (I, IV, V), and ultimately fall into one or two of the three categories and are marked with letter symbols (T, S, D).[18]

Figure 5 shows chords in C-major/minor as presented in one of the suggested textbooks. Primary triads are marked with a capital letter only (T, S, D), and secondary triads have either a small letter "m" referring to "mediant," or "s" to "submediant." They are situated a third above and below a primary triad, respectively. [19]
As is usual in function-based theories, chords on III and VI can be analyzed in two different functions. Inversions are marked with numerals situated below the letter symbol (see Figure 2 above).

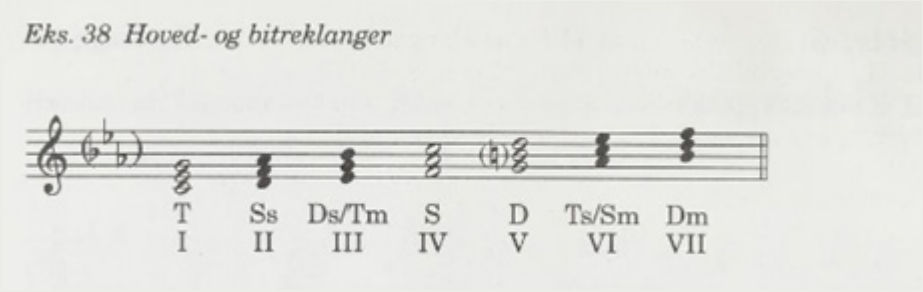

Figure 5. Primary and secondary triads for C-major and C-minor (Bjerkestrand & Nesheim, 1995, p. 44).

Various versions of function symbols are used today, especially in German-speaking countries with varying degrees of allegiance to Riemann's original ideas.[20] The system in the admission test is unique to Norway, although its close relatives are used in Denmark and Sweden.[21] As Bjørnar Utne-Reitan (2023) points out, from the many available function systems, Norwegians have preferred variants in which the most basic premises of Riemann's function theory have been removed in an attempt to make function analysis analogous to scale degree analysis.[22] This is especially true with Sigvald Tveit (1990, pp. 187–192), who makes function symbols directly translatable to Roman numerals. In Tveit's system, every chord has one fixed symbol, and the alternative labels for III and VI are removed (Ds and Sm, respectively).

In my view, however, simplifying the system to move it away from its theoretical premises does not necessarily make it better. If most of the foundational theory is left out, we are left with a labeling system not much different from Roman numerals – again, in my view – only with more complicated symbols.

"Indeed, both systems are quite distant from the musical practices and analytical conventions of jazz, folk, and pop/rock music"

A Proposal: Berklee System

Both symbol systems that are used in the test focus on Euroclassical music. This bias has been regularly criticized by my colleagues who teach in jazz departments. Indeed, both systems are quite distant from the musical practices and analytical conventions of jazz, folk, and pop/rock music. Because of this, I suggest the system popularized and promoted by the Berklee College of Music be used in the test – or at least given as a third option.[23]

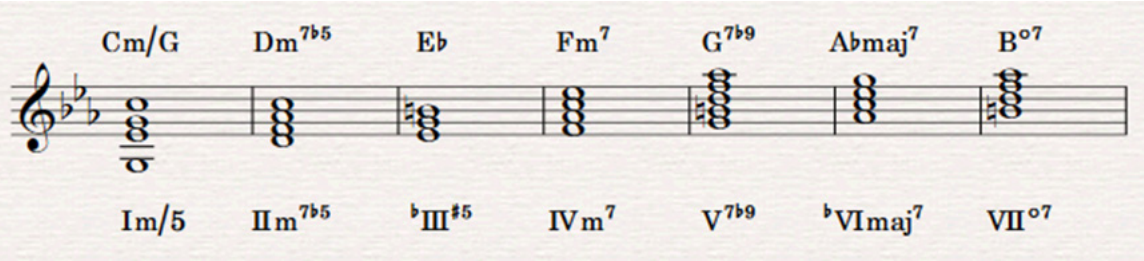

Figure 6. Some common chords in C-minor analyzed using the Berklee system.

Berklee's system and its derivative forms are common in pop and jazz literature and are taught in many jazz departments in various countries.

The Berklee system is based on scale degrees, Roman numerals, and chord sheet symbols (Figure 6). Roman numerals designate chord roots, and inversions are marked with a slash (/) followed by an interval number indicating which chord tone is on the bass (e.g., IV/3 instead of post-Weberian IV^6 for the F/A chord in the key of C). All indicators and additions (m, 7, o, ...) are marked as chord sheet symbols (e.g., Nettles & Graf, 1997, p. 24).[24] Chord roots are marked chromatically in relation to the major scale. This means that, for example, a chord built on the minor third scale degree (b^3) is always marked with bIII, no matter whether it occurs in major or minor key.[25] Using chromatic designations in all key contexts makes it easy to deal with music that contains elements from both parallel major and minor keys or other modes, such as Dorian or Phrygian. Modal variation is, after all, common in a lot of music in many genres.

Compared to the two systems used in the admission test (Figure 7), I argue that the Berklee system is perhaps not the most elegant, but it is the easiest to teach and the easiest to learn. **One only needs to understand chord sheet symbols, and then be able to replace the letter for the chord root with the correct Roman numeral to indicate the root's place in a key.** If the level of the admission test remains as it is now, this would be enough. Complex harmonic phenomena beyond this (e.g., secondary dominants, tritone substitutes, augmented sixth chords) are not assessed in the test; however, should these need to be covered at pre-university levels, the system easily incorporates these features, and there are several examples of this in the music theory literature (e.g., Biamonte, 2008; Nettles & Graf, 1997, pp. 40–43).

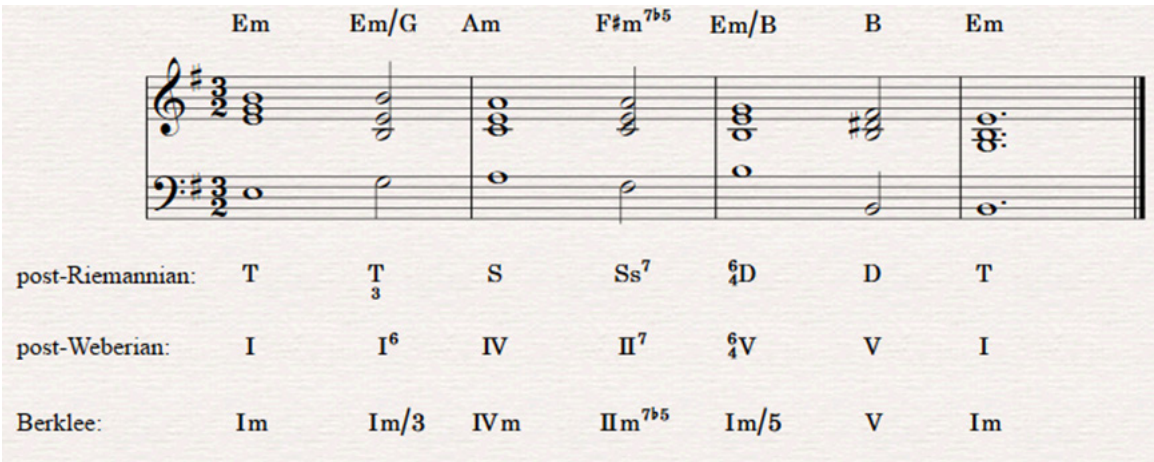

Figure 7. A harmony task in the demo test with chord sheet symbols and three analytical systems.

Post-Weberian and post-Riemannian systems are both "key-relational" (cf. Kirkegaard-Larsen, 2018, pp. 82–83). This means that they use the same labels for chords in major and minor keys (i.e., in E-minor key: S or IV = A-minor chord; in E-major key: S or IV = A-major chord). All symbols are read in the context of a key and mode and then translated into a corresponding chord type. Chords from a different mode are treated as "exceptions" that need additional markings in symbols (e.g., A-minor chord in the key of E-major would be, e.g., ^{O}S or IVb^{3}). Compared to this, the Berklee system is simply "key center relational," and all modes are treated equally. The system spells out a chord's structure in the same way in all keys and modes, and Roman numerals need to be read only in relation to a key center (i.e., in any E-based mode: IV = A major, IVm = A minor).

It may be argued that – just like the post-Weberian system – the Berklee system requires a student to learn two systems. However, unlike the post-Weberian system, the Berklee system is not constructed from two entirely different systems; instead, it builds on chord sheet symbols, only situating them within a key context. All chord notation systems have problems, and they all invoke stylistic and aesthetic assumptions. Labeling some pitch collections as chords and others not is never a completely neutral act. However, in my opinion, chord sheet symbols can be regarded as fundamental knowledge, regardless of musical genre preferences. They are a relatively neutral and practical way of describing the exact tone content of a chord. They are fully prescriptive and not dependent on key contexts, and their construction principles are easy to understand. The Berklee system then only replaces the letter for a chord root with a Roman numeral.

Discussion: Ways Forward

The main purpose of an admission test is to ensure that candidates have the necessary basic music theory and aural skills for their studies. At the same time, an admission test is normative in the sense that it largely dictates what is taught (and what is not taught) at pre-university levels of music education.

In my opinion, Riemann's function theory, in a less reduced form, would give deeper information about harmonic relationships than any scale degree theory alone. Setting aside this personal view, however, at the very least, one can say that the two theories give *different* kinds of information. As for the admission test, I regard function theory as unnecessarily complex. Unlike scale degree theories, it requires non-linear thinking: One chord can have many different functions depending on the musical context. This flexibility is an analytical strength, but it also makes learning more time-consuming.[26] In my view, Riemannian concepts belong to the advanced study of harmony in higher music education, and basic concepts are better

"All chord notation systems have problems, and they all invoke stylistic and aesthetic assumptions"

(and easier) taught using simpler systems. A simplified post-Riemannian system, however, takes away the flexibility of the original but does not offer much more than a Roman numeral system would.

It can be argued that by introducing the Berklee system into the admission test, we do not solve the genre bias problem but instead create a new one. It might be too much, then, to suggest that the Berklee system replace the two systems currently in use. After all, the post-Riemannian system has gained a central place in classical education in Norway, and the post-Weberian system – although not widely used in Norway – provides access to a wide range of classical Anglophone literature. However, these two systems do not serve jazz, folk, and popular music genres well. Berklee-based systems and pedagogy are already used in the Stavanger jazz program, and most likely also in other non-classical study programs in the country. Thus, I feel it is not unreasonable to suggest that the Berklee system be added as a third option in the test.

It is my educated guess that even though there might be young musicians today who have not been exposed to genres other than Euroclassical music, this group is a minority. For example, most people are exposed to incidental music, film music, game music, and the internet at the very least. Enthusiastic students can also learn music and music theoretical concepts from YouTube videos and other online platforms.[27] Moreover, recent studies show that popular music predominates in extracurricular municipal schools of music and performing arts (SMPA, *kulturskoler*; see Jordhus-Lier et al., 2021; Nielsen et al., 2023). In compulsory schools, popular music cannot be avoided (Ellefsen et al., 2023), and similarly, folk high schools (*folkehøgskoler*) offer predominantly popular music courses (see https://www.folkehogskole.no/). Alongside high schools (*videregående skoler*) these are the main institutions in which students can access formal pre-university level music education in Norway; however, it is unclear to what degree, if at all, music theory subjects are included in the study programs above. National and regional talent programs focus on classical music (see Senter for talentutvikling, 2024), and these mostly offer music theory; however, this seems like an exception in the national field. If music theory is not generally included in formal music studies, it seems to make more sense to start with chord sheet symbols. **Chord sheet symbols are common practice in jazz, folk, and popular music, and classical musicians can be reasonably expected to have encountered a chord sheet or a song book from a number of contexts, including pianists or guitarists who may accompany** *schlager* **or** *viser*. For those classical musicians who may not accompany others (e.g., violinists and flutists) and therefore may not have encountered chord symbols before, I argue that they can learn them very easily.

It is perhaps obvious that the suggested Berklee system is not

especially deep and nuanced, and to avoid any misunderstanding, I am not advocating for general simplification of harmonic theory and analysis. Quite the opposite: I suggest that this system serves as a starting point for students to engage with the concepts for their admission test, from which they can later easily build on to engage with more elaborate theoretical concepts. If the basis is firm, it will be easier to proceed to another theoretical, analytical, or practical direction – whichever happens to be the focal point of one's studies. The system suggested here is easy to teach, easy to learn, easy to use, and sufficient for most analytical cases. The system is easy to build on when going deeper into more style sensitive or specialized fields, such as figured bass, harmonic function, counterpoint, four-part chorales, Schenkerian analysis, chromatic II–V progressions of bebop jazz, plagal harmonies of rock and heavy metal, and so on.

Any admission test has practical and far-reaching implications for pre-university level education. As for students at this level, regardless of their music educational background, I can see two target groups, both of which are equally important. The first group engages in music as a hobby and does not have prospects or a desire to become a professional musician or academic thinker. However, in my view, personal enjoyment is the best reason for listening to or making music, and these students will become, if they not already are, informed amateurs and enthusiastic audiences. The second group will apply for further music studies in higher education. For this group, a national admission test will necessarily guide the content of the theory teaching they obtain.

I do not think it would be impossible to keep both target groups in mind when designing pre-university level music theory education. It is argued here that it should be done with the following goals in mind: 1) building a clear understanding of fundamental musical concepts and structures (i.e., basic vocabulary and nomenclature); 2) using symbol systems that are flexible and ideally can be used for different musical styles and contexts; and 3) giving a firm basis for further studies for those who wish to do so. I think that a simple chord symbol-based harmony analysis system can be used to achieve these goals.

As for practical ways to move forward with the admission test, having three alternatives in the harmony section is only one possibility. The second would be to have separate tests for classical and other study programs. Some programs have already done this; however, there seems to be a general consensus among partnering institutions that a joint test will continue to be used in the future. The third option would be to remove problematic inversions from the questions (such as the cadential 6/4-chord) or to remove the harmony analysis questions altogether. However, I suspect that further lowering the admission level from the post-2017 revision is not desirable for these institutions. The fourth option is to go back to the old paper-format test, in which a candidate can write their answers using any system, and the fifth would be to use a digital platform that allows candidates the flexibility of the paper system. Constructed answer tasks – in which a candidate must produce the answers from scratch instead of choosing from the given choices – provide a broader and more nuanced picture of what a candidate is capable of (cf. Tollefsen et al., forthcoming). However, this approach is labor intensive, requiring theory teachers to correct potentially hundreds of answers by hand. Furthermore, unlimited system choices for candidates would also require assessors to have broad knowledge of the many different symbol systems that could appear in the answers. If the test is going to be revised, it would perhaps be most ideal to find a digital solution that allows free-text answers and which could still be corrected automatically.

"Riemannian concepts give different, in some ways perhaps deeper, information about chord relationships than the Weberian system"

Finally, if the test is not changed, at the very least, the suggested literature should be aligned. At present, Sigvald Tveit's (1990) textbook seems the most natural choice for the analysis section because it includes both systems used in the test. Tveit's chord tables (pp. 187–192) are systematic in their demonstration of how his function symbols are translated to post-Weberian Roman numerals and chord sheet symbols. Candidates with a background in jazz, folk, or popular music can then translate chord symbols to post-Weberian or post-Riemannian symbols for the purposes of the test.

Conclusion

In my view, the harmony section in the admission test for higher music education in Norway has several areas that need attention. The test design includes a two-chord phenomenon (cadential 6/4-chord) but allows only one-chord answers. The multiple-choice design makes guessing relatively easy, and the suggested literature is not aligned with the test. None of the literature covers all the situations in the test, and many of them use systems that are different from the test. As for the analytical systems used in the test, I think the post-Weberian system is unnecessarily complicated and confusing; however, it has become a standard analytical device in the English-speaking classical world. The post-Riemannian system is only used in Norway, which potentially creates isolation from the rest of the world. Riemannian concepts give different, in some ways perhaps deeper, information about chord relationships than the Weberian system; however, the post-Riemannian systems used in Norway are overly simplified, serving as mechanical labeling systems that are not much different from simply using Roman numerals. Both systems focus on Euroclassical music, and are not especially relevant to jazz, folk, and popular music or their corresponding study programs. In conclusion, I suggest that a Berklee-based analysis system be used as a third option if and when the admission test is revised again.

Notes

[1] I want to thank professor emeritus Per Dahl, university lecturer Maria Medby Tollefsen, and the anonymous reviewer for their priceless feedback on the manuscript of this article, Jory Debenham for proofreading and correcting my English, and my colleagues in the classical and jazz departments at the University of Stavanger, with whom I have had many fruitful discussions over the years pertaining to the harmony section of the entrance test.

[2] The partnering institutions using the joint test are the Music Conservatory at the Arctic University of Norway in Tromsø (UiT), Institute of Music at the Norwegian University of Science and Technology in Trondheim (NTNU), Grieg Academy at the University of Bergen (UiB), Faculty of Performing Arts at the University of Stavanger (UiS), Faculty of Arts at the University of Agder (UiA), Barratt Due Institute of Music in Oslo, and the Norwegian Academy of Music in Oslo (NMH). (FUM's secretary K. Solvik, email correspondence, 16 March 2023; also see Appendix). The institutions using the joint test are organized under the National professional body for performing and creative music (*Nasjonalt fagorgan for utøvende og skapende musikk*, FUM, formerly known as RUM). FUM operates under the national University and College Council (*Universitets- og høgskolerådet*; UHR, 2024a), which is "a cooperative body for 32 accredited universities and university colleges" (UHR, 2024b). FUM does not have a website.

[3] In addition, there are programs or study orientations in different institutions in, e.g., church music, composing, conducting, and music pedagogy. All of these use the joint test. The information here is collected from the institutions' websites. See Appendix.

[4] The term "Euroclassical" is from Philip Tagg (2014, p. 486) denoting "European classical music (a.k.a. 'art music', or 'WECT' [Western European Classical Tradition]), most typically that composed between c. 1650 and c. 1910."

[5] Some of the earliest authors to use Roman numerals for chord roots include Johann Kirnberger (1774), Abbé Vogler (1800), and perhaps most famously Gottfried Weber (1842), followed by Ernst Richter (1860 [1853]). The reason I do not call this system simply "Weberian" as is often done, or "Richterian" as Utne-Reitan does, is that neither of them, to my knowledge, attached figured bass numbers directly to Roman numerals. Rather, they wrote Roman numerals *without* inversions under a bass part. Figured bass numbers were directly combined with Roman numerals "post-Weber" by e.g., Heinrich Schenker (e.g., 1906, pp. 48, 82) and Rudolf Louis and Ludwig Thuille (e.g., 1920 [1907], pp. 66–67), but not in a systematic fashion, although Arnold Schönberg (1922 [1911])) was more consistent (e.g., pp. 99, 110). Earlier examples by less well-known authors exist as well (e.g., Chadwick 1897, p. 52; Vincent 1900, p. 63; Cutter, 1902, p. 5; I thank Miguel Vicente Garcia for these references, email correspondences, 5–18 October 2022). Damschroeder (2008) gives a historical account of analytical treatises with many early examples on scale degree numbering with either Roman or Arabic numerals or other kind of symbols.

[6] "Post-Riemannian" is Utne-Reitan's (2022) term for theories that do not draw directly on Riemann's writings, but on his successors' instead (p. 79). Norway has a particular post-Riemannian analysis system that is not used elsewhere. It was introduced by Anfinn Øien (1975), mainly building on the Danish author Povl Hamburger (1951). The Danish in turn favor other post-Riemannian systems that are different from Hamburger's (see Kirkegaard-Larsen 2018, p. 83). The Norwegian system has several adaptations, some of which are discussed in this article, but generally they are close to one another (Utne-Reitan 2022, p. 79).

[7] Whereas most Norwegian function theories are "interval-relational" (Kirkegaard-Larsen, 2018, pp.82–83), Motte's theory could be described as "transformation specific". Compared to Norwegians, Motte is more in line with Riemann's (1896) chord transformation theory (pp. 55–106) and more sensitive to chord qualities (i.e., major chords get a capital symbol and minor chords a lower case).

[8] Vicente García (2012, p. 10) calls this "paradoxical association."

[9] In a sample of answers for this task, many candidates chose to analyze the chord as I and not V. Even though there are arguments to back up this analysis – not all of the suggested literature is clear as to how to treat this chord – the digital test automatically marks it as a wrong answer.

[10] All institutions except the NMH state on their websites that Norwegian is the primary, and in most cases, the only language of their study programs. NMH gives English as an option.

[11] Øye's (2019) digital ear training textbook is seemingly a work in progress. Almost all notated examples are missing, so the function symbols are here collected from her verbal explanations. If a symbol could not be deduced from the explanations, a question mark has been added in Figure 3.

[12] Most function theories and related labelling systems treat the diminished triad on VII as a rootless V7 chord. Countering this, Bjerkestrand & Nesheim (1995, p. 44) and Sigvald Tveit's (1990 [1984], p. 191) widely used textbook regard it as an independent harmony, "Dominant's mediant" (see Utne-Reitan 2022, pp. 84–85). Hermann Grabner (1992 [1967]) reflects a similar line of thought, although the "over-third chord" (Ger. *Oberterzklang*) of the major Dominant is only depicted (p. 90) but not explained like the others (p. 93). Elsewhere Grabner also presents the rootles Dominant interpretation (p. 64).

[13] Both concepts stem from Jean-Philippe Rameau (1971/1722, pp. 40–52, 206, 226). The fundamental bass describes the succession of chord roots, but this part is not meant to be played. For more about Rameau and the fundamental bass, see e.g., Lester (2002, pp. 761–764).

[14] By this comparison I mean that both figured bass and chord sheet symbols are prescriptive "cookbook notations", instructions for an instrument player which keys or frets to press to make up a chord on top of a bass/root note. For example, "for a 6/4-chord on the bass note C, press C–F–A; for a Cmaj7 chord, press C–E–G–B." Neither of the systems give direct information about voicings and doublings – which are dictated by factors such as instrumental technique and stylistic convention – are left to the player to decide.

[15] I thank the anonymous reviewer for reminding me about this obvious point.

[16] "The first conservatoire textbook in harmony providing a full-fledged post-Riemannian framework is [Anfinn] Øien's (1975), which can

therefore be considered the definitive turn in Norwegian harmony literature" (Utne-Reitan 2022, p. 82). The scale degree-based theory, which was used previously, was largely based on the work of Ernst Richter (e.g., 1860 [1853]). The post-Riemannian approach was largely adopted in Norway because of its practical rather than theoretical dimensions: "[T]he two frameworks, Richterian and post-Riemannian, do share many similarities, such as their focus on the writing of four-part harmony and the chord-to-chord vertical (i.e. micro-level) analysis of these settings – what Brian Hyer (2011, [p. 111]) termed a 'mania for naming and labeling chords.'" (Utne-Reitan 2022, p. 83.)therefore be considered the definitive turn in Norwegian harmony literature" (Utne-Reitan 2022, p. 82). The scale degree-based theory, which was used previously, was largely based on the work of Ernst Richter (e.g., 1860 [1853]). The post-Riemannian approach was largely adopted in Norway because of its practical rather than theoretical dimensions: "[T]he two frameworks, Richterian and post-Riemannian, do share many similarities, such as their focus on the writing of four-part harmony and the chord-to-chord vertical (i.e. micro-level) analysis of these settings – what Brian Hyer (2011, [p. 111]) termed a 'mania for naming and labeling chords.'" (Utne-Reitan 2022, p. 83.)

[17] See e.g., Riemann's textbook *Harmony Simplified* (1896), in which he explains his system in a simplified practical form. Riemann was convinced and committed to the idea that his system would ultimately replace scale-degree theories as the main pedagogic and analytical tool for studying harmony (e.g., Harrison, 1994, pp. 280–284).

[18] "There are only three kinds of tonal functions of harmony (meanings within a key), namely that of the tonic, dominant, and subdominant [commonly abbreviated as T, D, and S]" (Riemann 1896, p. 9).

[19] In Norwegian texts that follow Sigvald Tveit (1990 [1984]), diminished triads on VII in major and II in minor are also considered mediants, which is unusual in most other theories. Rather, mediants are usually regarded as not just chords that reside a third apart from their referential chord, but only such *consonant* triads (e.g., Kopp, 2002; also see Gotham, 2023; for an earlier account on the topic, see Tischler, 1958, p. 95; cf. Grabner, 1992, p. 202).

[20] Renate Imig (1970) has a detailed overview of various function symbol systems after Riemann until 1970. Post-1970, German systems include those of Diether de la Motte (1983 [1976]) which has, through translations, gained use in Sweden and Finland (1981 and 1987, respectively), and Wolf Burbat (1988), which deals with jazz.

[21] See Thomas Jul Kirkegaard-Larsen's (2018, pp. 82–83) typology of Scandinavian function theories, which is based on treatment of the so-called secondary chords (i.e., non-primary triads). Secondary chords are conceptualized differently based on key (most Swedish theories: *parallel* and *kontraparallel* chords reside in opposite sides of a primary triad in major and minor keys), specific interval (Norwegian: mediant and submediant are always a third up and a third down, respectively), or progression (most Danish: a secondary chord can be, e.g., a derivation, substitution, passing chord or prolongation of a primary triad). Also see Hvidtfelt Nielsen (2024), Kirkegaard (2024), Kirkegaard-Larsen (2019; 2020, pp. 89–94), Utne-Reitan (2023, pp. 125–127).

[22] "Sett i lys av mangfoldet av funksjonsteoretiske systemer har man i Norge også foretrukket en variant hvor flest mulig av Riemanns funksjonsteoretiske grunnpremisser er plukket bort, i forsøk på å gjøre funksjonsanalysen mer (eller helt) analog med trinnanalysen" (Utne-Reitan, 2023, p. 137).

[23] See e.g., *The Berklee Book of Jazz Harmony* (Mulholland & Hojnacki, 2013).

[24] A close and common variant employs upper-case Roman numerals for major and lower-case for minor chords (e.g., Tagg 2014, pp. 218–221).

[25] Most classical scale-degree systems would label the third degree in minor keys with III instead of bIII.

[26] For a discussion of analytical freedoms of Riemann's theory, see Harrison (1994, pp. 284–292).

[27] For example, online platforms such as *Ultimate Guitar* (*https://www.ultimate-guitar.com/*) are very popular today.

[28] I could not find similar studies on musical genre distribution in upper secondary schools (*videregående skoler*, i.e., high schools) and folk high schools (*folkehøgskoler*). Out of the 415 high schools in Norway, 57 offer music, dance, and drama (i.e., MDD; see Lied et al., 2018, p. 20; Novari IKS, 2024). *StudentTorget* (2024) lists all schools providing MDD, but not all MDD schools offer music. For example, Hartvik Nissen offers only drama. The 83 folk high schools offer 159 music programs (see *https://www.folkehogskole.no/*).

References

N.B. Some links might not work if you are outside the Norwegian library system.

Benestad, F. (2009). *Musikklære: En grunnbok.* 4. utgave. Oslo Universitetsforlaget. The 3rd edition (2004) available at *https://www.nb.no/items/URN:NBN:no-nb_digibok_2011080306042?page=0*

Bergby, A. K. (2023). *Digitale opptaksprøver anno 2017 – hva kan vi lære av historien?* Conference presentation in Ear Training Pedagogic Conference, 23–24 February 2023, University of Stavanger. Abstract available at *https://www.uis.no/en/research/ear-training-pedagogic-conference*

Biamonte, N. (2008). *Augmented-sixth chords vs. tritone substitutes.* Music Theory Online, 14(2). *https://mtosmt.org/issues/mto.08.14.2/mto.08.14.2.biamonte.html*

Bjerkestrand, N. E., & Nesheim, E. (1991 [1986]). *Grunnbok i musikklære.* Revidert utgave. Norsk Musikkforlag. *https://www.nb.no/items/URN:NBN:no-nb_digibok_2014073005017*

Bjerkestrand, N. E., & Nesheim, E. (1995). *Kreativ sats og analyse: Harmonilære, jazzakkordikk, arrangering.* Norsk Musikforlag. *https://www.nb.no/items/URN:NBN:no-nb_digibok_2014071608084*

Burbat, W. (1988). *Die Harmonik des Jazz.* Karl Vötterle & Co.

Chadwick, G. W. (1897). *Harmony: A course of study.* B. F. Wood Music. *https://archive.org/details/imslp-a-course-of-study-chadwick-george-whitefield/page/n65/mode/1up*

Cutter, B. (1902). *Harmonic analysis: A course in the analysis of the chords and of the non-harmonic tones to be found in music, classic and modern.* Oliver Ditson Co. *https://archive.org/details/cu31924022370948/page/n19/mode/2up*

Damschroeder, D. (2008). *Thinking about harmony: Historical perspectives on analysis.* Cambridge University Press. *https://doi.org/10.1017/CBO9780511482069*

Demo Test (2024, September 11). *Del 2: Harmonikk – Section 2: Harmony. https://opptak.inspera.no/player/?assessmentRunId=165886968&context=exam#/section/1994748167934/question/103439327*

Ellefsen, L. W., Karlsen, S., & Nielsen, S. G. (2023). *What happens in school music in Norway?* Findings from a national survey of music teachers. Music Education Research, 25(2), 160–175. *https://doi.org/10.1080/14613808.2023.2183494*

Grabner, H. (1992 [1967]). *Handbuch der funktionellen Harmonielehre.* 10. Auflage. Gustav Bosse Verlag. Original, Handbuch der Harmonielehre (1944). Max Hesses Verlag. First 88 pages available online: *https://archive.org/details/hermann-grabner-harmonielehre*

Gotham, M. (2023). *Mediants.* In M. Gotham, K. Gullings, C. Hamm, B. Hughes, B. Jarvis, M. Lavengood & J. Peterson (Eds.), Open Music Theory, Version 2. Open Educational Resources from the Virtual Library of Virginia. Viva Pressbooks. *https://viva.pressbooks.pub/openmusictheory/chapter/mediants/*

Hamburger, P. (1951). *Harmonisk analyse [Harmonic analysis].* Aschehoug.

Harrison, D. (1994). *Harmonic function in chromatic music: A renewed dualist theory and an account of its precedents.* University of Chicago Press.

Hvidtfelt Nielsen, S. (2024). *Dansk musikteori og dens ophav.* Multivers.

Hyer, B. (2011). *What is a function?* In E. Gollin & A. Rehding (Eds.), The Oxford handbook of neo-Riemannian music theories (pp. 92–139). Oxford University Press.

Imig, R. (1970). *Systeme der Funktionsbezeichnumg in den Harmonielehren seit Hugo Riemann.* Orpheus.

Johansen, N. E. (2000). *Hørelære – rytmelesing.* Norsk Musikforlag.

Johansen, N. E. (2006). *Hørelære – med på notene.* Norsk Musikforlag.

Johansen, N. E. (2024). *Klassisk harmoni. https://site.uit.no/musikklitteratur/*

Jordhus-Lier, A., Nielsen, S. G., & Karlsen, S. (2021). *What is on offer within Norwegian extracurricular schools of music and performing arts? Findings from a national survey.* Music Education Research, 23(1), 62–76. *https://doi.org/10.1080/14613808.2020.1866518*

Kirkegaard, T. H. (2024). *Riemann in Scandinavia: Reception and rejection.* In S. Kiem (Ed.), *Kreative Missverständnisse oder universale Musikprinzipien? Hugo Riemann und der internationale Musikwissenstransfer* (pp. 221–248). Georg Olms. *https://doi.org/10.5771/9783487424439*

Kirkegaard-Larsen, T. J. (2018). *Transformational attitudes in Scandinavian function theories.* Theory and Practice, Vol. 43, pp. 77–110. *https://www.jstor.org/stable/10.2307/26892828*

Kirkegaard-Larsen, T. J. (2019). *A history of Swedish function theory.* Svensk tidskrift för musikforskning / Swedish Journal of Music Research (STM–SJM), Vol. 101, pp. 137–163. *https://musikforskning.se/stm-sjm/node/276*

Kirkegaard-Larsen, T. J. (2020). *Analytical practices in Western music theory: A comparison and mediation of Schenkerian and post-Riemannian traditions.* PhD dissertation, Aarhus University. *https://doi.org/10.7146/aul.449*

Kirnberger, J. P. (1774 [1771]). *Die Kunst des reinen Satzes in der Musik.* Der 1. Theil. Decker & Hartung. *https://vmirror.imslp.org/files/imglnks/usimg/b/b0/IMSLP275223-PMLP444958-diekunstdesreine00kirn.pdf*

Kopp, D. 2002. *Chromatic Transformations in Nineteenth-Century Music*, Cambridge University Press. *http://ebookcentral.proquest.com/lib/uisbib/detail.action?docID=218159*

Lester, J. (2002). *Rameau and eighteenth-century harmonic theory.* In T. Christensen (Ed.), The Cambridge history of western music theory (pp. 753–777). Cambridge University Press.

Lied, R., Bakken, A., Bjørnson, L. C., Eide, J. A., Halsan, S., Lande, V., Lind, S. H., Myklebust, O. S., Novak, K., Prøitz, T. S., Strandheim, O.-I., Tønder, A. H. & Viste, G. (2018). *Kvalifisert, forberedt og motivert — Et kunnskapsgrunnlag om struktur og innhold i videregående opplæring.* NOU: Norges offentlige utredninger 2018: 15. Regjeringen.no [Norwegian government's website]. *https://www.regjeringen.no/contentassets/c69184206be24cc49be8dff70088c208/no/pdfs/nou201820180015000dddpdfs.pdf*

Louis, R. & Thuille, L. (1920 [1907]). *Harmonielehre. Siebente Auflage.* Verlag von Carl Grüninger (Klett & Hartmann). *https://archive.org/details/*harmonielehre00loui

Motte, D. de la (1983 [1976]). *Harmonielehre.* 4. Auflage. Bärenreiter-Verlag Karl Vötterle & Co. Translated into Swedish by M. Tegen (1981) as *Epokernas harmonik: En harmonilära.* Edition Reimers. Translated into Finnish by M. Heiniö (1987) as *Harmoniaoppi. Suomen Musiikkiti-eteellinen Seura.* Translated into English by J. L. Prater (1991) as *The study of harmony: An historical perspective.* Wm. C. Brown.

Mulholland, J., & Hojnacki. T. (2013). *The Berklee book of jazz harmony.* Berklee Press.

Nettles, B., & Graf, R. (1997). *The chord scale theory & jazz harmony.* Advance Music.

Nielsen, S. G., Jordhus-Lier, A., & Karlsen, S. (2023). *Selecting repertoire for music teaching: Findings from Norwegian schools of music and arts.* Research Studies in Music Education, 45(1), 94–111. *https://doi.org/10.1177/1321103X221099436*

NMH – Norges musikkhøgskole (2023a, October 13). *Opptaksprøve i musikkteori og gehør. Norwegian Academy of Music. https://nmh.no/opptak/opptaksprove-musikkteori-gehor*

NMH – Norges musikkhøgskole (2023b, October 13). *Test in music theory and aural skills.* Norwegian Academy of Music. *https://nmh.no/en/apply/test-music-theory-and-aural-skills*

Novari IKS (2024, March 31). *Musikk, dans og drama. https://www.vilbli.no/nb/no/om/v.md/musikk-dans-og-drama/*

Rameau, J.-Ph. (1971 [1722]). *Treatise on harmony.* Translated with an introduction by Ph. Gosset. Dover. French original, *Traité de l'harmonie, reduite à ses principes naturels.* J. B. C. Ballard. Original work published in 1722 and available at *https://archive.org/details/traitdelharmon-00rame*

Reitan, I. E. (2010). *Akkordrekker på gehør* [Chord progressions by ear]. Unipub.

Richter, E. F. (1860 [1853]). *Lehrbuch der Harmonie: praktische Anleitung zu den Studien in derselben* (3. Auflage). Breitkopf und Härtel. *https://s9.imslp.org/files/imglnks/usimg/2/29/IMSLP241667-SIBLEY1802.15875.8f99-39087009938046text.pdf*

Riemann, H. (1896). Harmony simplified, or the theory of tonal functions of chords (3rd impression). Augener. *https://archive.org/details/cu31924022305357*

Senter for talentutvikling. (2024). *Om oss* [About us]. *https://senterfortalentutvikling.no/om-oss/*

Schenker, H. (1906). *Harmonielehre.* J. G. Cotta. *https://s9.imslp.org/files/imglnks/usimg/2/2d/IMSLP91068-PMLP186988-Schenker_-_Harmonielehre.pdf*

Schönberg, A. (1922 [1911]). *Harmonielehre* (3. Auflage). Universal-Edition. *http://conquest.imslp.info/files/imglnks/usimg/3/37/IMSLP90983-PMLP186880-Schoenberg_-_Harmonielehre_(3rd_ed.).pdf*

StudentTorget AS (2024, March 31). *Musikk, dans og drama* (vgs-1): Studier, skoler og studiemuligheter. Studieutvalg.no. *https://studievalg.no/studier/vgs-1/musikk-dans-og-drama*

Tagg, P. (2014). *Everyday tonality II: Towards a tonal theory of what most people hear.* MMMSP.

Tischler, H. (1958). *Re: Chromatic mediants: A facet of musical romanticism.* Journal of Music Theory, 2(1), pp. 94–97. *http://www.jstor.com/stable/842933*

Tollefsen, M. M., Gorbe-Ferrer, L. & Lilja, E. (2023). *Entrance exams in higher music education in Norway: Research, analysis, and guidelines for revised and improved tests.* Poster presentation in Ways forward for higher music education, CEMPE conference, 2–3 November 2023,

Norwegian Academy of Music. *https://site.uit.no/opptakseksamen/wp-content/uploads/sites/516/2024/05/Poster-Tollefsen-Gorbe-Ferrer-Lilja_2023_CEMPE-Poster_rev2024-4.pdf*

Tollefsen, M. M., Lilja, E. & Gorbe-Ferrer, L. (forthcoming). *Opptaksprøvene i teori og gehør til høyere musikkutdanning.* In H. S. Blix, B. Haugseth & K. Junttila (Eds.), MusPed:Research: Vurderingsformer og tilbakemelding i kunstfaglig utdanning. Cappelen Damm Akademisk.

Tveit, S. (1990 [1984]). *Harmonilære fra en ny innfallsvinkel* [Study of harmony from a new perspective]. Aschehoug/Tanum-Norli. *https://www.nb.no/items/URN:NBN:no-nb_digibok_2010101309033*

UHR – Universitets- og høgskolerådet [The University and College Council]. (2024a, March 19). Nasjonale fagorganer for UHR – Kunst, design og arkitektur [National professional bodies for UHR – Art, design and architecture]. *https://www.uhr.no/strategiske-enheter/fagstrategiske-enheter/uhr-kunst-design-og-arkitektur/nasjonale-fagorganer-for-uhr-kunst-design-og-arkitektur/*

UHR – Universitets- og høgskolerådet [The University and College Council]. (2024b, March 8). Om UHR [About UHR]. *https://www.uhr.no/om/omuhr/*

UiS – Universitetet i Stavanger. (2024, March 25). Ear Training Pedagogic Conference. 23–24 February 2023, University of Stavanger. *https://www.uis.no/en/research/ear-training-pedagogic-conference*

Utne-Reitan, B. (2022). *Harmony in conservatoire education: A study in the history of music theory in Norway.* Doctoral thesis, Norwegian Academy of Music. *https://nmh.brage.unit.no/nmh-xmlui/handle/11250/3031991*

Utne-Reitan, B. (2023). *Funksjonsteori – en musikkteoretisk tradisjon* [Function theory – a music theoretical tradition]. In Ø. Varkøy, E. M. Stabell & B. Utne-Reitan, Høyere musikkutdanning: Historiske perspektiver. Cappelen Damm Akademisk. *https://doi.org/10.23865/noasp.199*

Vicente García, M. (2012). *Harmonic analysis in practice: A critical review of the labels employed to describe harmony in common practice music.* Master's thesis. Royal Conservatory of The Hague. *https://www.academia.edu/2437938/Harmonic_analysis_in_practice_A_critical_review_of_the_labels_employed_to_describe_harmony_in_common_practice_music*

Vincent, C. (1900). *Harmony: Diatonic and chromatic.* Vincent Music Company. *https://archive.org/details/harmonydiatonicc00vincuoft/page/62/mode/2up*

Vogler, G. J. [Abbé] (1800). *Musik-Skole.* Niels Christensen. *https://s9.imslp.org/files/imglnks/usimg/9/92/IMSLP93463-PMLP192767-vogler_musiksk_b-m1.pdf*

Weber, G. (1842). *The theory of musical composition.* Translated from the third, enlarged and improved, German edition [1830–1832], with notes by J. F. Warner, edited, with additions drawn from the German original, by J. Bishop. Robert Cocks and Co. *https://s9.imslp.org/files/imglnks/usimg/0/06/IMSLP412589-PMLP668772-Weber.pdf*

Øien, A. (1975). *Harmonilære: Funksjonell harmonikk i homofon sats* [Study of harmony: Functional harmony in homophonic writing]. Norsk Musikforlag. *https://www.nb.no/items/URN:NBN:no-nb_digibok_2012083008002*

Øye, I. F. (2019). *Harmonisk lytting – digital lærebok* [Harmonic listening – a digital textbook]. NMH-publikasjoner. *https://student.nmh.no/livet-rundt-studiene/leringsressurser/harmonisk-lytting*

Appendix

Links to admission test information for Norwegian institutions using the joint theory test as of 7 September 2024

Barrat Due Institute of Music (Oslo)
https://www.barrattdue.no/hoyere-utdanning/soknad-og-opptak/bachelor-utovende-musikk-og-pabyggingsstudium-i-utoving/

NMH (Norwegian Academy of Music, Oslo)
All study programs: *https://nmh.no/opptak/sok-bachelor*

NTNU (Institute of Music at the Norwegian University of Science and Technology, Trondheim)
Classical: *https://www.ntnu.no/studier/bmusp/teoriprove*
Jazz: *https://www.ntnu.no/studier/bmusk/teoriprove*
Music technology: *https://www.ntnu.no/studier/bmust/opptak*

UiA (Faculty of Arts at the University of Agder, Kristiansand)
Performing music: *https://www.uia.no/studier/soknad-og-opptak/musikkstudier/*
Electronic music: *https://old.uia.no/om-uia/fakultet/fakultet-for-kunstfag/musikkopptak/opptaksproeve-elektronisk-musikk*

UiB (Grieg Academy at the University of Bergen, Bergen)
All study programs: *https://www.uib.no/grieg/25211/bachelor-i-ut%C3%B8vende-musikk-eller-komposisjon*

UiS (Faculty of Performing Arts at the University of Stavanger, Stavanger)
All study programs: *https://www.uis.no/nb/studier/utovende-musikk-bachelor#SliksokerdutilBachelor*

UiT (Music Conservatory at the Arctic University of Norway, Tromsø)
All study programs: *https://uit.no/utdanning/program/sub?sub_id=708332&p_document_id=280865*