The singer's imprint

Stability and variation in contemporary folk singers' interpretations of folk chorales

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Introduction

This article addresses questions about stability and variation in relation to different learning methods in folk singing studies within higher music education (HME).1 It compares learning by oral transmission from either an historical recording or learning directly from a performer in a live situation to learning from musical notation. It presents a case study where recordings of contemporary folk singers, who learnt new songs, are analysed with a particular focus on what is stable and what is varied over time in different learning contexts.

Ong (1982) states that in a primarily oral culture, skills are learned by mimicking and through participation:

They learn by apprenticeship – hunting with experienced hunters, for example – by discipleship, which is a kind of apprenticeship, by listening, by repeating what they hear, by mastering proverbs and ways of combining and recombining them, by assimilating other formulary materials, by participation in a kind of corporate retrospection – not by study in the strict sense. (Ong. 1982, p. 9)

Apprenticeship, such as in Ong's description, in combination with verbalised and reflective methods can be seen as the main methods at the performance programme in folk music at the Royal College of Music in Stockholm (RCM), which forms the context for the study described in this article. Thus, the RCM teacher stands with one methodological leg in oral culture and the other in a written culture. This combination is not entirely novel to learning situations in folk music. While printed scores, 'broadsides' (skillingtryck), have been influential in spreading songs for centuries, traditional folk singers' descriptions of variation, singing style and learning in their music give evidence of verbalisations similar to today's learning situations. Krokar, länkar and krus (twists, linking and flourishes) are some of the many words that Swedish folk singers have used to

¹ The terms folk singing, folk singer, and folk song in this article refer to traditional music in contemporary form and not to the broader meanings in the English language (as in Åkesson, 2006).

describe the ornaments and trills in their singing.² Further examples are given below in quotations from traditional folk singers Gustav Tillas and Skinnar Asta.

One should sing with a flexible voice, that is to say, softly, so that the voice follows in the trills. And then I have found out that there are many of those small tones, that they sing on the consonants, when they are voiced consonants. And I should hold out the last tone as a rule. (Gustav Tillas, born in 1897, on how to learn the singing style as he was taught)³

[...] but then it was so strange that the trills fell in different places time after time, so you had to get used to that, place those trills ourselves where we thought they would fit [...] they did so in the old times, they changed. (Skinnar Asta, born in 1896, on how to learn to sing)⁴

Since this case study originated within the walls of an HME institution, it relates to challenges of teaching traditional, folk, and world music in this context and how that might influence the music.

In The Western impact on world music: change, adaptation, and survival, Nettl (1985) states that the institutionalisation of oral traditions into Western-style conservatoires, originally designed for the training of West European classical musicians, is problematic since oral transmission methods can hardly prevail in these environments. Nettl suggests that this may lead to less use of oral transmission and greater use of notation, and that the holistic study of music will be dismissed in favour of studying music as separate subjects. He states that this will result in a limited range of musical expression, style and language. This fear of standardisation has also been addressed by teachers within folk music programmes in HME. Hill, who has studied the folk music education at Sibelius Academy in Finland writes in 'The influence of conservatory folk music programmes: the Sibelius Academy in comparative context'5:

there is a risk that young people partaking in this institutionalisation process are engaging in the emulation of an unhealthily small number of musicians' (Keegan-Phipps 2007, 102), implying that a certain amount of standardisation and homogenisation may be unavoidable in an institutional setting and Sven Ahlbäck, former head of the Folk Music Department in Stockholm, recalled: 'It was a great debate at the time that everybody might come out from this school to

^{2 &}quot;Krokar" means something which bends or wriggles, and the same word is used to describe, for example a crooked road. "Länkar" means to link things together as in a chain. "Krus" - an embellishment, or what you do when wrapping a gift, to make the ribbon go curly.' (Rosenberg, 2003).

^{3 &#}x27;En ska sjunga med böjlig röst, alltså mjukt så att rösten följde med i dom där krusidullerna. Å så har jag ju kommit underfund med att det är många av dom där små tonerna, som dom sjunger på konsonanten, när det är tonande konsonant. Å så skulle jag hålla ut på sista ton i regel.' Source: Swedish Song Archive, SVA BA, transcribed and translated by the author.

^{4 &#}x27;[...] men då va' det så konstigt att drillarna kom olika gång för gång, så man måste vänja sig vid det där, å själv placera de där drillarna där vi tyckte dom skulle vara [...] dom gjorde så förr att dom ändra.' Source: Swedish Song Archive, SVA BA 1500, transcribed and translated by the author.

⁵ The folk music programme at the Sibelius Academy in Finland started in 1984 and can be seen as a sister department to the one at RCM in Stockholm, where folk music programmes have been available since 1976. The two programmes share fundamental values, which is also pointed out by Hill.

be similar, that all people would come out from the education as exactly the same fiddler, all playing the same tunes as Ole [Hjorth, the department's first fiddle instructor], and all playing the same way in the same manner. So that was the fear of the folk music community.' (Interview, 24 May 2004, Stockholm) These fears of canonisation and standardisation demonstrate a valuation of individuality in repertoire, style, and technique that appears to be becoming more widespread in contemporary Northern European and Western European programmes. (Hill, 2009, p. 215)

However, there are counter-arguments to the description of oral transmission and individual expression as suppressed by HME structure and traditions. Hill also suggests that 'the valuation of the creativity and individuality of individual performers [that can be found within the programmes of folk music] contrasts with conventions of Western classical performance in which orchestral musicians are expected to obey the authority of the score' (2009, p. 216), and that the HME programmes provide a space for improvisation and individual development that mirrors the traditional setting. Furthermore, Ong points out that oral tradition in itself always includes change even if the transmission is oral and not verbalised: 'In oral tradition, there will be as many minor variants of a myth as there are repetitions of it, and the number of repetitions can be increased indefinitely.' (Ong, 1982, p. 41)

At RCM, the curriculum has been developed in close contact with the traditional folk music environment, both in terms of learning methods and views on artistic quality.

We also applied an approach derived from traditional folk music generally, regardless of the subject. It implied that we based our teaching on oral transmission as the fundamental way of teaching and learning, whether or not it was instrumental studies, singing, piano, theory, ensemble or teaching method. It also implied that we assumed the typical folk music approach to 'music' and 'musician', where the person who plays or sings is the re-and-co-creator of the music and there is usually neither an original recording nor a notated composition to start from – just different versions within a common stylistic expression. (Ahlbäck, 2009, p. 51)⁶

Thus, the programme has its roots in the living Swedish folk music context, and learning by ear and oral transmission is fundamental to teaching and learning in all courses. The question of how learning methods relate to originality has always been important. How can learning everything by ear and mimicking others be combined with the development of an individual personal artistic expression?

^{6 &#}x27;Vi utgick också från ett folkmusikaliskt förhållningssätt oavsett ämne. Det betydde att vi utgick ifrån gehörsinlärning som det fundamentala arbetssättet oavsett om det gäller instrumentalstudier, sång, piano, teori, ensemble eller metodik. Det betydde också att vi utgick ifrån det typiskt folkmusikaliska förhållningssättet till "verk" och "utövare", där den som spelar eller sjunger självklart är åter- och medskapare av musiken och det oftast varken finns originalinspelning eller noterad komposition att utgå ifrån – bara en massa versioner och ett stilistiskt uttryck.' Translated from Swedish to English by the present author.

In order to contribute to the knowledge and debate on these issues of development of individuality and learning of traditional music within HME, a study was conducted that focused on singers' interpretation of songs learned by different methods of transmission. The participants were students of folk singing at RCM, and the present author was the project leader. The study will be described after a brief review of previous research in the area of this article's central interest, that is, contemporary folk singing within the context of Sweden and HME with a particular focus on the voice and features such as stability, variation, and singing style.⁷

Previous research on variation and folk singing styles

The topic of variation and stability in folk music has been addressed by several research scholars in the Nordic countries since the 1950s. Moberg studied melody variation, melody types, variants, and origins in a lullaby (1950) and addressed questions of variation and stability in herding call phrases (1955; 1959). In a study of religious singing, in Song, syngemåte og stemmekarakter (1967), Ledang described parameters with relevance to variation and singing style, and Ling discussed questions of stability and variation in ballad singing in the article 'Balladmelodierna: improviserade eller komponerade?' (Ling, 1987). The present author conducted a study of one folk singer's singing style and variation (Rosenberg, 1986) and described a number of characteristic features: 1) articulation types; 2) intonation practice including microtonality; 3) promoting non-equalised vowels and consonants, for example by prolonging the nasal consonant while singing; 4) different types of ornamentation; 5) using rhythmic and melodic variation on micro and macro levels from 'the song' as a cognitive frame for variation. Jersild and Ramsten (1988) studied three traditional singers and concluded that each singer could be identified with an individual pitch range and tempo. Studies have focused on singing styles in different environments (Giertsen, 1985a, 1985b; Stubseid, 1998), on variation and stability in older traditional singing (Halskov Hansen, L., Ressem, A.N. and Åkesson, I. eds., 2009; Nielsen, 1982) and on specific singing styles (Rosenberg, 1993; Rosenberg, 1997; Rosenberg, 2009a; Rosenberg, 2009b; Rosenberg, 2018; Rosenberg, in press). Åkesson and Jersild (2000) described individual variants in older traditional choral singing, and Åkesson studied contemporary Swedish traditional/folk singing in her dissertation (2007). Wikström (2003) discussed aspects of tradition and revival in a Norwegian con-

^{7 &#}x27;A singing style can [in this study] be described as a collection of aesthetic and technical significations that do not in isolation constitute the singing style, but in combination. [...] The singers use their own voices and expression and apply the features of the singing style to differing extents, but at the same time they share and manifest aesthetic ideals. The combination does not mean that every singer uses all these features at the same time, but that they coincide in a holistic way that is used within a genre or a style.' (Rosenberg, in press)

text. Gabrielsson and Johnson (1985) conducted a comparative study of traditional folk singers' oral performances of folk chorales and professional singers within Western classical music learning the same chorales from transcription. Variation and improvisation in contemporary Swedish folk music has been further studied by Misgeld (2012; 2014), by Ahlbäck in a general sense (2000) and in relation to educational issues (2003; 2004). Within artistic research, variation and improvisation is a frequent topic and has been explored mainly in the context of contemporary performance and from individual singers' perspectives (Liedes, 2005; Kurki–Suoni, 2009; Rosenberg, 2013). In these studies, concepts such as flow, 'being in the present' and 'the artist as creator' are examined.

Research questions

The central topic of the present study was to explore how individual performers within Swedish folk singing change their interpretation of traditional folk chorales over time, in relation to the transmission methods.⁸ The following research questions were applied in the study:

- How do different methods of transmission influence individual interpretations? Does learning directly from a person in a live situation differ from learning from a recording or from music notation?
- What features, in terms of melody, rhythm, phrasing, ornamentation, intonation and other aspects of singing-style, are stable and varied over time, respectively?

The study

This study of contemporary folk singers' interpretation was longitudinal and took place from 2001 until 2019. Initial data were collected in 2001, complemented in 2002, and the study was completed in 2019. Although spanning over eighteen years, the timespan itself is not in focus in this study. The study was conducted by the author at the Folk Music Department at RCM.

The context

The first folk music programme at RCM was initiated in the 1970s by fiddler and violinist Ole Hjorth and was further developed by musicians, singers, and music pedagogues with

⁸ Folkliga koraler is the Swedish term for orally transmitted and melodically varied religious hymns, with melodies that differ from the canonical church hymn melodies. The word koral in this sense designates the melody and not the lyrics, that is, the hymn text. The term 'folk hymn' is sometimes used as a translation of the concept, but since it also refers to a type of American spiritual with a religious text sung to a secular folk tune, it does not concur with the concept folkliga koraler as used in the current study. Since this article focuses on the melody rather than on the hymn text, folkliga koraler will be translated as 'traditional folk chorales', 'folk chorales' and simply 'chorales', reflecting the focus on the melody and melody interpretation.

a background in contemporary Swedish folk music. Today, the three-year bachelor programme centres around studies on the main instrument with supporting subjects such as ensemble playing, music theory, arranging, dancing, singing, music history, performance practice, and freelance knowledge, all with the prefix folk music. Since the mid 1990s it has been possible to apply to the performance programme with any instrument as a main instrument. As mentioned earlier, from a didactic perspective the curriculum is built on oral transmission. However, a simultaneous process of verbalising the tacit knowledge intrinsic to folk/traditional music has been going on since the start (Ahlbäck, et al., 2009). A specific challenge throughout the development of the curriculum has been to use both the traditionally dominant method of oral transmission and to transform tacit knowledge into verbalised knowledge, in order to communicate and develop stylistic qualities within and outside the genre.

The participants

The eight participants in the study were all students at the Folk Music Department at RCM in 2001, with folk singing as their main instrument. All of them are presently folk singers with active careers. In the follow-up in 2019, seven of the original participants contributed new material. In the study, the participants are called subjects F1–8. The project leader also participated in the study as a source of learning in a live situation.

The task

The experiment was set up as a chain of actions over time. The first part (in 2001) consisted of several steps, described in an individual letter to each singer including individual instructions on how to proceed:

Choral and transmission project

- 1. Learn the following chorale [specific chorale name].
- 2. Record your own singing on a Minidisc.
- 3. Teach the chorale in person/'live' to this specific fellow student [specific person's name].
- 4. Learn at the same time your fellow student's chorale.
- 5. Record on a separate occasion <u>your</u> chorale and your version of the fellow student's chorale in whatever order you like.

The task is about learning a couple of beautiful chorales but also it aims to study what happens when a song is orally transmitted. Therefore, it is important that you do not reveal to anyone where you got your melody from!

After you are done with your task you will give your Minidisc recording to me.

In the second part of 2002, the participants were asked to once again, without any special recollection, record the songs that they recorded the year before, also this time on Minidisc. Not all the participants responded to this, but six recordings were collected.

In 2019, a third part was initiatied: a question was sent out to the participants asking them to contribute yet another recording of the original chorales, this time from memory. This request was sent out to seven of the participants, and all of them responded within one day and sent the requested recordings. With the request, lyrics were attached specifically for the indicated chorales. When a recording was received, two follow-up questions were asked: 'When you sang [the chorale], did you choose the reference tone, or did you just sing it without checking / thinking / deciding? Have you sung the chorale a lot / a little?' To the best of the author's knowledge, the recorded versions were all made spontaneously and without preparation.

The repertoire used in the experiment

The repertoire that was chosen for this study consisted of traditional religious songs, 'folk chorales' (folkliga koraler). The reason for choosing these complex, mainly phrasebased chorales was to give an extended space for individual variation. Six folk chorales were chosen, some of them in two versions. In the first part of the study, each participant was exposed to three of these folk chorales, resulting in twenty-four recorded tracks. Since some chorales were recorded on two other occasions, a total of forty-four individual recorded tracks of folk chorales are included in the study.

Since the study includes a large amount of material, only a sample can be presented in this article. Three chorales, six different singers, and twelve separate recordings have been chosen in order to illustrate the different learning methods, and to address guestions about variation and stability.

Different learning methods

The first part of the study in 2001 included three different learning methods: 1) learning from historical recordings with traditional folk singers; 2) learning from the transcription of a song; and 3) learning directly from a folk singer in a live situation. Once the experiment was set in motion the third method was the most frequent way of learning.

Each participant delivered individual recordings that were transferred from Minidisc into separate sound-files for analysis. In figure 1, the learning methods and their timelines are illustrated. The colour blue indicates the source (a recording, a transcription, or a living person). The ear symbol indicates that learning has been orally transmitted, and the eye symbol indicates the use of a transcription for learning. Green heads indicate the first person in the chain and yellow heads the second person. The pink microphone

⁹ The live situation in this first part of the study was a chorale taught by the project leader to the participants individually.

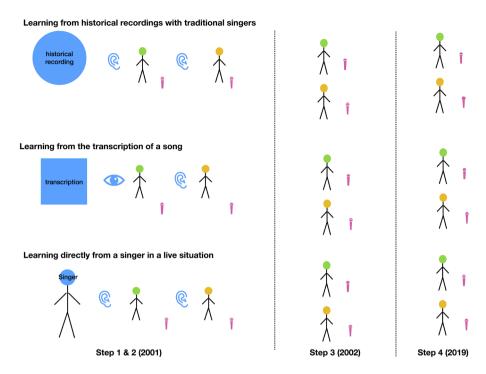


Figure 1: Three different learning methods and their timelines.

indicates a recording being made. To give an example, the first row in the figure shows that the yellow person has learned in real life from the green person, and that the green person has learned from an historical recording with a traditional folk singer. The right side of the panel shows the same person's (green or yellow) new recordings of the folk chorale that they learned in 2001.

Methods of analysis

The analysis of the material was performed on the recorded audio, with the aid of audio analysis software: a Digital Audio Workstation (Apple Logic), a notation and music analysis software (ScoreCloud), and an audio analysis and editing software (Melodyne). Traditional manual transcriptions were consciously rejected as the main tool for the analysis. This decision was based on experience from earlier studies of variation where Western notation had proved an insufficient tool for illustrating important aspects of singing style such as absolute timing, variation in ornamentation, glissandi, dynamical variation, different articulations, micro rhythm and 'voice timbre quality'. Traditional

¹⁰ In this article 'voice timbre quality' describes the specific 'sound quality' of a unique voice; a combination of both acoustical features and aesthetic choices of the individual singer. Also language and dialectal sounds have effect on the 'voice timbre quality'.

Western notation is a prescriptive, symbolic, and categorical representation that does not offer standardised ways of analysing the above-mentioned features.

The possibility of stacking recordings on top of each other and displaying a waveform, given in in the Digital Audio Workstation interface, facilitated listening to and comparing individual sound-files. By placing different sound files 'on top' of each other they can be listened to simultaneously. This may provide information about variation in melody, timing, tempo, phrase length, articulation, intonation, ornamentation, voice characteristics, and other singing style features. When stacking sound files from different singers, individual interpretations can be identified. When stacking sound files of the same singer, variation and stability over time can be identified. When pinpointing specific features regarding intonation, rhythmical and/or melodic variation, the software ScoreCloud proved useful. Melodyne was used to provide frequency curves of the singers' individual interpretations.

Case 1: Learning from historical recordings with traditional folk singers

In the study, six of the singers were presented with recordings to learn from, and in the following step all of them taught their chorale live to six other singers. The chorale 'På dig jag hoppas Herre kär' was learned by the singer F8¹¹ from a recording of the traditional singer Gustav Jönsson (Jönsson, 1969). F8 in turn taught the song to singer F4. F8 kept the same tonic as Jönsson and, when listening to the two recordings on top of each other, it is striking how F8 has mimicked not only the melodic features but also the singing style, such as the articulation and voice timbre qualities of Jönsson as well as the smooth balance of timing in his phrasing, which seems to be a typical feature of Jönsson's singing. It concerns the relative timing of events in relation to each other within the phrase, 'relative intra-phrase timing' ('phrase timing'). The way that Jönsson joins the phrases by gluing the syllables together so that new sounds appear at some points, creates a certain smoothness. It is remarkable how close the interpretation by F8 comes to Jönsson's version (see figure 2). The small differences that can be found regard microrhythmical alterations within the phrases and pauses between phrases, and also some articulation features. However, the lengths of verses end up being the same as Jönsson's.

The singer F4's singing is similar to F8's, from whom the chorale was learned, even though the singer uses a tonic a fourth apart. When the two recordings are stacked on top of each other, the impression is that the singers sing the chorale together, at the same time, even though the two recordings are separate. The first two phrases are nearly

¹¹ F8 was the only male singer in the study.

identical. In the following phrases small micro-rhythmical variations and variations in pauses appear, although the phrases themselves have the same total length. From F4's interpretation, it is clear that the singer F4 learned the chorale from F8, since F4 copies articulation features not present in the historical recording but in the interpretation of F8. The same can be said for timing, phrasing, singing style features, 'voice timbre quality' and balance, and smoothness of the phrases. As can be seen in the first, second, and the third panel of figure 2 below, F8 follows Gustaf Jönsson, and F4 – in 2001 – follows the interpretation of F8 closely.

Figure 2 shows the waveforms (from Logic) of the first verse of the chorale 'På dig jag hoppas Herre kär' as performed by Gustaf Jönsson and the two singers F8 and F4 from two different occasions in 2001 and 2002. In 2002, F8 sings the chorale more slowly,¹² as can be seen in panel four. However, the first two phrases are still almost identical both in melody and timing as compared to the earlier version; the pronunciation of words, rhythmical interpretation, and smoothness in phrasing found in Jönsson's singing remain. The variation appears in the succeeding phrases, especially when it comes to variation in rhythm and dynamics: the singer F8 'rests' longer on some syllables in the phrases and places the emphasis somewhat differently, but uses the same stylistic features that can be found in Jönsson's singing, thus making more of everything. F8 includes varied microtonal intonation of the third scale degree that was not present in his recording from 2001, although it can be found in Gustav Jönsson's singing. In addition, F8's 2002 interpretation is more elaborate and varied than the one from 2001, for example concerning articulation and the emphasis of syllables with deep onsets, but the 'phrase timing' is kept the same.

As illustrated in figure 2, F4 sings the chorale much faster in 2002 than in 2001.¹⁴ The pauses between each phrase are shorter even if the internal general balance, the 'phrase timing' and the melody stay the same. This can be seen in the fifth panel of figure 2. The variation comes from F4 including more and varied ornaments in the singing in 2002.

When the singers were asked if they had been singing the chorale during the year after the first recording, they both stated that this was not the case. F4 even claimed that making a new recording of the song would be 'pointless', since it 'would sound exactly the same as last year'. This statement can be said to be both true and not true. When

¹² F8 sings the chorale in 101 seconds in 2019, as compared to 92 seconds in the first recording.

^{13 &#}x27;Deep onsets' can be described as an articulation made by sliding up from a low, not clearly defined pitch. When analysed in detail, it can often be identified as starting or ending at a frequency that is part of the mode. The terms 'deep onset' or 'deep offset' should not be confused with regular grace notes, slides or accacciaturas with an identified pitch. 'Deep onset' and 'deep offset' are translations of the Swedish terms upphämtningar and nedhämtningar, literally 'up-bringings' and 'down-bringings' (Rosenberg, 1986).

¹⁴ The singer sings the chorale in sixty seconds instead of eighty-seven seconds in 2001.

¹⁵ Personal conversation between singer F4 and the author, documented in the reflective diary of the project.

Figure 2: Waveform representation of different recordings of first verse of 'På dig jag hoppas Herre kär'. dig jag hop-pas Her-re kär jag be- der dig nå-å

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listening to both singers' second recordings from 2002, the interpretations hold both stable and varied features. Gustav Jönsson's interpretation is clearly present in their latter versions, with stable features such as voice timbre qualities, pronunciation, and the smooth 'phrase timing' of Jönsson. Variation can be found in both singers when it comes to absolute phrase-length, varied articulation, micro-timing, microtonal intonation, and variation in ornamentation.

In all twelve recordings from this part of the study, the same pattern as described above can be found. At first the mimicking is almost impossible to separate from the source, but over time things change and are varied, while elements such as 'phrase timing', 'voice timbre quality', pronunciation, 'rhythmising patterns' and articulation remain stable, as reminders of the source. The holistic oral transmission used in this learning method starts from a closely mimicked version and results in individual versions, however with the integration of stable features.

Case 2: Learning from the transcription of a song

The study also aimed at investigating what will stay stable and what will become varied in singers' interpretations when learning from a transcription. For this purpose, the chorale 'Min Gud och fader käre' was transcribed phrase-wise by the project leader, showing different tone-lengths that stretch from long notes to triplets and quick ornaments, in an attempt to show the flexibility of Anders Hoas' interpretation of the chorale. However, it is hard to convey typical stylistic features, e.g. the use of language as a resource for variation, dialectal pronunciation and the effective back-beat singing style that can be heard in the traditional recording of Hoas. Therefore, this is not found in the transcription.¹⁷

Figure 3 shows the first phrase of 'Min Gud och fader käre'. The top panel (I) shows the transcription, and the second panel (II) shows the note events with fundamental frequency (F0) curve in piano roll (Melodyne). In the third panel (III), the note events and F0 curve of singer F5's interpretation from 2001 is shown.

Singer F5 learned the chorale from the transcription, and in the recording the singer sings in a plain and simple manner. The rhythms are evenly distributed, and the length of all syllables and notes are clearly separated from each other. As can be seen in the fre-

^{16 &#}x27;Rhythmising pattern' can be described as the joint timing and articulation principle defined by the interaction between rhythmic micro-timing, articulation and syllable interpretation (compare, for example, the practices of 'metrical foot', 'swing timing' and *inegale*).

¹⁷ The chorale was learned by six singers in different ways. The sequence was as follows: from transcription F2 to F7 and F5 to F6, from historical recording F3 to F1.

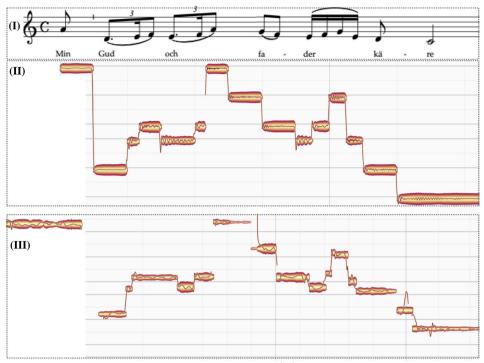


Figure 3: Transcription and note events with fundamental frequency (FO) of the first phrase of 'Min Gud och fader käre'.

quency line of figure 3 above, the singing closely resembles the midi representation, with clear breaks between the melody pitches and few specific articulations.

This interpretation can be characterised as somewhat anonymous, as a result of learning the song without specific features, such as specific singing style, contrasting articulations, rhythmical variation, ornamentation, dynamic alterations, or intonation variation. Singing style features such as using language as a resource for sound contrast and rhythmical contrast cannot be found. It can be argued that the transcription cannot give much information about singing style, due to the limited possibilities of transcribing such details. The singing style parameters that are not present in the transcription – articulation types, microtonality, non-equalised vowels and consonants, etcetera – are also not present in the singing. The singer performs only what the notation conveys regarding pitches, rhythms, and words. The only feature that stands out in the interpretation in relation to the transcription is an addition of some ornaments. However, the overall impression is that this is an interpretation not yet ready for performance.

In the first part of the study, four singers learned chorales from transcriptions, and the same observation as the one mentioned above was made after the first step: the melodic line lacks articulation, micro-timing, phrase structure, and variation when it comes to rhythmic, intonation, and singing style characteristics. The overall feeling is that of a

song not ready to use. Over time, however, variation appears, although the characteristic features of the source – Anders Hoas – are not prominent in those later versions.

In comparison, figure 4 describes F3's version of the same chorale, 'Min Gud och fader käre', from an historical recording with Anders Hoas. It shows the separate and overlapping note events and the F0 curve of Hoas (I) and singer F3 (II). In the recording from 2001, F3 sings the chorale plastically and swiftly in exactly the same amount of time that it took Hoas to sing it (fifty seconds). As shown in figure 4, the phrasing is similar in both versions. Hoas' features, such as articulation, deep onset/offset, glissandi, pre-beat, ornamental detours and micro-timing are mimicked by F3. When listening to the two sound files superimposed, the impression is that F3 mimics everything heard in Hoas' singing. This concerns not only the plasticity with which the singer sings the phrases – the 'phrase timing' – but also articulation and tempo, dynamics, ornaments, 'voice timbre quality' and the dialectal sounds in his singing. For instance, the syllable $k\ddot{a}$ is pronounced with a very long \ddot{a} , and dig is pronounced deg. Hoas adds vowels, often a or e, between words or at the end of a phrase, for example like this:

Min Gud och fader käre: 'Min(e) Gu-u-ud å-å-å fa-a-de-e-er(-e) kä-re,' // Och ödmjukt tack dig bäre: 'Och öd(e)mjukt(e) ta-a-ack deg(e) bä-ä-re.' // Och frälsat: 'o-ch frä-ä-äl-sat(e)'

Hoas' way of singing holds a smooth and plastic way of phrasing, since these extra vowels add melodic tones 'in-between', that could be described as ornamental 'transportation notes' (Rosenberg, in press). He also stresses the off-beat ending syllable by grave accent at phrase endings, which gives a back-beat feeling to the phrase-endings. All this is closely mimicked by the singer F3 in the recording from 2001. This is an example of a 'rhythmising pattern' which occurs by an interaction between micro-timing, articulation, and syllable interpretation.

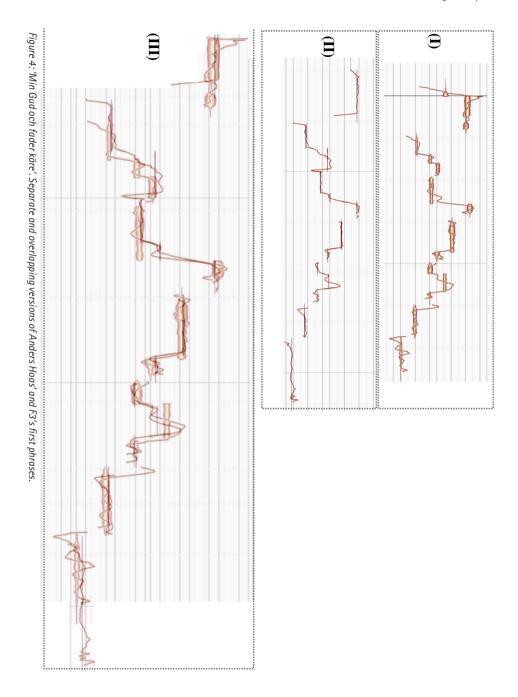
The main difference between the two learning methods is that in oral transmission, the mimicking process encompasses pitch, rhythm, and words as well as all singing style features, whereas notation primarily transfers information about pitch, rhythm, and words.

Case 3: Learning directly from a singer in a live situation

The chorale 'Kom låtom oss på jorden' (Andersson, 1974) was transmitted to all the singers in the project by different learning methods, however primarily taught individually in a live situation by the project leader, hence, the source.¹⁹ Unlike the other chorales used

¹⁸ They sing with different tonics: Hoas sings with the tonic E, while F3 uses the tonic A in the first recording.

¹⁹ The project leader had this chorale in her repertoire and had learned it at an earlier stage from a recording of Selma Andersson's singing. Three participants (F1, F4, and F6) learned the song directly and individually from the project leader. One singer (F2) learned the song from the recording of Andersson.



in the study, there is an underlying pulse inherent in the melody and lyrics, but performed with a flexible tempo and phrase-based interpretation. As an example, the singers F1, F4, and F6, who all learned the chorale in a live situation from the project leader, will be described.²⁰ When the recordings of these three singers from 2001 were superimposed, it sounded as if they were all singing the chorale together at the same time, even though they had learned the song separately in live situations. In 2019, the participants were asked to send in a new version of the chorale.²¹ The new recordings show that many musical characteristics from 2001 are still present in the singers' performances, but they also display differences.

In 2019, F4 sings the chorale much faster, with more ornaments and more varied ornamentation than in 2001. The phrasing and interpretation are more vivid, and it is no longer possible to find an underlying pulse; the chorale is sung in a clear phrase-based non-metrical interpretation. Many of the features that were present in 2001, such as deep onsets that emphasise the metre and the pulse, are not present at all in the 2019 recording, or are sung with a shorter articulation onset as grace-notes. The singer's timing within the phrases promotes a phrase-based interpretation with shorter notes sung shorter, and longer notes prolonged and using contrasting durations as a feature. When asked about the approach to singing this chorale again in 2019, F4 answered: 'I just sang it without checking any pitch or anything', and when asked how much the chorale had been sung since 2001, the answer was 'very little, or – much when it was current in 2001, but after that not at all. At least fifteen years since I sang it, I think'.²²

F1 sings the chorale with a steady underlying pulse, with some phrase-based interpretation but with a more distinct pulse than in the earlier recording. The chorale is sung faster in 2019 than in 2001. The articulation onsets are similar, but some articulations are more like pre-beats – clearly marking the timing in the song – instead of the characteristic deep onsets that can be found in the source interpretation and in the recording from 2001. The singer emphasises the metre with the rhythmical interpretation, and, consequently, in comparison with the earlier recording the rhythmical structure has become more pulse-based than before. The tonic is exactly the same as in the 2001

²⁰ In 2001 they sang the chorale with Db as a tonic, the same as the project leader at that time. In 2019, they have changed it only slightly, or not at all. F4 has the tonic Db in 2001 and the tonic D in 2019. F1 keeps the same tonic (Db). F6 changes the tonic from Eb in 2001 to D in 2019. There is no documentation of whether the choice of tonic was deliberate.

²¹ In all, seventeen individual recordings were collected of this specific chorale from 2001 and 2019.

^{22 &#}x27;Mycket lite skulle jag säga, eller – mycket när den var på tapeten 2001 men sen inte. Minst 15 år sen jag sjöng den senast tror jag'. Messenger conversation with the singer F4 in 2019. Translated from Swedish to English by the author.

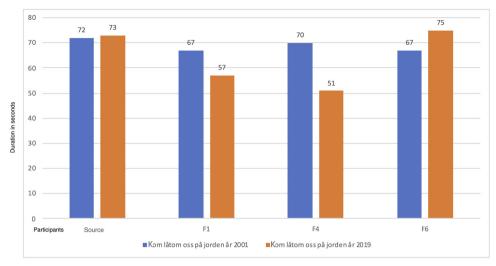


Figure 5: Duration in seconds of the first verse of 'Kom låtom oss på jorden' in 2001 and 2019.

recording. The singer 'Just sang without thinking' and had not been singing the chorale since 2005.23

In 2019, F6 has prolonged the version of the chorale, and says about the tonic, which has not changed: 'I just sang without choosing. [...] Not been singing it at all as far as I can recall'.²⁴ F6 has simplified the melodic line by variation of the melody and instead adds various ornaments such as trills, turns, ornamental detours, and shakes. The singer sings with a more phrase-based non-metrical interpretation, that is, an interpretation far from the first version in 2001. The articulations in the form of deep onsets can still be heard in the interpretation.

Figure 5 shows the duration in seconds in the first verse of 'Kom låtom oss på jorden' in the recordings from 2001 and 2019.

The differences between singers in duration in the first recording from 2001 depend mostly on the use of shorter pauses between phrases, as compared to the source. However, within the phrases, timing, articulation and rhythmical interpretation closely follow the mimicked source. In the 2019 versions, the lengths of the first verse are different, and while F1 and F4 now sing the verse more quickly, F6 has gone in the other direction and uses more time on the individual phrases.

However, there are also stable features mimicked from the source to be found in the recordings from 2019. The stability concerns features such as a certain timing balance

^{23 &#}x27;Sjöng utan att tänka.' Email conversation with the singer F1 in 2019. Translated from Swedish to English by the author.

^{24 &#}x27;Jag sjöng bara utan att välja [...] Inte sjungit den alls vad jag minns' Messenger conversation with the singer F6 in 2019. Translated from Swedish to English by the author.

in the phrases, 'phrase timing', and certain voice timbre qualities. Also, some aspects of rhythmical interpretation are stable, such as a specific ending of phrase five: 'Där är vårt rätta hem, nya Jerusalem.' This particular phrase is sung by the source with a slightly odd accentuation on the vowel α in the word $Ny\underline{a}$ and therefore stands out in the interpretation of the song in 2001. This oddly emphasised vowel is performed with identical rhythm in all singers' 2019 interpretations and is an example of the influence of a characteristic 'rhythmising pattern'.

In order to study how these three singers interpreted 'phrase timing' in relation to metrical structure, and how that is varied, a statistical analysis of the number of milliseconds spent on each syllable was conducted and compared to pulse-level regardless of the absolute tempo. The milliseconds were then transferred into percentage of the mean beat duration. The comparison was made both between the singers and between the respective recordings made by each singer. This is exemplified in figure 6 below giving the source, F1, F4 and F6 versions from both 2001 and 2019.

In Figure 6, the mean pulse duration is indicated by the number 1.00 on the vertical axis, where a higher value indicates a longer beat duration, and a lower value indicates a shorter one. The horizontal axis indicates the number of beats in the phrase. The phrases have been adjusted so that the first beat concurs between the versions and so that the beat-level coincides. As can be read from the figure, there seem to be endless possibilities of variation of beat duration, sometimes up to double or down to half the mean beat duration. The only phrase that shows a more homogenous interpretation is phrase four, where the beats are evenly distributed by all singers in all versions. This also goes for the ending of phrase five, where the oddly emphasised syllable mentioned above is performed in a similar manner by all singers.

The recordings of the singers' interpretations show more tempo variation in the 2019 recordings than in the 2001 recordings. A general pair-wise tempo fluctuation can be observed, that is, a prolonged beat is followed by a shortened beat and vice versa. It also appears that there are larger fluctuations in tempo at the beginning and the end of phrases, as compared to the middle of phrases, such as in phrases 1–3 and 6–7. This is interesting since the overall interpretation of the two first phrases of the chorale in all other respects are extremely similar. In the two final phrases, 6 and 7, rhythmical differences are noticeable both between singers and in each singer's separate version, with evident fluctuation of beat durations. Phrase 6 differs between all singers and, as well, between the 2001 and 2019 versions.

This shows that even in this primarily pulse-based song the concepts of 'rhythmising patterns' and 'phrase timing' are relevant, even though general tempo differs between the different singers' versions of the chorale.

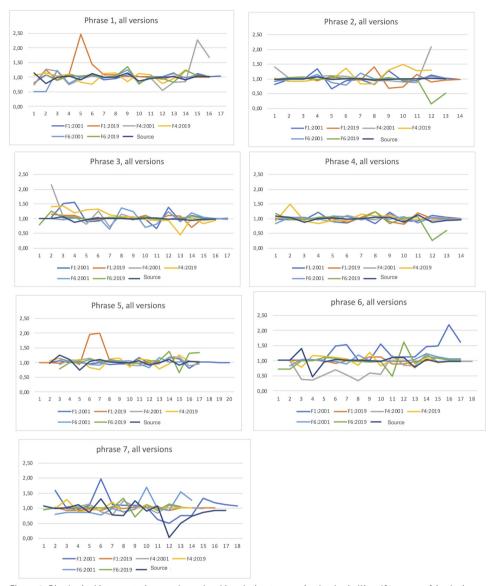


Figure 6: Rhythmical interpretation on phrase level in relation to perceived pulse in 'Kom låtom oss på jorden'.

Discussion: The singer's imprint

The aim of this study was to investigate if and how methods for teaching and transmission of Swedish contemporary folk singing within the context of HME influence variation and stability of singers' interpretation and their development of individual versions of musical material. The study also addressed differences between learning through oral transmission from recordings or live situations as related to learning from transcriptions. The methods of analysis were chosen with a holistic view on the act of singing as integrating all aspects of the singing style. These aspects would have been hard to identify if the singing had been transcribed into traditional music notation. Stacking the sound-files in DAW interface (Logic) made it possible to listen to different versions simultaneously and to identify features such as 'phrase timing'. Displaying an F0 curve for note events in a piano-roll display (by Melodyne) provided graphical illustration of the melody including articulation and intonation variations in relation to note events. Using ScoreCloud for representation of local fluctuations of tempo provided insight into the micro-timing variation that can be found both within a singer's version and over a time span. For future studies it would be of interest to apply these tools as methods of analysis also on traditional historical recordings where several singers' versions of songs exist.

Judging from this study, certain features appear to be stable during oral transmission processes, also over time. One such feature is that the phrases often keep a similar relative 'phrase timing' even if absolute rhythmic interpretation, tempo, and articulation features are varied. This feature, 'phrase timing', is hard to learn from a transcription since it is difficult to convey in traditional Western notation. Another example is that the 'voice timbre quality' and language-specific sounds are stable during oral transmission, both when it comes to specific dialectal words or pronunciation of syllables and regarding 'rhythmising patterns' that emerge in the interaction between micro-timing, articulation, and syllable rhythm.²⁵ These are features that are almost impossible to convey through a transcription in staff notation. Also, the specific rhythmical interpretation and inclusion of syllables or vowels 'in between words' into the melodic line, that might be called 'transportation notes', seem to hold a stability over time in this material. In conclusion, during the process of oral transmission, both features that remain stable and features that are varied bear witness to a specific singer's interpretation – *the singer's imprint*.

With regard to melodic line, in this study the two first phrases in a melody were significantly stable over time and melodic variation was more commonly found later on in a song. ²⁶ This stability was observed in nearly all the different singers' versions regardless of transmission method.

In the oral learning process, the singers initially mimicked the source – the singer – to the extent that their first recorded versions were very close to the source, in some cases almost identical. In subsequent recordings, the singers presented versions that both kept

²⁵ In Wikström's study (2003, p. 115), the participants observed aspects of stability of singing style regarding phrasing, articulation, tempo, and ornamentation, in parallel to what has been found in this study.

²⁶ This specific feature, that melodic variation seems to appear after the first two phrases, can be found also in other singers' interpretations (Rosenberg, 1986).

the stable features mentioned above and varied other features such as melody, articulation, rhythm, timing, ornamentation, and intonation.²⁷

The singers often changed the duration of the chorales, and it can be argued that they adapted the songs over time to fit their own 'tempo', although they mostly kept the relative 'phrase timing' within phrases. Variation also appeared concerning the choice of reference tone since the singers intuitively chose a tonic when asked to sing the chorales again, and changes were made as compared to the first occasion.²⁸

The singers' individual interpretations can be characterised as similar to previous descriptions of different kinds of articulation used in Swedish folk singing style: deep onsets, pre-beats, grace-notes, and ornamentation such as glissandi, mordents, turns, shakes, melismas, ornamental detours, melodic variation, and transportation notes. They also use microtonality, non-equalised language sound contrast such as singing on nasal consonants and promoting differences between vowels. These are all features that can be described as part of a common language for the folk singers in the study, even at an early point in their career.

When the study began, the singers were still students at RCM with limited experience of learning from transcriptions. Since oral transmission is the most widely used method for learning at RCM, they might not at this stage have had the technical and artistic skills needed to 'fill out the dots' when learning from a transcription. The study showed that the singers reproduced the features visible in the transcription, i.e. pitches, rhythms, and words, in a way that correlated closely to a midi-representation of the transcription. Thus, for them, learning from notation resulted in song versions that reproduced only what was represented in the notation. This issue has been addressed by Gabrielsson and Johnson (1986) in a study showing that classical singers who learned chorales solely from music notation mirrored the categorical pitch notation in their performance, in contrast to traditional singers who learned them through oral transmission, and whose performances were more varied.

The current study suggests that learning from transcriptions would be the less favourable method if the aim is to learn features of this specific singing style such as 'phrase timing', 'rhythmising patterns', and other aspects of singing style. A transcription does not tell the whole story. This study suggests that the key skills to be acquired in this

²⁷ It is notable that none of the singers have included the songs into their own repertoire.

²⁸ The study 'Grundpuls och lågt röstläge' (Ramsten och Jersild, 1988), with examples from three traditional singers' entire repertoire, pinpointed that the tempo and pitch-range were the same throughout their whole repertoire. This could be considered non-problematic since it has to do with an oral solo singing tradition where you can freely choose your own tonic. However, it raises questions, not included in this study, about the way contemporary folk singing is most often presented today, that is, in singing groups or mixed ensembles. Who in the ensemble is to decide the tempo, the tonic, and the singing style?

singing style, that is, the ability to use and vary the features mentioned above, are best learned through oral transmission which provides tacit knowledge in variation practice during the process of learning the songs. This applies, for example, to different types of articulation stretching from deep onset to pre-beats, to quick grace-notes and to the practice of variation of intonation. A transcription or recording provides only a single version of micro-tonal variation. In live interaction, intonation can be learned in ways that allow for variation. Other examples are melodic and melismatic variation, and variation of ornamentation. Learning through interaction in situations of oral transmission – where singers vary the melody and the placement of ornaments – provides the possibility to develop systematic knowledge about the variation of these features.

In conclusion, this study clearly shows that folk singing taught in an HME environment can result in a great variety of individual musical expressions within the stylistic context of folk song, contrary to Nettl's (1985) prediction. It also indicates that oral transmission can convey a number of features that are stable over time, as well as features that can be varied, and that are not possible to communicate through standard Western music notation. Mimicking a singer through oral transmission means learning certain stable features while leaving other features to endless variation. This gives way to the development of multiple individual versions of the song while the singer's imprint – that is, the source of inspiration – can still be identified through aspects such as 'phrase timing', 'voice timbre quality', pronunciation, and 'rhythmising patterns'.

Acknowledgements

This study would not have been possible without the generous artistic contribution made by the eight participating folk singers. I am grateful for the full-hearted and trusting submissions of sound files over such a long period of time. The singers, who were students of mine at the beginning of this study, and who are now singers with active artistic careers, have trusted me and contributed with their reflections during the first recording period, 2001–2002. In 2019, they promptly delivered new recordings within 24 hours, which was amazing. Last but not least, a humble thanks to the singers Gustav Jönsson, Selma Andersson, Anders Hoas, and others whose wonderful singing inspired us all.

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Abstract

This article addresses questions about stability and variation in folk singing in relation to different learning methods such as oral transmission from recordings, learning in live situations or from musical notation, and in folk singing studies within higher music education (HME). A case study is presented where methods for audio analysis were used in order to examine the development of interpretation in recordings of contemporary folk singers. The singers learned the songs either by oral transmission from a living person, from a recording, or from a transcription. The study shows that singers learning by oral transmission proceeded from an initial mimicking that reproduced the source closely, to the presentation of versions holding both stable features and extensive variation of other features. Stable features included relative 'phrase timing', 'voice timbre quality', pronunciation and 'rhythmising patterns'. Variation was found in features such as melody, micro-rhythm, micro-timing, intonation praxis, articulation, and ornamentation. The different learning methods are discussed in relation to teaching and learning in HME. By way of describing how musical material is both transferred as a certain singer's version and further developed by the learner, the term 'the singer's imprint' is introduced.

Keywords

Traditional folk singing; oral transmission; higher music education; singing style; singer's imprint; variation and stability.

The author

Susanne Rosenberg, folk singer, professor and Doctor of Music, has been a pioneer both in rediscovering the older Swedish style of folk singing and in using it in new artistic environments, involving cooperation with contemporary composers and directors, and with her own groups, with which she has toured Europe, Asia and the United States. Rosenberg has developed the folk singing environment in Sweden by innovative research in *kulning* (herding calls), folk song style, improvisation, etcetera. She is professor of folk singing at the Royal College of Music in Stockholm (RCM). In 2013 she finished her artistic doctoral studies, *Kurbits–ReBoot: Swedish traditional singing in new artistic context*. Rosenberg is presently leading an inter-disciplinary improvisation research project, *Folk Song Lab*, funded by The Swedish Research Council.