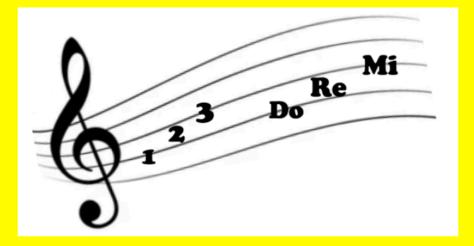
# Mónika Benedek

# From 123 to Do Re Mi

# Learning Relative Solfa from the Cipher-System

Volume 1



New Concepts in Norwegian Music Pedagogy



Making Sound Sense through Singing

# Mónika Benedek

# From 123 to Do Re Mi

Learning Relative Solfa from the Cipher-System

**New Concepts in Norwegian Music Pedagogy** 

Volume 1

# **Reviewed by David Vinden**

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Making Sound Sense through Singing

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# Preface

## Who is this book for?

Most musicians and music teachers have encountered some kind of music reading system during their studies. Relative solmization, absolute solmization, and the numerical i.e., cipher system, are perhaps the most common musical reading systems in Western music education (the list is not exhaustive). In Norway, the cipher system has been typically more prevalent than the other systems, but nowadays many music students simply learn the note-names which creates a direct link to the music. There is good reason for laymen to think that might be the simplest and most effective way to learn to read music. At the same time music educators know it's just not that simple.

It is no coincidence that music reading has been systematically taught over centuries using certain sign systems in relation to musical notes. The various systems have evolved and developed, for example, what was originally known by the collective name of *solmization* and which we associate with Guido d'Arezzo, transformed into several very different systems over a few hundred years: absolute solmization, relative solmization (in other words tonic sol-fa or moveable-do), or its subgroup the so called do-Major / la-minor system.

Not surprisingly, this wide range of systems makes it difficult to distinguish between them. Unfortunately, there is also much misunderstanding about the differences or even the identities of the systems. Music teachers or students who have already mastered one of the music reading systems, knowing its advantages or limitations, may also wish to learn about a different system. Yet most of them are uncertain about how workable or transparent these systems are? Is it worth switching, even if we know that the system, we use does not provide an adequate solution for reading music or understanding certain musical phenomena (e.g. modal scales or modulation)? Won't there be a confusion in knowledge for example for students who have already begun to learn and think in a certain system? There are many questions and dilemmas to be answered.

This book is primarily written for music teachers and future music teachers who are interested in learning relative solfa. I intended to provide help for those who are either grown up on the cipher system or have not studied any music reading system at all. Furthermore, I also recommend this book to anyone who already has some knowledge of basic music reading and wishes to develop it through relative solfa in conjunction with other musical skills such as the inner hearing.

This first volume of the planned three-volume-book deals with the basics. First, the reader is introduced to a brief history of the relative solfa and cipher system followed by the presentation of two approaches to understanding and experiencing relative solfa through diatonic and pentatonic musical material.

The first approach starts with the cipher system and presents the similarities and the differences between the two systems through the musical material and thus arrives at the essence of relative solfa. However, chromatically altered solfa notes will not be used in this volume, the basis of modulation between the Major and relative minor (*Tonikaparallel* in Norwegian) will be presented with relative solfa.

The second approach presents relative solfa step by step, based on the traditional *learning-sequence* well known to Kodály-teachers. The two approaches are not two totally independent paths but meet and intersect at several points.

It is important to emphasize that the musical material used here not only expands the music teacher's repertoire of teaching materials, but also facilitates the logical and sequential composition of additional repertoires. Furthermore, it helps to broaden and deepen musical knowledge and musical skills. Finally, many of the songs in this first volume are suitable for teaching both children and older beginner learners, although the guidance of a music teacher is always recommended.

The next volume will introduce the world of the harmonic minor, melodic minor, and modal music through relative solfa, with the corresponding chromatic notes. Volume 3 will deal with basic modulations, chromaticism and gives an insight into the use of relative solfa in free tonality.

### Why relative solfa?

The motivation to write this book goes back to the background of my music education. Growing up in Hungary on Zoltán Kodály's pedagogical concept, graduating from the Liszt Academy with both Bachelor and Master of Music degrees in solfège, music theory, choir conducting and music education, I became fluent in relative solfa as a "musical mother tongue". As I like to say humorously, I am bi-lingual: in Hungarian and relative solfa. Yet, I was always interested in how other musicians hear music without using relative solfa. How do they understand musical notation in relation to their musical inner hearing and how do they connect the perceived sound to the notes and vice-versa? Furthermore, I was always eager to understand musical systems other than relative solfa and the learning-process with those systems, particularly from point of view of musical inner hearing.

After many years of teaching both classical and jazz higher music education in Hungary, PhD studies in Finland and developing music education curricula in various other countries, my admiration for the relative solfa I grew up with has increased. Although relative solfa was somewhat relegated to the background during my PhD studies, this was just the period of my life when the book *Harmony though Relative Solfa* was born under the co-authorship of my colleague, mentor, and friend Prof. David Vinden. A second extended version of the book was published in 2020 (see Bibliography at the end of book), and that time I did not suspect that its first real users would later be my future Norwegian music academy students.

In the spring of 2022, I taught relative solfa to a small group of students from the Music Conservatory of the UiT The Arctic University of Norway for nearly 3 months as part of my pilot research. The course material included the aforementioned harmony book, and the song material I developed, and I am presenting in this book. The aim of the project was to examine in which ways relative solfa could be used together with the cipher system in teaching musical reading, and to find solutions to teach relative solfa effectively to music students who basically have grown up with the cipher system.

Once again, I would like to thank the students for participating in the research, for their enthusiastic work and for their useful feedback.

# How relative solfa and cipher notation will be used in this book?

Since relative solfa is a central teaching tool in Kodály's educational concept, I use the notation which Kodály adopted from Curwen, and developed for use in the Hungarian music education system, for instance the chromatic solfa letters which will be used frequently in the next volumes.

Regarding cipher system, I refer to the Norwegian 'trinntall' system used in Nils Eskild Johansen's works, for instance in the *Hørelære med på notene* (see Bibliography at the end of book). This system supplies the numbers with sharps and flat signs indicating the connection to modern notation. However, instead of the arrows showing the direction of melodies used by Johansen, I mark the register change of numbers with commas and apostrophes up and down in accordance with the solfa letters.

Regarding rhythm notation I follow the common approach: numbers or relative solfa syllables supplying the rhythm notation also known as 'stick notation' in Kodály's methodology.

# About the music material and the sequenced learning approach

Learning relative solfa should be closely connected to learning the music material. Regarding beginner learners it is important to use the simplest music material, for example children's songs, folksongs, simple canons, and other well-known songs depending on the learner's age, cultural background, language, and traditions. The massive globalisation-movement today makes it challenging for a teacher to select the teaching material to satisfy everyone. Therefore, when compiling a learning sequence I focus on the Norwegian folksongs including children songs, combined with folksongs from English, North-American and African-American traditions, as well as canons and other European compositions (see Bibliography at the end of book).

The numerous dialects known in Norway and the influences of the surrounding countries present a rich, colourful, and diverse folksong culture. This heritage should be preserved, but not only by storing written documents and collections of folksongs, but also by teaching and learning them. Without the active use of folksongs, they are just of museum value. The essence of the song dies, and the possibility of natural transformation spread by the free oral tradition is completely eliminated. By teaching this heritage with singing and playing the songs come alive again, and this is the responsibility of all of us.

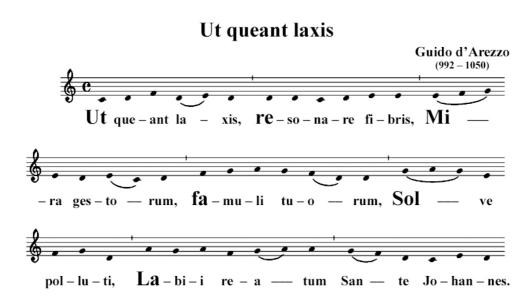
I hope this book will also contribute to save this heritage and encourage teachers to turn back to their own traditional music.

Mónika Benedek, 2023

# **Chapter One**

## Short history of relative solfa and numerical (cipher) system<sup>1</sup>

The history of solfa syllables goes back at least to 6 BC, when the ancient Roman poet Horace used it in one of his Odes M 425. Stuart Lyons' research<sup>2</sup> shows that neumes outlined the melody that Guido d'Arezzo, the Italian music theorist and composer known by the wider public as the inventor of solmisation, was to use for the Prayer of St John in the Ode a thousand years later. The Ode M 425 was considered too lascivious by Guido, so he used the prayer *Ut queant Laxis* as it was more appropriate for his religious situation but kept the same melody. Guido used the starting syllables of the verses 'Ut, Re, Mi, Fa, Sol and La' (see picture below) resulting in a rising hexachord scale.



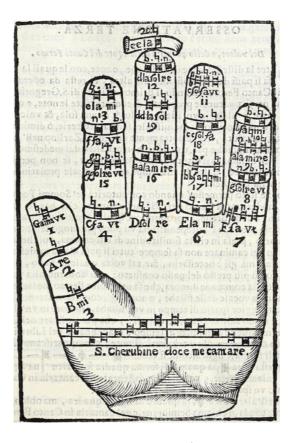
Prayer of St John by Guido d'Arezzo<sup>3</sup>

Since Guido seems to have been the inventor of the early form of staff system and clefs, he also placed this hexachord to three positions on the stave: C, F and G, so the solfa letters were 'moveable' at least within these positions. Guido's name is also associated with the 'Guidonian Hand' on which the solmisation syllables were placed in a logical way to support sight-singing, (see picture below, next page). The *a cappella singing* (without the help of an instrument) was the very first musical practice, therefore, this teaching aid intertwined with the plainchant singing practice and its teaching method.

<sup>&</sup>lt;sup>1</sup> See all information written in this chapter in more detail: Rainbow, Bernarr. 1967. The Land without Music: Musical Education in England 1800-1860 and its Continental Antecedents. London: Novello & Co Ltd.

<sup>&</sup>lt;sup>2</sup> Lyons, Stuart. 2007. Horace's Odes and the Mystery of Do-Re-Mi. Oxford: Aris & Phillips.

<sup>&</sup>lt;sup>3</sup> Retrieved from: <u>https://commons.wikimedia.org/wiki/File:Ut\_queant\_laxis.jpg</u>



Guidonian Hand<sup>4</sup>

Approximately by the middle of 17<sup>th</sup> century the Ut had been changed to Do, and the Si also added as the 7th diatonic note which indicated the decline of hexachord-thinking and the rise of functional thinking in European music. Along with the development of instruments and instrumental music, the solmisation became fixed to the absolute pitch C in most New Latin and Slavic-speaking countries. This meant that Do was always the note C, Re was always the note D etc., so the syllables Do Re Mi Fa So La Si corresponded to the Major scale. This system is known as fixed Do system or absolute solmisation today.

Jean Jacques Rousseau (1712-1778), the influential philosopher, writer, composer during the Age of Enlightenment, presented a new music reading method called numerical notation, or in other words cipher notation to the French Academy of Sciences in 1742, as one of his revolutionary ideas. The basic idea was to render numbers from 1-7 to the degrees of an ascending Major scale, in which the keynote of scale was always the number 1. This indicates the 'moveability' of the cipher system similar to the 'moveable Do' system. However, the Academy refused it, mainly on the grounds that this system was already invented by a Franciscan monk Jean-Jacques Souhaitty (c. 1632 - c. 1697) in 1677. Whether the accidental or deliberate plagiarism was true or not, Rousseau re-worked his idea and published it a year later in a significantly longer and more detailed way<sup>5</sup> (see picture below, next page). Among other solutions he developed marking the rest with the number O and the register change with dots. Yet, Rousseau's cipher notation failed to gain public favour.

<sup>&</sup>lt;sup>4</sup> Retrieved from:

https://commons.wikimedia.org/wiki/File:Via\_retta\_della\_voce\_corale\_(1671)\_(14585475718).jpg

<sup>&</sup>lt;sup>5</sup> Rousseau, Jean-Jacques. 1743. Dissertation sur la musique modern (*Dissertation on Modern Music*). Paris: Chez G. F.

DISSERTATION MENUET DE DARDANUS. Volez, plaisirs, volez, Amour prête leur tes char-3 d3,4 3,2 3 4,3 2,3 2,1 2 3,3, mes, répare les allarmes qui nous ont troublez. d 2 1,21,765,4,36,5,170%

Rousseau's cipher notation<sup>6</sup>

Rousseau was against the fixed solfa system as used in France<sup>7</sup>. In the book On Education<sup>8</sup> Rousseau went so far as to advocate the use of 'Do' for the major and 'La' for the minor, which went against the fixed Do system. Rousseau was an Huguenot and these religious people were persecuted in France. Hugenots sought refuge in England in such cities as Norwich, so there is a possibility that the ideas Rousseau expounded found fertile soil with such a person as Sarah Ann Glover.

At the beginning of 19<sup>th</sup> century Sarah Ann Glover (1785-1867), an English music educator and daughter of a local priest in Norwich taught poor children music through singing in a Sunday-school. She developed the Solfa Ladder (see picture below, next page) on which the sol-fa syllables could be seen. Similar to the Guidonian Hand, with this Ladder she could teach children to sight-singing by ear without the aid of an instrument. The lack of any instrument was the ordinary situation in the schools at that time.

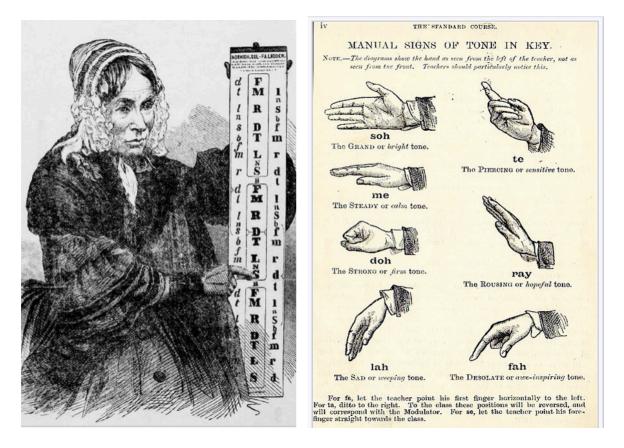
She made some changes to the Guidonian solfa syllables: Do, Ra, Me, Fah, Sole, Lah and Te. The Ladder, however, was limited to the Major scale, so she used the Lah as the Tonic for the minor, but she introduced two new syllables Bah and Ne when the 6<sup>th</sup> and 7<sup>th</sup> degrees of minor scale were altered. She called her system *Norwich Sol-fa*.

John Curwen (1816-1880), educator and Congregational minister visited Sarah Glover and her school and was amazed by the result of children singing beautifully from the Solfa Ladder. He became passionate about Norwich Sol-fa and developed it over the next decades. He changed some of the solfa syllables to Doh Ray Me Fah Soh Lah and Te which sounded better in English. He also changed the capitalized solfa syllables to lower case, which meant he was able to print more letters on a page. Furthermore, he supplied the syllables with commas and apostrophes up and down according to the register change. Curwen advocated the idea of the two Tonic-centres *do* for the Major and *lah* for the minor which resulted in the so called *'Tonic sol-fa movement'*.

<sup>&</sup>lt;sup>6</sup> Retrieved from: <u>https://commons.wikimedia.org/wiki/File:Rousseau\_p92\_Ausschnitt.jpg</u>

<sup>&</sup>lt;sup>7</sup> La guerre des Bouffons (War of the Comic Actors), 1752-54.

<sup>&</sup>lt;sup>8</sup> Rousseau, Jean-Jacques. 1762. Émile, ou De l'éducation (Emile, or On Education).



Sarah Ann Glover with her Solfa Ladder<sup>9</sup>

John Curwen's Hand-Signs<sup>10</sup>

Moreover, Curwen invented the 'Hand-signs' for each solfa syllable (see picture above), which allowed the singers to imagine the solfa notes in space. Each solfa hand-sign shows its own role in functional music. The shape of *do* represents the stable centre, the diagonal shape of *re* showing either up and down, *mi* as the third of Major shows the role of 'median', *fa* pointing down indicating the resolution of 7<sup>th</sup> of Dominant seventh, *so* symbolizes the 'openness' to be the Dominant, **la** 'falling down' as the darker minor centre and **ti** pointing up as the leading tone to the Tonic **do**.

Curwen also supplied the diatonic system with chromatic notes. The raised altered syllables are *de*, *re*, *fe*, *se*, and *le*, which sound brighter, meanwhile the downwards altered syllables got a darker sound *ra*, *ma*, *la*, and *ta*. The flattened *soh* was not used at that time.

The full-range of chromatic solfa syllables and chromatic hand-sings was developed by Zoltán Kodály.

Curven's developments of Tonic Sol-fa formulated the basis of 'Relative Solfa' or 'Relative Solmisation' which is associated primarily with Kodály methodology today. Zoltán Kodály (1882-1967) the Hungarian composer musicologist, music pedagogue, ethnomusicologist and humanist was passionate about developing music education in Hungary in the early part of 20<sup>th</sup> century. When he visited Cambridge in 1927 to conduct his composition Psalmus Hungaricus, which requires not only orchestra and mixed choir but children's choir as

<sup>&</sup>lt;sup>9</sup> Retrieved from: <u>https://commons.wikimedia.org/wiki/File:Sarah\_Ann\_Glover.jpg</u>

<sup>&</sup>lt;sup>10</sup> Retrieved from: <u>https://commons.wikimedia.org/wiki/File:Curwen Hand Signs MT.jpg</u>

well, he was astonished to hear the quality of the children's' singing. It turned out that these children were taught using Curwen's Tonic Sol-fa approach.

Kodály brought back Curwen's books in 1927 in order to study them. Ten years later, in 1937 he came out with the term 'Relative Solmisation' as it expresses more the relative pitches within a given tonality, however both names share the same principle: The **do**-centre for the major and **la**-centre for the minor. He improved on some of the solfa syllables and hand-signs and also simplified the solfa letters by reducing them only to the initial letter with lower case: **d r m f s l t**. This kind of notation will be applied throughout this book in the musical examples, however in the text **do re mi fa so la ti** will be used for ease of reading.

Rousseau's and, even earlier, Souhaitty's cipher system also underwent some changes during the late 18th and early 19th centuries, but the essence of the system remained unchanged: the numbers were marked with diatonic sounds instead of solfa syllables. However, the spread of the system is due to the work of the Swiss composer and music publisher Hans Georg Nägeli (1773-1836) and the German theologian Bernhard Christian Ludwig Natorp (1772-1836) who were both influenced by Pestalozzi's singing method. None of them did notable improvements on the cipher notation. Nevertheless, they contributed to the publicization of the system in Germany, Holland and Switzerland.

The most significant developer was the French amateur musician, teacher and mathematician Pierre Galin (1786-1821) who proposed some more additions to Rousseau's system in 1818<sup>11</sup>, by focusing on finding solutions not only for the singing practice, but also for the instrumental music sight-reading. However, Rousseau already denoted the octave changes by dots, but only the descending or ascending turning points of the melody. This kind of marking was enough for the singers as it did not go beyond three octaves. Meanwhile, Galin marked each note with dots either below or above in order to enable instrumental musicians to make better use of the larger registers.

Galin's invention was to employ special symbols for separating the beats, which shows similarities to the rhythm notation we use today. Furthermore, numbers with rhythm-like marks reminds us of the so called 'stick-notation' that are widely used today with solfa syllables.

Galin also experimented with teaching children simple nursery rhymes first with solfa, yet based on the fixed Do system (in C major). Since he emphasized the importance of connecting his teaching tools for staff-notation, he invented the Meloplast which was an empty stave system on which he could point the various pitches to sing according to the given keynote. This device is also familiar to us who use Kodály methodology today, as we point to the solfa letters on empty staves as 'flying notes'.

Galin never published his educational ideas as a full methodology. After his death his educational legacy was taken up by his student the French scholar Aimé Paris (1798-1866) and his sister Nanine Paris (1800-1868). The name of Aimé Paris is associated with the rhythm syllables called French Time-Names which was also adopted by Curwen by modifying the syllables to the English language.

Nanine Paris developed a massive number of sight-singing exercises based on Galin's cipher notation. She married the surgeon, music theorist and music teacher, Émile-Joseph-Maurice Chevé (1804-1864) who advocated the cipher notation as well as all educational developments of Aimé and Nanine Paris. From 1838 Chevé greatly contributed to the popularisation of the system in numerous publications<sup>12</sup>. The method became known as Galin-Paris-Chevé Method.

<sup>&</sup>lt;sup>11</sup> Explanation of a New Way of Teaching Music (*Exposition d'une nouvelle méthode pour l'enseignement de la Musique*).

<sup>&</sup>lt;sup>12</sup> For instance, in the Elementary Method of Vocal Music (Méthode Elémentaire de la Musique Vocale), 1856.

# **Chapter Two**

### **123 - Starting with the cipher system**

Numbers have a use as they identify a position in the scale, as in Roman numeral functional analysis, for example I IV V I. However, numbers in themselves have no intrinsic character such as Major or minor, therefore we need to provide information about that. The same issue arises with Roman numerals. Rising stepwise melodies lend themselves well to cipher notation, at the same time, melodies using larger intervals in any direction are more difficult to define with numbers. In contrast, the relative solfa system identifies the relationship between the different intervals in any kind and in any direction.

However, both systems denote the tonality according to the final note i.e., the *finalis* on which the musical example stops. The finalis is the last note of the monodic material or the last note of the lowest voice, i.e., the bass. Moreover, both the numerical system and the relative solfa system are 'moveable' which allows us to sing the musical material either with numbers or with relative solfa.

Nevertheless, there are also significant differences between the two systems. To experience the sensation of the relative solfa system, it is necessary to compare it with the cipher system through pentatonic and diatonic melodies with different structures.

This chapter will examine relative solfa from the cipher system perspective. However, the next chapter (Chapter 3) will present relative solfa through the traditional learning-sequence based on a collection of selected songs analysed exclusively with relative solfa.

To understand the similarities and differences between the cipher and relative solfa systems, the reader is asked to follow the order of the examples and exercises of each of the subsections presented below. At the same time, at the end of certain topics, there are also recommendations for practising certain parts of the Chapter 3, which are based purely on relative solfa. From now onwards the word *solfa* will mean relative solfa<sup>13</sup>.

#### Pentatonic versus diatonic material in Major

For the first exercise, students should sing Grieg's theme from *Morning Mood*, first with humming, and analysing the melody in terms of:

- the tonality whether it is Major or minor,
- the outline and structure of melody,
- the direction of motifs and musical phrases whether are they rising or falling,
- the series of intervals, whether they result in scale-like motifs especially in the starting phrase, and
- the starting note and its role in the tonality and in relation to the closing note.

<sup>&</sup>lt;sup>13</sup> It is important to emphasize that in this book *solfa* means relative solfa and not Fixed-Do Solfa, or Do-Major/Do-minor Solfa.

Morning Mood, Peer Gynt Suite No. 1, Op. 46.

From the falling starting Major pentatonic motif which also outlines a Major triad, as well as by the same closing motif generally a Major tonality can be determined.





The whole tone-set of the musical excerpt results in a full Major pentatonic scale. With numbers, the closing note is the tonal centre, the number 1. The starting note is a Perfect fifth interval from the tonal centre, which is the fifth degree of Major scale, the number 5.



From these two notes the starting motif can be worked out: 5 3 2 1. The student now should sing the whole musical example with numbers.



As can be seen from the above example, the music score helps to determine the notes by numbers. However, when learning Grieg's example exclusively by ear and connecting the notes to numbers of the beginning phrase 5 3 2 1, a beginner learner without proper theoretical knowledge may face challenges. This is because the descending order of the notes of the pentatonic-motif, and the beginning minor third interval downwards is more difficult to associate with the numbers which have a rising nature. Meanwhile, the natural flow for numerical singing works better with the second half of the motifs (first and second bars) as both are ascending. To experience this, the student should sing aloud only those notes and motifs that can be seen in the score.



Grieg's melody is based on a Major pentatonic scale which is perhaps the most common in the World as it can be found in all continents in ancient and traditional songs as well as in the singing of birds. Yet starting learning with number-singing, ascending melodies with intervalleaps larger than a step may be challenging for a beginner learner to perceive with numbers. For comparison, the student should sing the following canon *Fader Jakob*.

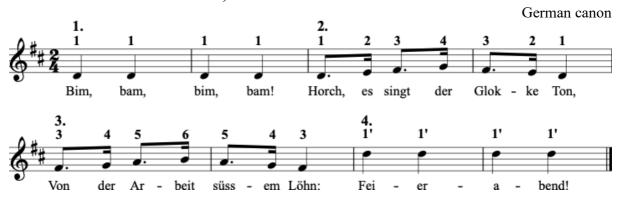


The canon is based on the diatonic scale notes in Major. The closing note denotes the tonal centre 1. Next, the student should sing the canon with numbers.



It is relatively easy to figure out the starting motif with numbers 1 2 3 because of it's stepwise and ascending nature. The second canon line 3 4 5 follows the logical sequence as it starts from the Major third that could be heard before, as well as the third canon line continues from the last note of previous canon line. The closing line's Perfect 4th interval downwards might be challenging to work out as the number 5, but at least it was sung only an octave above before. Yet, the major parts of *Fader Jakob* are smoother to sing with numbers than Grieg's *Morning Mood*, because of the stepwise melodies. For comparison, sing the following German canon *Bim, bam* with numbers:

Bim, bam - canon in 4 voices



The two stepwise phases are both ascending and descending on the diatonic scale notes in which the ascending pattern is more successful when expressed with numbers. The descending, however, is a less natural direction with numbers, yet it is easy to work out for beginner students as the motif turns back on the same notes.

### Working with relative solfa

#### Pentatonic versus diatonic material in Major

Compared to cipher-notation, let us see how relative solfa works in pentatonic and diatonic melodies. Relative solfa syllables of the diatonic scale are written in the text-parts of this book in small letters **do re mi fa so la ti.** However, in the musical examples only initials are used **d r m f s l t** which were developed by Zoltán Kodály from Curven's solfa and became widespread in Kodály's methodology (see also in Chapter 1, 'Short history of relative solfa and numerical (cipher) system').

Taking the previous musical examples again, the student should sing the two diatonic canons *Father Jakob* and *Bim, bam* with relative solfa syllables.



As we can see, the tonal centre in Major is marked with **do**. The solfa syllables are singable as they consist of only one consonant and one vowel which help the clear intonation. The **so**, marked with low comma indicates the lower register, meanwhile in the following canon *Bim*, *bam* the closing tonal centre **do**' is marked with high comma.



The following Norwegian folksong *Pjokkum* presented both with numbers and relative solfa is also using diatonic notes in the Major. The tonal centre is designated with the number 1 and with **do** as solfa syllable. The melody starting with ascending stepwise motion could be easily perceived both with numbers and with solfa, while the descending sequential motifs based on thirds could be slightly challenging to work out with numbers for the beginner learner.



To experience the most significant difference of learning with relative solfa for the beginner learner, let us sing the Major pentatonic theme from Grieg's *Morning Mood* with solfa.



The beginning minor third interval downwards **so mi** reinforces the relative feeling between the two notes (**so mi**), hence the name relative solfa. In this case, there is no confusing association with increasing or decreasing numbers. Furthermore, the relativity between each notes **la so mi re do** as well as from the tonal centre **do** support the association of the Majorpentatonic scale and Major tonality. To compare the feeling with singing with cipher-notation and relative solfa, students should sing again the Grieg example first with numbers and then with solfa syllables.



#### Summary

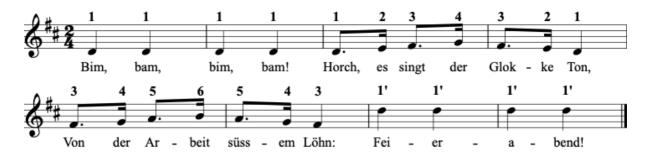
For the beginner learner, it could be seen that those melodies which consist of stepwise motion direction are the most suitable to teach with cipher notation in the Major. With reference to Grieg's example, numerical singing is not as natural as when applied to melodies that consist of intervals larger than a step especially when descending, therefore, the teacher should avoid starting with these melodies to present cipher-notation for the beginner learner.

Relative solfa can be equally applied to the teaching of both scale-like melodies and melodies with all types of intervals both upwards and downwards. Using relative solfa, especially for beginners including small children, helps to perceive musical material which consists of intervals larger than a step in any direction, and songs using smaller tone-sets than the full diatonic (Major) scale, for instance the Major pentatonic scale. Furthermore, to increase the clear intonation and to support the spatial sense of the sounds in relation to each other and the tonal centre, relative solfa could be also supplied with hand-signs (see hand-sings in Chapter 1, 'Short history of relative solfa and numerical (cipher) system').

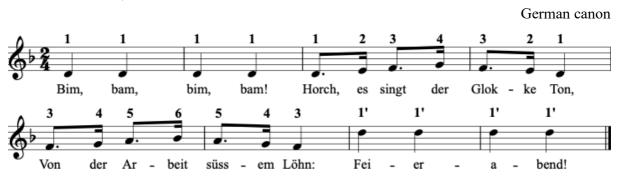
To practice relative solfa further, the reader is directed to Chapter 3, 'The songsequence', 'Pentatonic songs', where the pentatonic songs are presented exclusively with relative solfa in a sequenced way. Alternatively, the reader can continue with this chapter.

# Diatonic material in the natural minor with the cipher system and relative solfa

This part of the chapter presents how music material in the natural minor is used both in numerical singing and relative solfa. To experience the differences between the two systems in the minor, sing again the canon *Bim, bam* with numbers in the original tonality in Major.



Next, students should transform the canon into the natural minor and sing it with numbers. It can be seen below that the numbers have not changed, as the minor tonal centre is designated with the same number 1, likewise in the original canon in Major. Only the new key signature indicated the D minor tonality.

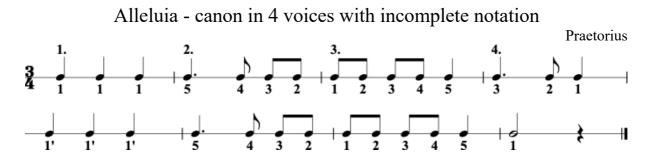


Bim, bam - canon in 4 voices - minor transformation

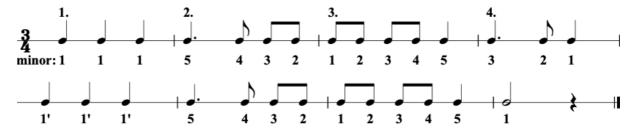
Singing only with numbers without knowing the tonality is not possible as the differences between intervals characterising the Major and minor scale cannot be identified. On the other hand, relative solfa expresses the tonality itself, in which the tonal centre in minor is marked with the solfa syllable **la**. Students now should sing the *Bim Bam* canon transformed into natural minor with relative solfa syllables:



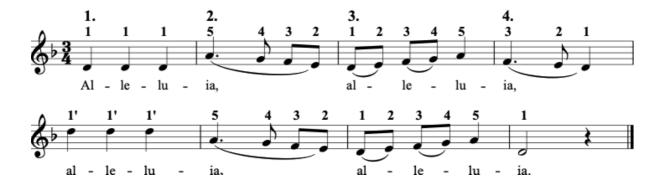
The stick-notation with numbers of next canon *Alleluia* from Praetorius shows ambiguity as it could be understood both in the Major and natural minor. Thus, this score below is lacking the information of tonality:



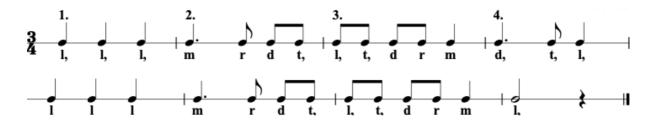
The correct stick-notation with numbers should indicate the tonality before the numbers in written form, see below:



Whereas in score form the key-signature itself shows the tonality:

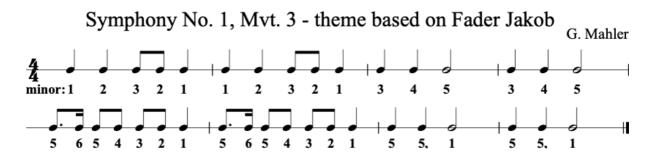


Relative solfa, however, expresses the tonality itself, in the case of *Alleluia* **la** for the minor, and it can be used in stick-notation without the additional information:



### Exercises

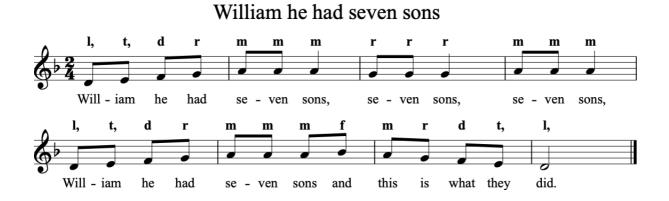
The next exercises reinforce the understanding and inner hearing of the difference between numbers and relative solfa in the natural minor. Students are encouraged to sing the following theme from Mahler, first with numbers, and then second to work it out with relative solfa. As the theme is based on the minor transformation of canon *Fader Jakob*, the similar structure to the original canon could be recognised which helps to inner-hear the melody with numbers.



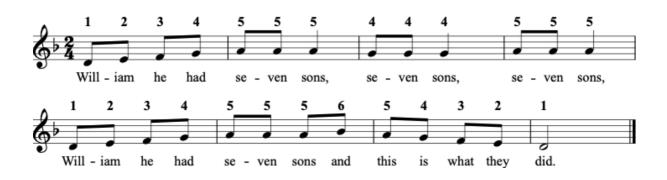
Solution with relative solfa:



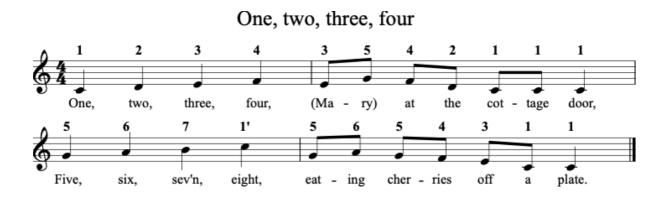
The next exercise is just the other way around: sing the folk-song *William he had seven sons* first with relative solfa, and then work it out with numbers.



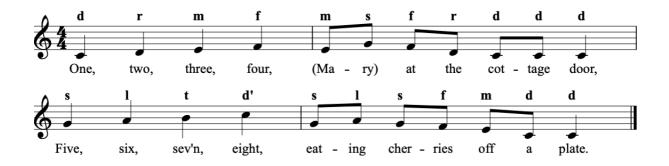
Solution with numbers:



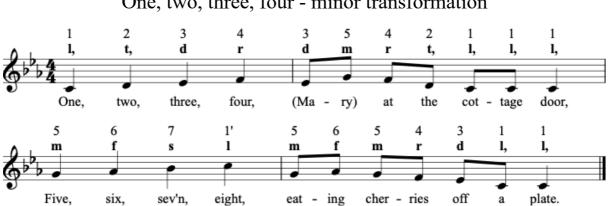
Sing the following song *One, two, three, four* first with numbers, then work it out with solfa. Transform the song into natural minor with the same tonal centre C and sing it in both systems.



Solution with solfa in the Major:



Solution for the minor transformation both with numbers and relative solfa:



One, two, three, four - minor transformation

#### **Summary**

The first problem we experience in this subchapter with numerical analysis is the quality of the  $3^{rd}$  degree. The question we ask ourselves is whether the  $3^{rd}$  is Major or minor? Furthermore, this raises questions about the quality of the 6<sup>th</sup> and 7<sup>th</sup> degrees of the natural minor.

The main difference between applying numerical analysis and relative solfa is that the tonal centres are designated differently: 1 with numbers in both Major and minor, and la for minor and **do** for Major in relative solfa. The numbers are the same for both diatonic scales, yet the Major and natural minor tonality should be indicated, either with the correct keysignature in score format or written out in stick-notation to be able to differentiate between the intervals featuring Major and minor.

In contrast, the minor tonal centre in relative solfa system is the la which is the 6<sup>th</sup> degree of Major scale. In the following subchapter this issue will be addressed in more detail.

To practice relative solfa further, the reader is directed to Chapter 3, 'The songsequence', 'Diatonic songs', where the diatonic songs are presented exclusively with relative solfa in a sequenced way. Alternatively, the reader can continue with this chapter.

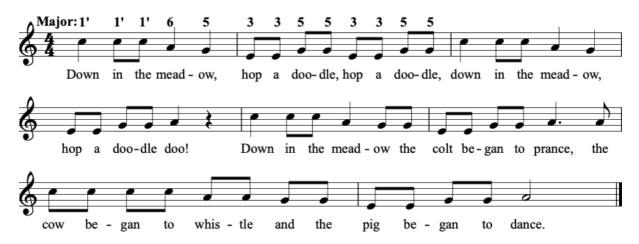
# The connection between Major and relative minor with cipher system and relative solfa

In this section the reader will experience the transition between Major and relative minor (parallel minor in Norwegian) first with pentatonic, and second, with diatonic material using both the numerical system and relative solfa.

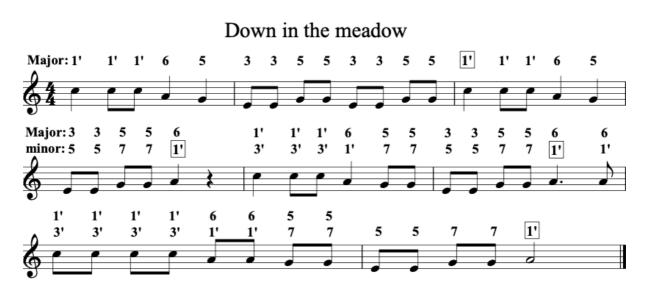
#### From Major pentatonic to minor pentatonic

Students should sing the next folksong *Down in the meadow* first with numbers. As can be seen from the score, working with numbers needs first to identify whether it is Major or minor. The starting motifs based on the pentatonic scale may be understood either as Major or minor pentatonic. Students should continue to sing the empty bars with numbers either in Major or minor pentatonic tonality to experience which tonality would be the most obvious to use.

### Down in the meadow



The tonality of the first three bars could be perceived as Major (i.e., Major pentatonic), so the tonal centre is marked with number 1 for the note C. Whereas the bar 4 as well as the end of the folksong arrives at the relative minor (parallel minor in Norwegian), therefore the new tonal centre should be indicated. The bars 5-7 could be understood either in Major pentatonic or minor pentatonic, depending one's personal feeling. The score below indicates the dual analysis in the relevant bars.



It is also possible to analyse the song in one single tonality i.e., full minor pentatonic tonality, because of the closing tone is given. However, in this case the first motive numbering must be changed from Major to minor, see below.

#### Down in the meadow



For comparison, let us sing the song with relative solfa syllables. As we can see no dual analysis is needed as the song uses the pentatonic scale degrees relative to each other, and each motif in question stops on the relevant solfa syllable.



The relative solfa indicated both the Major tonal centre as **do** and the minor tonal centre as **la** and provided a smooth transition between the two tonalities. In this way, without changing the solfa syllables, the song could be analysed in terms of tonality either as full minor pentatonic or modulating from Major pentatonic to relative minor pentatonic (parallel minor pentatonic in Norwegian).

The following Norwegian folksong *Då eg va liti* is presented below first as an exercise. Sing the song and identify the tonality, then work it out first with numbers, and second with solfa.



Solution with numbers:



As it can be seen from the numerical analysis above, the closing note clearly indicates the minor pentatonic tonality of the song marked with the number 1. However, the minor pentatonic tonality can be perceived even earlier, at the end of second bar.

The solution of relative solfa analysis shows below the tonal centres of minor pentatonic scale are marked as **la**,.



Improvising a different ending with relative solfa allows us to change the tonality from minor pentatonic to Major pentatonic. Students should sing the folksong again below transformed into Major pentatonic by simply changing the last note from **la**, to **do**.



We could experience the simplicity of relative solfa system in the above example when modulating from minor pentatonic to relative Major pentatonic scale. Compared to that with the cipher system, the numbers should be changed at the end of song according to the new tonal centre, see below.



To practice relative solfa further, the reader is directed to Chapter 3, 'The song-sequence', 'Pentatonic songs'. Alternatively, the reader can continue with this chapter.

#### From Major (diatonic) to natural minor

In this part of the chapter, we examine if the analytical process presented above with the pentatonic system works in the same way as with diatonic material. The following diatonic Norwegian song *Huldrekvee* is presented at first only with relative solfa. Students should identify the tonal centre (or centres) by singing the song with solfa.



By adding the number analysis to the solfa, see below, the Major tonality seems to be a logical way to identify the first part of song. The starting motifs ascend and walk stepwise through the major intervals, 1 2 3 with numbers and **do re mi** with solfa. Since the first line does not close the melody on the Tonic centre, the phrase remains musically open. For the second part of the song, it seems obvious to continue the analysis from the previous Major tonality which allows the arrival to the minor (parallel minor in Norwegian) tonal centre **la**, in relative solfa. However, with cipher-notation it ends up with the number 6 which is not accepted as the tonal centre of the minor.



If using number analysis, the differences between the two tonal systems should be marked to perceive the feeling of the modulation to the relative minor. The bracketed numbers in the score below show the place of modulation. Whereas in the relative solfa analysis above there is no need to change the analysis to another tonality as the song stops on the solfa syllable **la**, indicating the minor tonal centre for the whole song.



The following the Norwegian folksong *Tak hard i hand* presents a dilemma because it starts clearly in the Major and suddenly ends in the relative minor in (parallel in Norwegian). Sing both songs with solfa and numbers to reinforce the understanding of the correct tonal centres.



#### From natural minor to Major

Students should sing the following Schubert example with solfa to experience the modulation from minor to relative Major (parallel in Norwegian).



The analysis below presents the first tonal centre in the minor as **la**, (with relative solfa), and with the number 1. For the modulation to the relative Major (parallel in Norwegian) the same solfa system is kept, which leads onto the Major tonal centre **do**. Meanwhile with numbers, the analysis should be changed according to the tonalities marked by the bracketed numbers.



#### More frequent alternation of minor and Major tonal centres

The next two musical examples present more a complex structure in terms of tonalities. The student should sing the Norwegian folksong *Kjerringa ho sette deg* first with solfa and identify the different tonal centres based on **do** and **la**.



The dual analysis below shows more frequent changes between the tonal centres first in the minor, second in the relative Major (parallel in Norwegian) which go back to the original minor tonality. The bracketed numbers show the place of local modulations in cipher notation, whereas in the relative solfa analysis only the **la** and **do'** are needed.

The song could also be analysed as being in the full natural minor without changing the numerical analysis to the lower line in Major. In that case, similar to the relative solfa analysis, the song could be sung along with numbers according to the minor tonality (see the upper line).



The last example *Fantejentas vise* presents an ambiguous feeling in terms of tonality. According to the key signature and closing note the natural minor tonality is identified. However, if singing with solfa, the **do** centre of the start could also be perceived indicating the Major tonality. Yet, the subtle tonal changes throughout the song do not affect the solfa analysis. The song ends smoothly in the minor without changing the solfa.



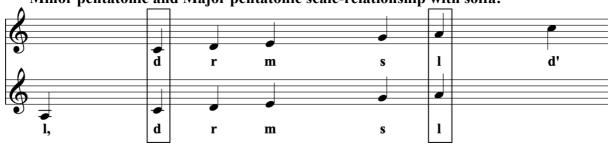
On the other hand, for correct numerical singing of *Fantejentas vise*, it is essential to determine the tonal centres throughout the whole song to be able to start with the right number 1 (in Major). Furthermore, from bar 5 there are two possibilities to continue the singing with numbers indicated in the two lines in Major and minor. Students can experiment with the tonal feelings switching freely between the two systems marked by brackets. Yet it is necessary to change the numbers in bar 13 when the tonality arrives to the relative minor (parallel in Norwegian).



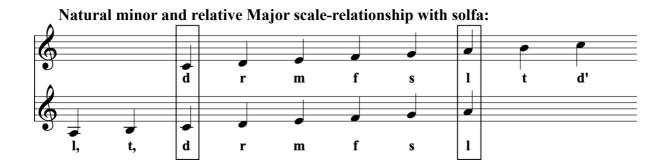
### **Summary**

In this subchapter the relative Major and minor (both pentatonic and diatonic) scale relationships were explored (parallel tonalities in Norwegian) with cipher system and relative solfa. The main differences between the two systems are:

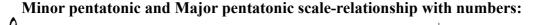
1) In relative solfa both minor pentatonic and diatonic tonalities are relative to the Major scale, see the examples below.



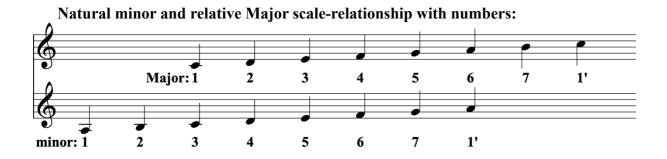
#### Minor pentatonic and Major pentatonic scale-relationship with solfa:



2) In the cipher system both Major and minor tonalities (including pentatonic) share the same tonal centre designated with the number 1, therefore the 'notation' of the number system is the same when melodies are based on the same scale degrees, see the examples below:







To practice relative solfa further, the reader is directed to Chapter 3, 'The song-sequence', 'Pentatonic songs' or 'Diatonic songs'. Alternatively, the reader can continue with this chapter.

# Major-minor modulation with cipher system and relative solfa

The following part of this chapter presents how modulation between Major and minor tonalities based on same ground-note works with numbers and with relative solfa. This modulation is called Major-minor or 'Maggiore-minore' modulation (parallel tonalities in English), and vice versa.

Students should sing the next Norwegian lullaby *Sulla meg litt*, first with the text or by humming, and identify the tonal centres both with numbers and with relative solfa.



Numerical singing could be started with the tonal centre 1 in the Major, whereas from bar 3 the minor tonality could be perceived based on same ground note. The two tonal centres based on the same note F, therefore they also share the same number 1.

In the numerical analysis, the indication of Major and minor tonalities cannot be avoided. The bracket shows the possible alteration between the numerical analysis, however, because of the same ground note of both tonal centres, no changes could be perceived in terms of numbers, but in the intervals featuring the minor tonality.

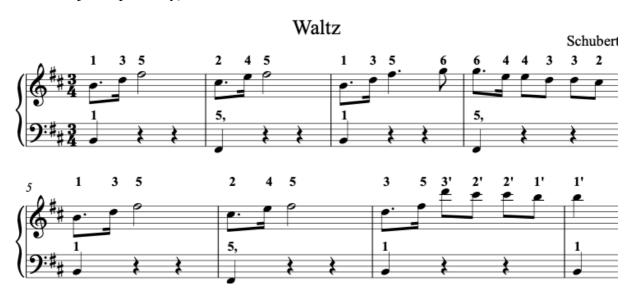


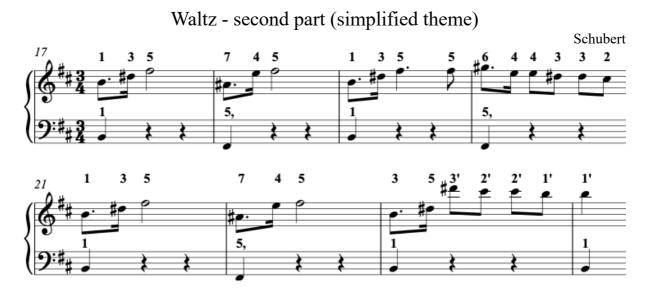
In contrast, relative solfa system needs to be altered when changing tonality from Major to minor based on the same ground note resulting in the tonal centres F=do in Major and F=la, in minor.



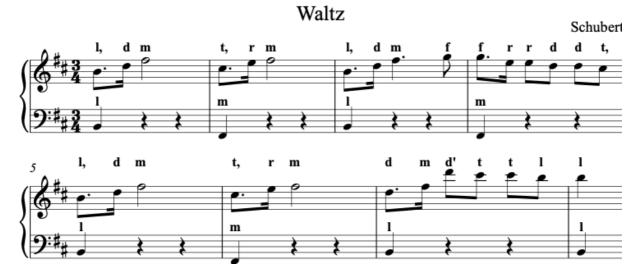
#### Minor-Major relationship as separate parts of the musical material

In musical compositions from the Common Practice Period (Renaissance, Baroque, Classical and Romantic eras) the minor-Major relationship is often found as a separate part. The following two excerpts quoted from the same *Waltz* by Schubert demonstrate that the theme in the minor and its variation in the Major (from bar 17) share the same number analysis, because the two tonalities are in minor-Major relationships based on the same ground note B (B minor and B Major respectively).





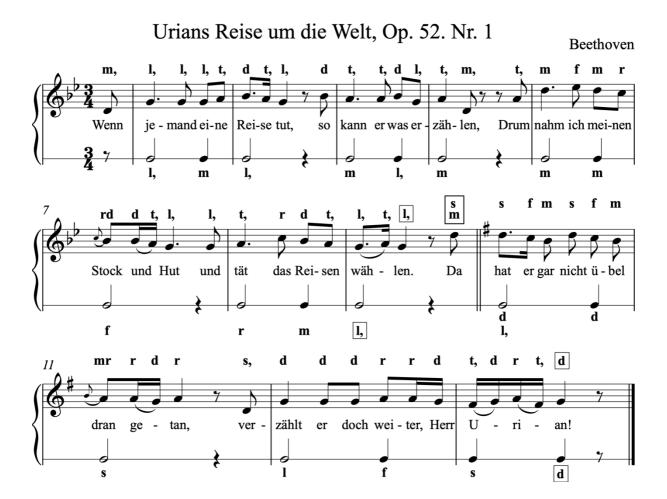
Whereas with relative solfa the two Schubert examples are based on different tonal centres: **la** for the minor and **do** for the Major, so the solfa analysis should be changed accordingly.



Waltz - second part (simplified theme)

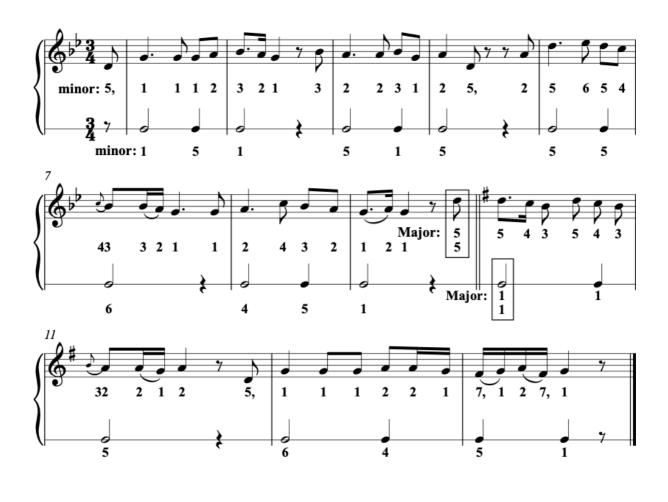


For the last example an entire song from Beethoven *Urians Reise um die Welt* is quoted below. Students should sing the song first with relative solfa as well as the simplified bass line transformed from the piano accompaniment. The bracketed solfa syllables indicate the modulation, where the solfa system is changed according to the new tonality. This way students can perceive the differences between the minor and Major parts of the composition.



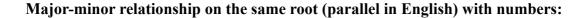
The two parts of the song require different solfa analysis according to the **la**-based minor and **do**-based Major tonalities regardless of the same ground note G. It is recommended to change the solfa right on the first note of the Major tonality (i.e., the upbeat of D) as  $\mathbf{mi} = \mathbf{so}$  indicated in the score above. On the other hand, the solfa also can be altered on the next note D (first beat of Major part) as it is identical to the upbeat note D. Likewise, the closing note of minor part in bar 9 can also be changed ahead to the next Major tonality as  $\mathbf{la} = \mathbf{do}$ .

Regarding numerical analysis, the same numerical system is used for both G minor and G Major parts of the song. However, sight-singing Beethoven's song with numerical system students could face challenges in terms of intonation when changing to the Major if no prior analysis was made.

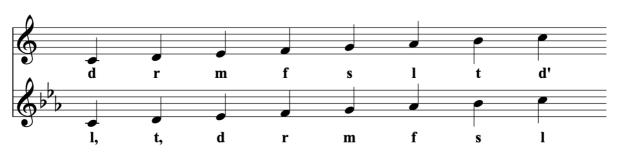


## **Summary**

This subchapter presented how modulation works between Major-minor tonalities based on the same ground note (parallel tonalities in English) in the cipher system and with relative solfa. We could see from the musical examples that in Major-minor relationships the numbers are the same in both Major and minor scale when based on the same ground note. Meanwhile, with relative solfa, different solfa systems are needed according to the Major (**do**-centred) and minor (**la**-centred) tonalities, see the summary chart below:







Major-minor relationship on the same root (parallel in English) with solfa:

Compared to this with the relative Major-minor relationships (parallel in Norwegian) explored in subchapter 'The connection between Major and relative minor with cipher system and relative solfa', the numbers should be changed when connecting Major to relative minor and vice versa. Meanwhile with relative solfa, the same solfa system is used allowing a smooth transition between the relative keys (parallel in Norwegian), see the summary chart below.

Major: 1 2 3 5 7 1' 4 6 -4 5 minor: 1 2 3 6 7 1' Relative minor and Major relationship with solfa: . đ f l d' r m S . d f l l, t, r m S

**Relative minor and Major relationship with numbers:** 

It could be concluded that the cipher system and the relative solfa system work in just the opposite way in terms of modulations within relative Major-minor keys (parallel in Norwegian) and in Major-minor tonalities (parallel in English).

# **Chapter Three**

# Do Re Mi - The sequential learning approach when using relative solfa

This chapter is organized according to a sequential learning process to present relative solfa step by step through a song-list based on Norwegian, English, North American, and African American children's songs and folksongs. Furthermore, English, German and French canons are also included. All songs and canons are quoted with their lyrics, therefore, a few musical examples from the previous chapter will also be found here.

The songs are presented exclusively with relative solfa in a sequenced way. However, students should work out the missing syllables in most of the songs. This approach motivates the use of singing and thinking in relative solfa. Solutions for the relative solfa of all the songs in alphabetical order can be found in the Appendix written in stick-notation. Singing from stick notation will reinforce that crucial inner hearing of the songs with relative solfa.

The song-list below is arranged principally in terms of the tone-set and the difficulty of the melodic outline and challenging intervals. However, when compiling a song-list or any musical material for sequenced teaching, beyond the growing tone-set and melodic contour, the rhythmical, metrical, and harmonic issues should also be taken into consideration. We will see that in some cases certain songs are preceded by others because of the difficulty of the melody or rhythm. All these issues will be explained in relation to the songs in question.

When compiling a song-sequence, teachers can choose freely between the Major or minor tonality to start with. This depends on the tradition, the cultural differences, the age, and level of learners, and last but not least, the musical material we use. Regarding pentatonic material, there are significant differences between countries and cultures in terms of the proportions of songs with Major and minor tonal centres. Since pure-pentatonic songs are found less frequently in the Norwegian folk-tradition, international pentatonic songs are quoted to supplement the missing steps in the learning sequence.

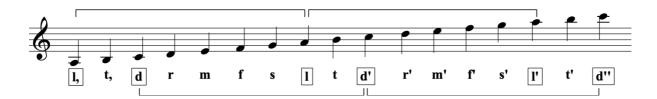
The selected Norwegian folk songs strongly influenced the sequence of the tone-sets. This song-list starts with the pentatonic material followed by the diatonic including a larger number of Norwegian folksongs. The reason for starting with pentatonic songs is that the pentatonic tone-set facilitates the learning of intervals also larger than a step. The relative relationship of the notes of the pentatonic scale to each other and to the tonal centre is best expressed by relative solfa, which enhances clear intonation and the inner hearing of notes and melodies at the beginner level. All this influences positively the skills of musical reading and writing.

In terms of tonality, the Major and minor pentatonic songs are interchanging more frequently with each other in the song-list. This stresses the importance of establishing the inner hearing of both tonal centres as earlier as possible. Most of the quoted pentatonic songs however are **do**-based, i.e., in the Major pentatonic tonality.

The diatonic sequence starts with Major songs, and after exploring the registers both up and down, the natural minor song-sequence is presented. In practice, it is recommended to teach the minor songs and minor tonalities together with the Major songs. This depends on the level of the learner as well as the nature of the chosen songs and other material. In Western music education in general the Major tonality is taught first, however this is also can vary with different cultures. Nevertheless, the aim of separating between the diatonic Major and natural minor song-sequence is to present the sequence as simply as possible for the reader. The sequence is, therefore, only an example how teachers can arrange their teaching material in the right order. The tone-set can also be extended equally upwards and downwards, as well as the order of direction which is highly dependent on the song-material we use. Teachers are encouraged to compile their song-list and choose any other musical material that fits into their sequence and themes.

#### General rules for song-analysis with relative solfa

The tonality of a song or a monodic melody is based on the tonal centre, i.e., the final note (*finalis*). This generally applies to both pentatonic<sup>14</sup> and diatonic musical material including modal music. The Major tonal centre with relative solfa is based on **do** while the minor tonal centre is based on **la**. In the relative solfa system these two are related as 'relative' tonalities (parallel in Norwegian), see the example below showing the relationship between Major and minor. (See also in Chapter 2, Summary of subchapters 'The connection between Major and relative minor with the cipher system and relative solfa', and 'Major-minor modulation with the cipher system and relative solfa').



The two most common pentatonic scales are also denoted by their tonal centre: **do** for Major pentatonic and **la** for minor pentatonic, see both scales based on C below.



This book as well as the song-sequence (see next subchapter) deal predominately with the **do**and l**a**-pentatonic tonalities as they can be a bridge to the diatonic Major and minor keys.

<sup>&</sup>lt;sup>14</sup> In the Western music tradition, generally we mean pentatonic scale as *anhemitonic* in which no half-steps are to be found.

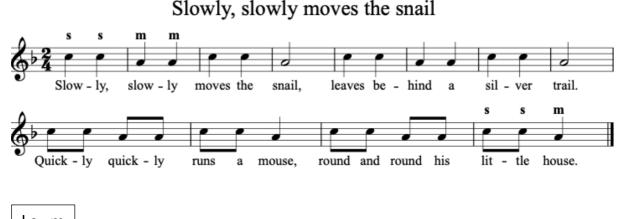
## The song-sequence

#### Pentatonic songs

Children's songs from the Western tradition often consist of only two or three notes from the pentatonic scale (i.e., bi-tone, tri-tone tone-sets). In many of these songs neither the Major nor the minor tonality can be identified clearly. The first children's song *Slowly*, *slowly* of the song-sequence below uses only two notes from the pentatonic scale and are designated as **so** and **mi** (the reason for these syllables will become obvious later). It is important to note that when teaching children or beginner level students there is no need to identify the tonal centre yet as the song uses only two notes. Students, however, can take the first step to inner-hear the relative distance between two notes (the minor third).

Students should sing all musical examples in relative solfa and work out the missing solfa when needed. (See solutions for the relative solfa of all the songs in the Appendix written in alphabetical order and in stick-notation).

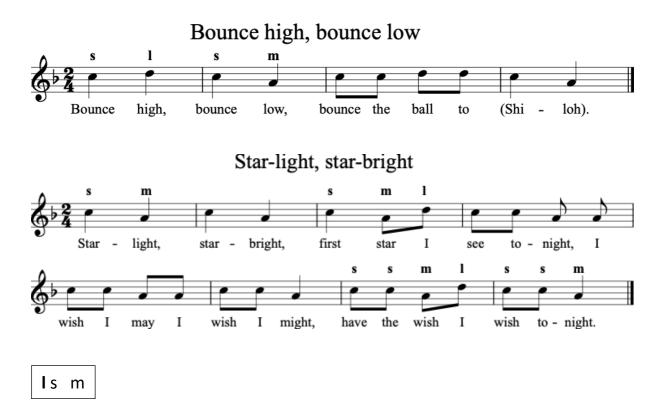
s m



ls m

The following two children's songs use three notes **la so mi** from the pentatonic scale. Because they stop on **mi** leaving the song as 'unfinished', neither the Major nor minor tonal centre could be identified yet. However, the relationship between these three notes will open the pentatonic tone-set to both directions: to Major-, and minor pentatonic.

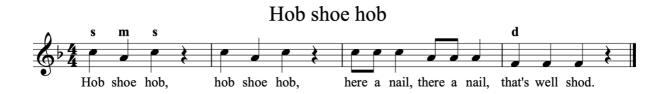
The song such as *Star-light* would be a smooth continuation from the previous tone-set as it reinforces the interval **so mi**. However, the new note **la** might be slightly difficult to intonate from **mi** for the first time, therefore, *Bounce high* is listed below at first in order to present the new note **la** as the starting motif outlines the new tone-set.

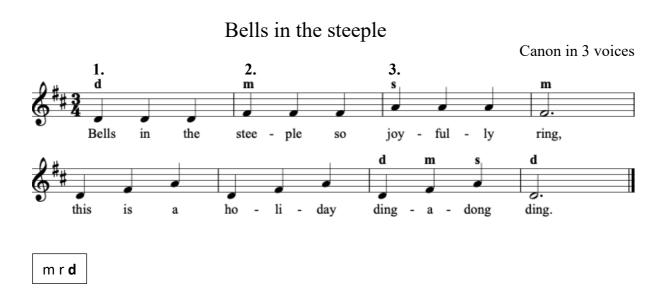


The next children's song, however, uses the same three notes of pentatonic scale **la so mi**, as it stops on **la** clearly indicating the tonality as **la**-centred.

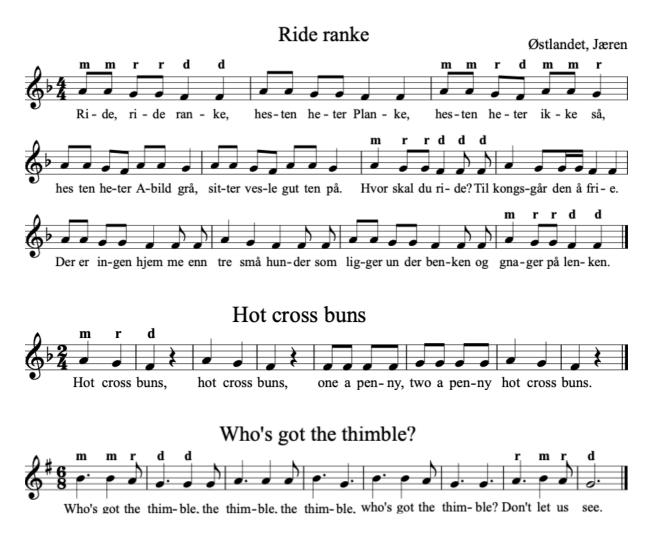


The following song *Hob shoe hob* starts with the motif **so mi** we already experienced above and finishes on **do** resulting in a Major triad **so mi do** emphasizing the Major tonal centre. The canon *Bells in the steeple* builds the triad upwards which is always more difficult to intonate clearly, therefore, it is recommended to sing it canon as early as possible.



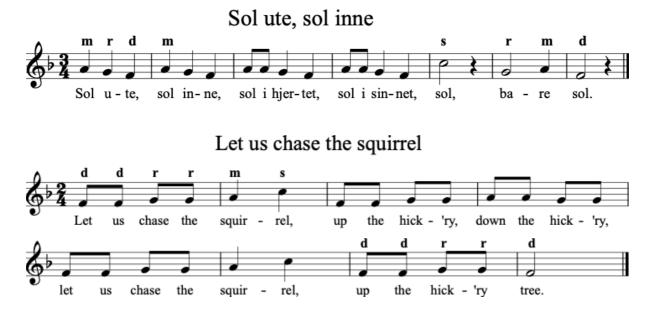


In the next tone-set a new note **re** is presented. After inner hearing the Major third **mi do** (see above) it is easier to perceive the **re** as it connects both notes stepwise. The songs stop on **do** clearly indicating the Major-feel.



s mr**d** 

In the following, the **mi re do** tone-set is complemented by the **so** as Perfect 5<sup>th</sup> from the **do**centre resulting in the Major triad. The first two songs *Sol ute* and *Let us chase* present different starting motifs with **mi re do**. *Sol ute* is a logical continuation after the previous **mi re do** toneset above, as the motif is descending. Whereas with *Let us chase* the whole tone-set could be presented upwards.



The next two songs include an important interval the Perfect 4<sup>th</sup> between notes **so** and **re** which is always challenging to intonate clearly in both directions. The order of songs can be used freely, although, the general experience is that the Perfect 4<sup>th</sup> within this tone-set is easier to intonate upwards.



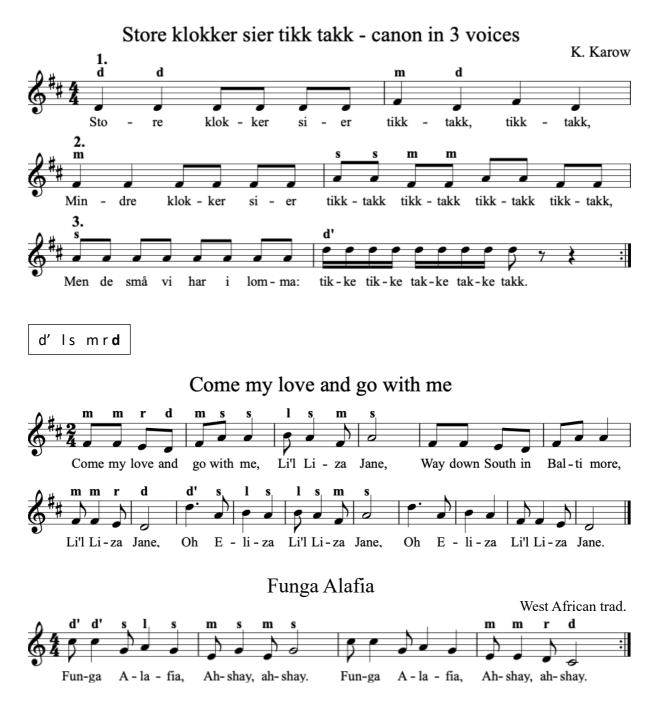
In this tone-set we arrive at the full Major pentatonic scale i.e., **do**-pentatonic scale. The songs are listed here in the order of difficulty of intonation. *Bluebird* and *Ida Red* outline smoothly the **do**-pentatonic scale, meanwhile *Ring around* and *Ring a ring* consist of two challenging intervals: **mi la** (Perfect 4<sup>th</sup>) and **so do** (Perfect 5<sup>th</sup>).



At this point, we have the possibility to continue the extension of tone-set in any direction, yet here below, the upper **do** is presented first because of the selected songs.

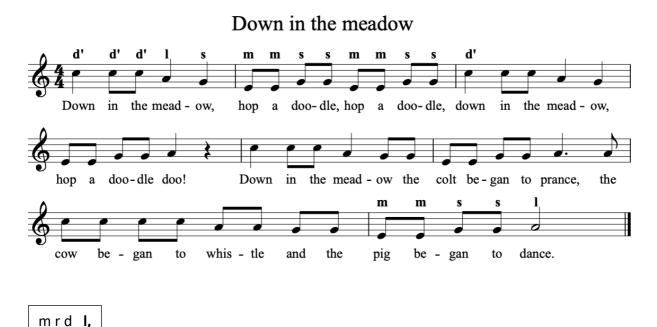
d'sm **d** 

The next canon *Store klokker* reinforces the Major triad by stopping on the upper **do** (**do**'). However, because it is only the octave repetition of the root of the Major triad, it is not necessary to mark it as the tonal centre. The canon is also useful for presenting the Perfect 4<sup>th</sup> between **so** and **do**' as well as the first inversion of Major triad when teaching music theory.



After establishing a stable inner-hearing and intonation of the Major pentatonic tonality, it is recommended to move on to the minor. Certainly, depending on the collected songs and other musical examples we use, the order can also be freely changed, i.e., to starting with minor pentatonic and moving onto Major pentatonic tone-sets.

The song *Down in the meadow* below shows how smoothly we can switch between the Major pentatonic feel to the minor pentatonic simply by stopping on the **la**. Therefore, in the **do' la** so **mi** tone-set the **la** is marked as tonal centre. (For the full and detailed analysis of possible tonal centres both with solfa and cipher notation the reader is directed to the Chapter 2, 'The connection between Major and relative minor with the cipher system and relative solfa', 'From Major pentatonic to minor pentatonic').



In the following examples the **la** centres are the closing notes and indicate the minor pentatonic i.e., **la**-pentatonic tonality. The songs consist of a Perfect 5<sup>th</sup> down (**mi la**,) and up (**la**, **mi**) as well as Perfect 4<sup>th</sup> down (**re la**,). The closing motif of *Roland og Magnus kongen* outlines the minor triad.

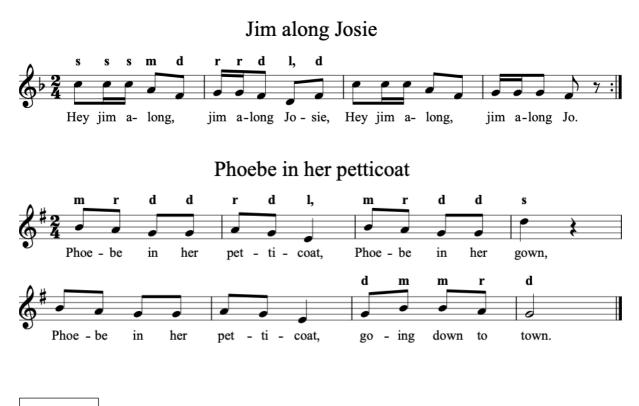


The following song shares the same tone-set with previous songs above, yet the tonal centre is **do** resulting in the Major pentatonic tonality.



s m r **d** l,

The following tone-set results in a full pentatonic scale similar to **la so mi re do** presented above. Yet here again, the tonality is **do**-pentatonic because of the closing note **do**. As well as steps and thirds, both songs include Perfect 5<sup>ths</sup> upwards (**do so** and **la, mi**)



#### mr**d**s,

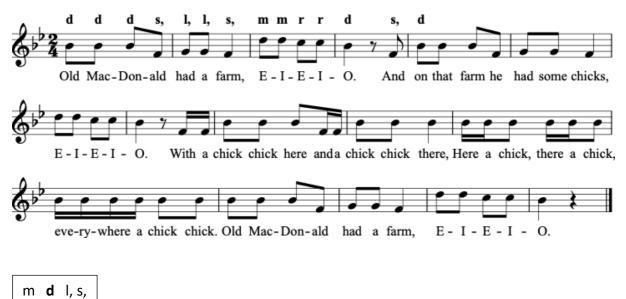
In the following the lower **so**, is presented. Although the tone-set has only 4 notes from the Major pentatonic scale, the songs below also contain larger pitch intervals such as the Perfect  $4^{\text{th}}$  (**do so**,) and  $5^{\text{th}}$  (**re so**,) up and down, and the Major 6 (**so**, **re**) up.



## m r **d** l, s,

The following tone-set is another example of the full Major pentatonic, i.e., **do**-pentatonic scale. The song's varied melodic line and its intervals combine well with the songs in the previous set.

## Old MacDonald had a farm



As we progress through the tone-set sequence, we sometimes see songs with smaller tone-sets. In the example of *Har du pipa, Guro* the **re** is missing, yet the short, repeated phrase is more difficult to intonate than the previous song because of the intervals of varied melodic line, including the second inversion of Major triad.

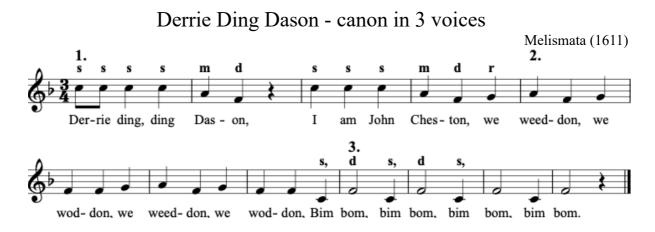


The same tone-set (see above) is presented here with the **la**, tonal centre resulting in the full minor pentatonic scale. The melodic line of *Dear Companion* includes a variety of more difficult interval leaps with **la**, **re** and **do so**, as Perfect 4<sup>th</sup>, **la**, **mi** as Perfect 5<sup>th</sup> and the minor triad.



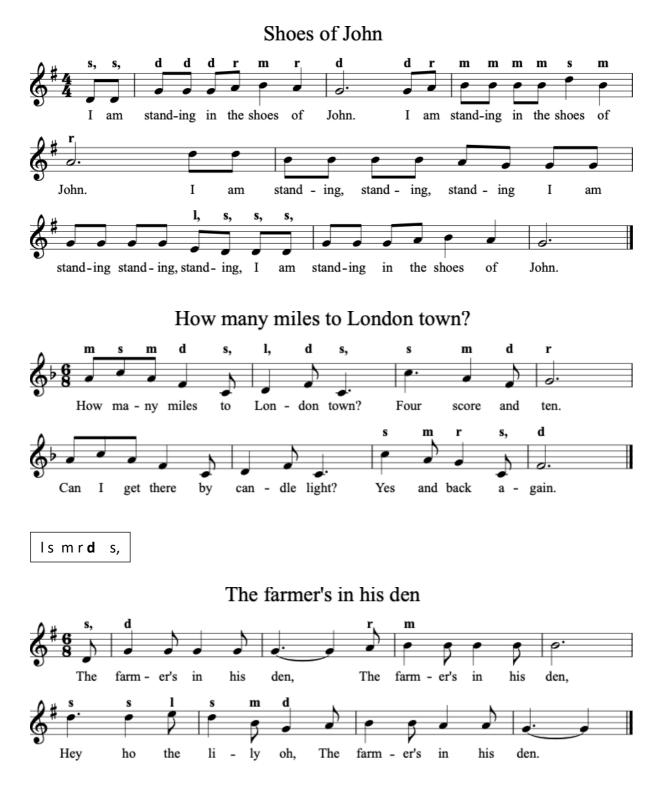


The tone-set reached the octave distance between the lowest and highest notes (so - so,) still the canon below is based on **do**-tonal centre.



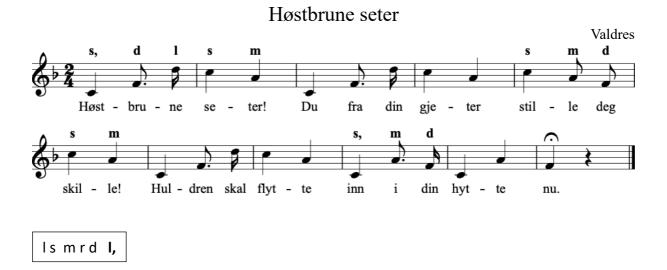
s m r **d** l, s,

The next song *Shoes of John* smoothly outlines the full Major pentatonic scale. However, as we progress with the tone-set sequence, more difficult interval combinations could also be perceived. In *How many miles* the Perfect 8<sup>th</sup> interval **so**, - **so** appears.



lsm**d**s,

The following song *Høstbrune seter* consists of a larger Major 6<sup>th</sup> interval from **do** to **la** and from **so**, to **mi**.



The following has a full **la**-pentatonic scale extending the tone-set to the octave.



The following has a wider tone-set going beyond the octave, yet the tonal centre is the la.

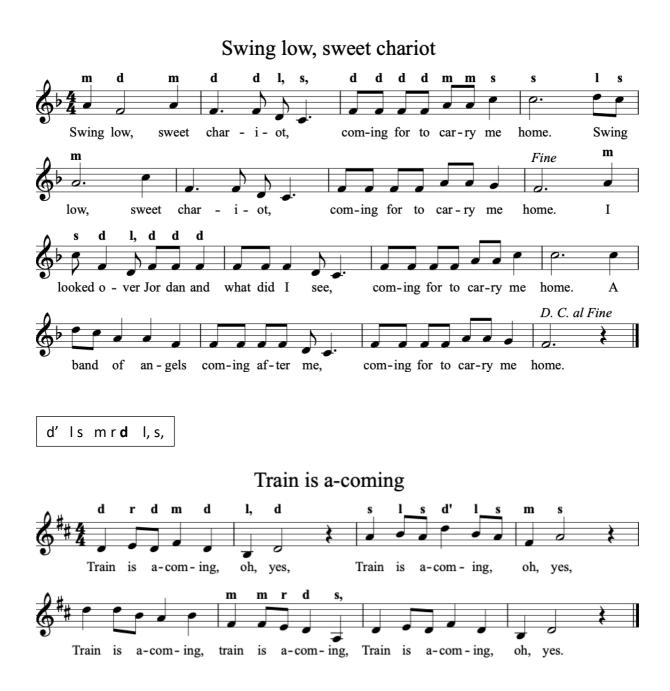


For the detailed analysis with both solfa and cipher notation and for improvising other tonal centres, the reader is directed to the Chapter 2, 'The connection between Major and relative minor with the cipher system and relative solfa', 'From Major pentatonic to minor pentatonic').

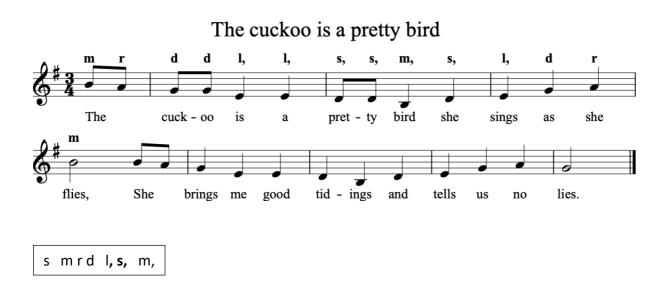
| ls mr <b>d</b> l,s, | ١s | m r <b>d</b> | l, s, |
|---------------------|----|--------------|-------|
|---------------------|----|--------------|-------|

The same tone-set (see above) is presented here with a **do** tonal centre.





As we've reached both the **do** and **la**-centred full pentatonic scales in the wider register, there are two possibilities to continue the sequence: either extending the tone-set upwards or downwards. With the following selected songs below, however, it is logical to move downwards first and to present the low **mi**,



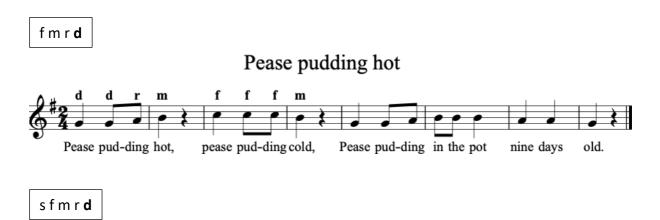
The next Norwegian folksong So håge fjøll is an interesting one as it stops on **so** which is consequently understood as **so**-pentatonic. At the same time, the source of the song notes that it is possible to create more verses, which suggests that when the song was spread by oral tradition the last improvised verse may have stopped stop on **do** (or **la**). Students should sing the song with solfa in all three versions: by stopping on **so**, **do** and **la**,.



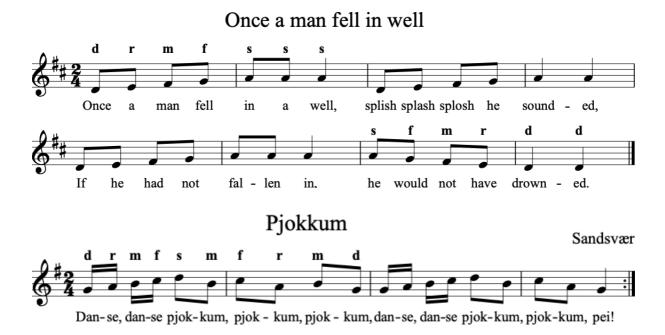
### **Diatonic songs**

The sequence of diatonic tone-set starts below with songs in the Major, i.e., the final notes are **do**. For the teacher it is recommended to find musical material with the smallest tone-set possible to present the core elements of the diatonic scale. If someone wishes to teach or learn relative solfa only with diatonic material, they could start with the **mi re do** tone-set (see above in Pentatonic songs) to experience and inner hear the Major third as the basis of Major scale. The next step would need to include one of the half-steps of diatonic scale.

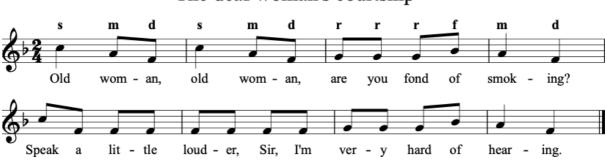
The following song *Pease pudding hot* presents the first half-step from **mi** to **fa**. The tonal centre of the tetrachord tone-set is **do**. Furthermore, the song is also appropriate to present the Subdominant in the  $3^{rd}$  bar when teaching music theory in higher level.



The following eight songs provide various melodic lines to experience the Major pentachord. The first two songs *Once a man* and *Pjokkum* approach the Perfect 5<sup>th</sup> up and down in a stepwise fashion, which is a safe start when learning relative solfa with diatonic material.



With the next song *The deaf woman's courtship* we can experience the Major triad downwards which is always clearer in intonation than upwards.



Songs like *Sea-shell* and *Bjørnen sover* use short sequential motifs with 3rds. It is recommended to keep this order of songs, as starting with the **so mi** motif is useful to experience the relative distance between the two notes (see above in Pentatonic songs). Furthermore, singing the thirds downwards help the intonation with relative solfa.

## Sea-shell



The next Norwegian song *Ro, ro Rokkeskjær* emphasises the Perfect 5<sup>th</sup> in the starting motive (**do so**), whereas in *Sori, rori* starts with the Perfect 4<sup>th</sup> interval (**re so**), which is challenging to intonate clearly. In teaching this song with solfa, it is recommended to stop at the first **do** at the end of second bar to identify the tonal centre. After this it will be easier to continue to sing the song with relative solfa and to consolidate the inner-hearing and intonation of the Perfect 4<sup>th</sup> interval.



We can extend the tone-set to any direction after **so fa mi re do**,. However, this Majorhexachord **la so fa mi re do** is very wide-spread in the Western musical tradition providing large number of songs to choose from. The order of the following six songs show a smooth process to present the new note **la** as a Major 6<sup>th</sup> interval from the **do** tonal centre. It is recommended to start with any of the first three songs (see below) which either have the opening motif based on notes **so la** - as students already experienced the Perfect fifth (**so**) from the Major pentachord above as well as the Major triad, or start with **so mi** as in *This old man*.



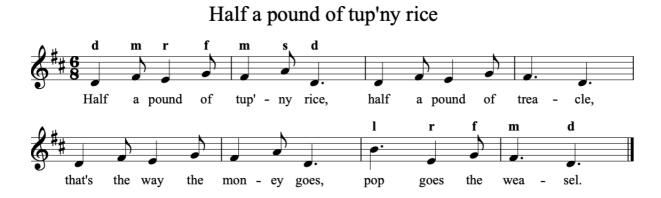
The rising Major triad in the following song *Ally bally bee* is easier to intonate when students already experienced the chord in different situations (see above).

Ally bally bee ı ı l s d m m m 0 al - ly bal - ly bee, Al - ly bal - ly sit - tin' on your ma-my's knee, ni-thir baw-bee, dy. Greet - in' for tae buy Muir Coul-ter's а can -

The next song *Lavender blue* includes the Major 6<sup>th</sup> interval from **do** to **la**.



The next song *Half a pound* is suitable for practising various intervals e.g., both types of 3rds in the opening sequence, Perfect 5ths with **so-do** and **la-re** and the Major 6<sup>th</sup> with **do-la**.



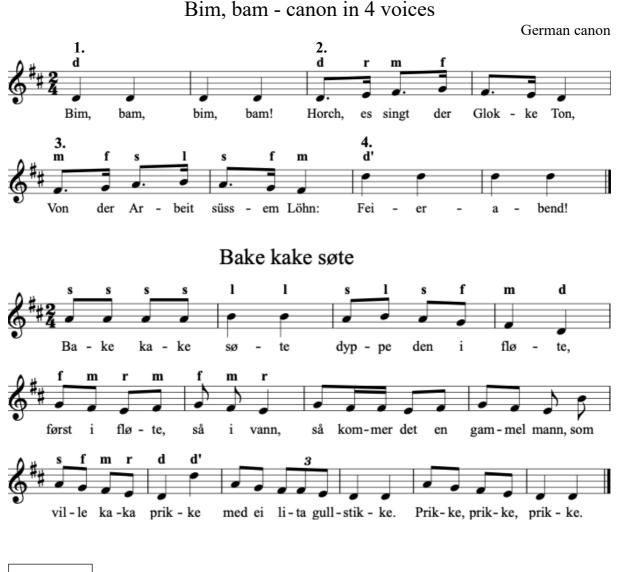
In the following, we move with the tone-set upwards, presenting the high **do** (**do**'), however, depending on the songs we use, it is also possible to go downwards.

The next Norwegian song *Ro, ro, ro* below is suitable for experiencing the Major triad broken downwards from to the **do**'.



#### d'lsfmr**d**

The German canon below also outlines the Major triad **do mi so do'** if singing it in canon in four parts. Furthermore, a new interval the minor 6<sup>th</sup> can also be perceived from **mi** to **do'**. At the same time, in the Norwegian children's song *Bake kake søte* the octave interval could be experienced from **do** to **do'**.

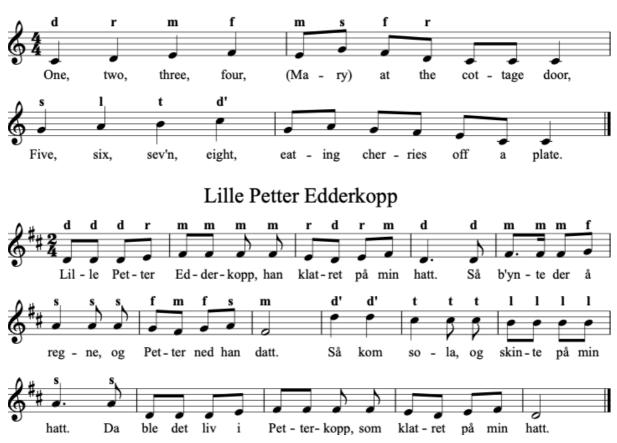


## **d'**tlsfm

The next Norwegian folksong *Hopp*, *vennen min* is suitable to present the second half-step of diatonic scale, the leading note **ti** in Major, which moves to the upper **do** resulting in the tonal centre as the **do**'. The song is also suitable to teach such music theory elements as the main functions (Tonic, Subdominant and Dominant) as well as the perfect cadence (tonal cadence in Norwegian) in Major at higher levels.



The stepwise and sequential phrases of the two children's songs below help students to sing, perceive and inner-hear all notes of the full Major scale with relative solfa.



One, two, three, four

As we have reached the full Major scale in the tone-set, we can continue the sequence extending the tone-set downwards. Students already learnt the 7<sup>th</sup> note **ti** of Major scale (see above), therefore, this tone-set shows the lower **ti**,. We start with the tone-set below **so fa mi re do ti**,. However, it is important to note that the two Norwegian folk-songs quoted below are more difficult in terms of melodic contour than the children' songs of the forthcoming tone-set **la so fa mi re do ti**,. Depending on the level of the learners we can decide which songs to choose for presenting lower leading note **ti**,.

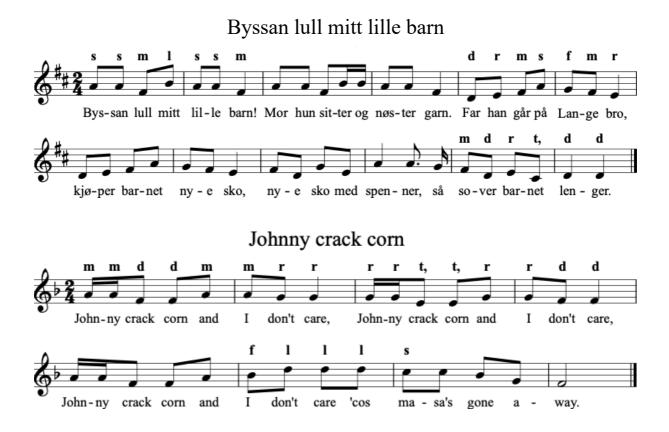
## s f m r **d** t,

In the following Norwegian folksong *Først kommer jeg* the final motif finishes with the leading note **ti**, going to the tonal centre **do**. The song is suitable for experiencing the Dominant 7<sup>th</sup> chord in the finishing phrase, as well as the function of leading note in Dominant 7th. *Fanteguten* also shows the role of **ti**, in the diminished triad **ti**, **re fa** (i.e., the third of Dominant 7<sup>th</sup> chord). The functional harmony will be presented in the next volume.

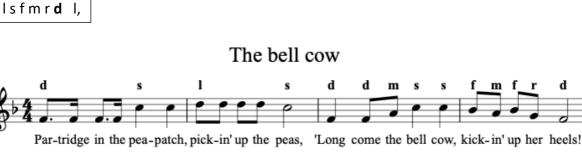


## lsfmr**d**t,

The following Norwegian lullaby Bussan lull is also suitable for presenting the ti, as the song finishes with the ti, leading to the tonal centre do.



In the following the tone-set is extended to reach the low la, yet the tonal centre is still do because of the closing note of song The bell cow.



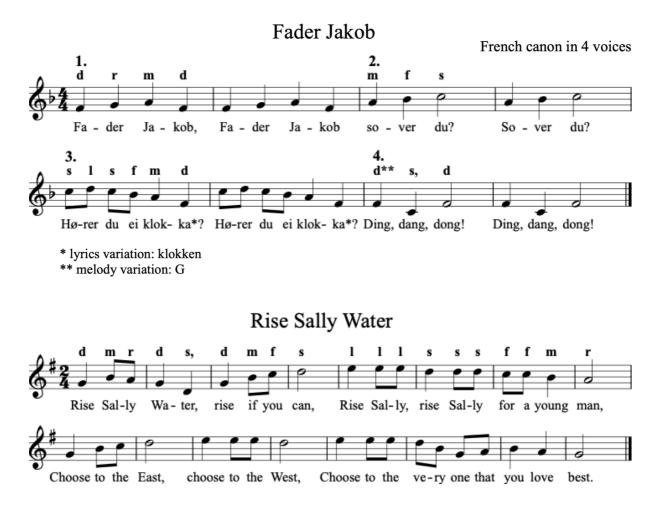


d

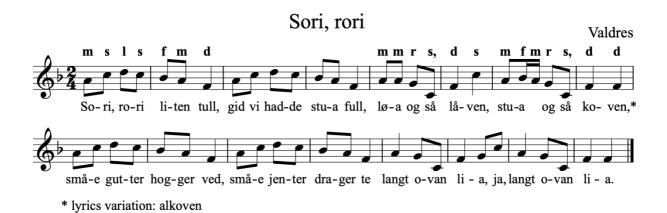
m

In the following the tone-set reached the low **so**, in the learning sequence in the Major. However, we already experienced the Dominant function and the harmonies behind most songs from the diatonic types quoted above, the following well-known canon *Fader Jakob* is also suitable for presenting the Dominant note **so**, which closes the melody to the Tonic **do**.

Regardless we use the canon for teaching functional harmony it is recommended to sing it with relative solfa not only in unison, but also in canon in four voices to consolidate the perception and inner hearing the Dominant function and the Dominant 7<sup>th</sup> unconsciously.



In the following Norwegian song *Sori, rori* the Perfect 5<sup>th</sup> and 4<sup>th</sup> intervals can be practiced in the closing motif **re so, do** which also indicate the Dominant - Tonic.



The following tone-set uses only 4 notes from the Major scale, but the **do**-tonal centre is still clearly audible.

## r **d** t, s,

In the following songs the motifs **do** and **so**, and **ti**, **re do** outline the Dominant and Tonic functions preparing for the learning of learning functional harmony.



The next tone-set shows another a part of the Major scale based on the tonal centre **do**.

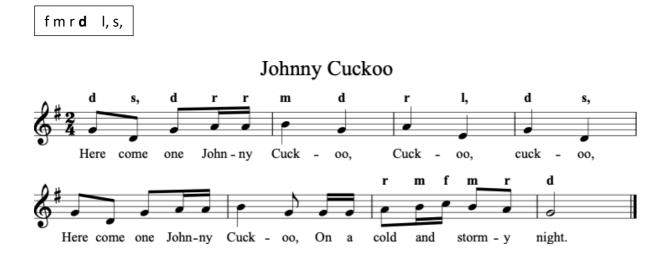
m r **d** t, l, s,

With both songs quoted below the Perfect 4<sup>th</sup> interval could be practiced with solfa between **so**, **do** and **la**, **re**. Furthermore, the **la**, **re ti**, **do** motif in the Norwegian Christmas song *De hellige tre konger* outlines the Perfect cadence (tonal cadence in Norwegian) using the Subdominant 6 chord. (The functional harmony will be presented in the next volume).

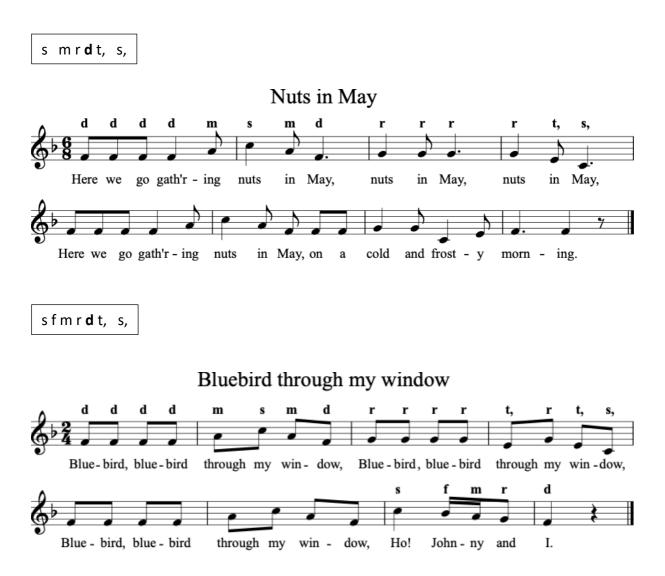


In the following song *Give my love to Nell* the Major 6<sup>th</sup> interval appears between **so**, and **mi**.

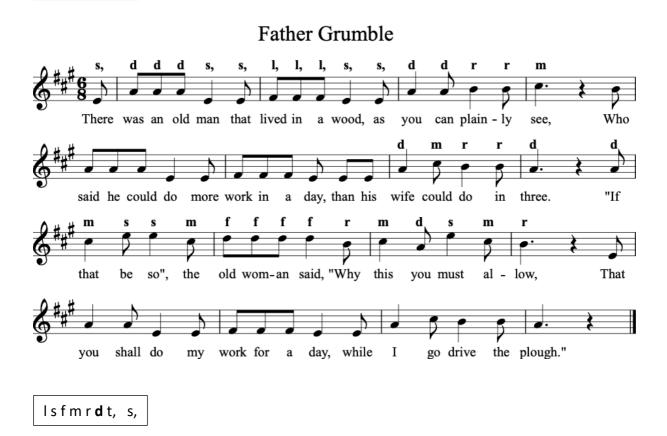




The next two tone-sets below are almost the same. They provide examples of the Tonic chord **do mi so** and the Dominant chord **so, ti, re** in various ways.



sfmr**d**l,s,



The following Norwegian children's song  $B\alpha$  back lille lam presents the Diminished 5th between **fa** and **ti**,



l s f m r **d** t, l, s,

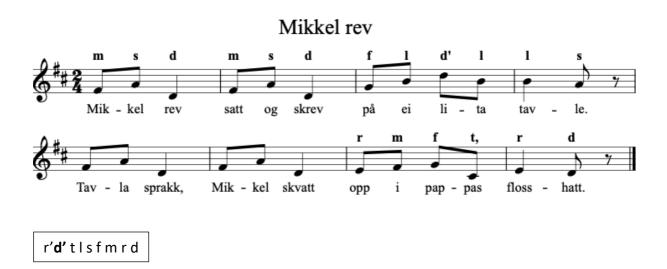


The following Norwegian folksong *Guroson*' consists of various larger intervals such as the Major  $6^{th}$  (**do-la**), octave (**do-do**') and minor  $7^{th}$  between **re do**'. Furthermore, the song includes the Tonic triad (**so mi do**) and the secondary Subdominant triad **re fa la** and 7th chord **do' la fa re**.

#### Guroson'

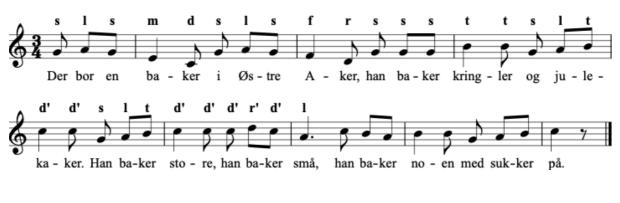


With the following Norwegian children's song *Mikkel rev* students can practice the Tonic triad in the opening motifs (**mi so do**) and the main Subdominant triad (**fa la do'**). Furthermore, the Diminished 5<sup>th</sup> interval **fa ti**, in the closing motif indicates the Dominant 7<sup>th</sup> chord as 'background harmony' - if teaching or learning functional harmony with relative solfa. The song is based on the Perfect cadence with T S D7 T (tonal cadence in Norwegian) as well.



With the Norwegian song *Der bor en baker* students can practice the Perfect  $5^{\text{th}}$  (**do so**) and Perfect  $4^{\text{th}}$  (**re so** and **do' so**), furthermore, it is also suitable for teaching or learning the main functions T S D or D7 at higher levels.

## Der bor en baker



### m′r′**d′**tlsfm d

In *Danse I en ring* below the Major 6<sup>th</sup> is emphasized as the opening interval (**so, mi**). Furthermore, the closing phrase formulates the Perfect cadence (Tonal cadence in Norwegian) in its simplest form: Tonic (**do mi so**), Subdominant (**fa la do'**) and Dominant (**so ti re'**) triads broken upwards. Students can sing these three chords with solfa regardless of their levels of musicianship or learning functional harmony in order to prepare the perception and inner hearing the harmonic progression unconsciously.



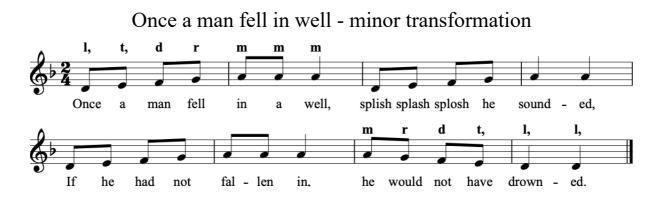
This Norwegian folk song *Ride, ride ranke* provides various intervals growing in a sequential way: **so do', so re'** and **so mi'** (Perfect 4<sup>th</sup>, 5<sup>th</sup>, Major 6<sup>th</sup>) and the minor 6<sup>th</sup> downwards from **do'** to **mi**, which are all challenging to intonate, therefore, a full solfa analysis is given below.



The sequence of the diatonic tone-set continues below with songs in the natural minor, i.e., the closing notes as tonal centre are **la**. As with the Major above, for the teacher it is recommended to find musical material with the smallest tone-set as possible to present the core elements of diatonic scale in natural minor. Below we start with the **mi re do ti**, **la**, tone-set which also includes the half-step between **do** and **ti**, as well as the minor third **do** and **la**, and minor triad **la**, **do mi** as characteristic of minor tonality.



The sequence of songs begins with the song *Once a man fell in well* based on stepwise motion upwards and downwards.



In the next song *This old hammer* the minor triad **la**, **do mi** is emphasised. The song is pentatonic until the last phrase where **ti**, indicates the minor-pentachord based on **la**-centre.



In the following two songs *Goblings are around tonight* and *Killa bukk, killa blakk* students can practice the Perfect 5<sup>th</sup> interval with **la**, **mi** and the Perfect 4<sup>th</sup> with **la**, **re** and **ti**, **mi**.



In the next three songs a variety of melodic turns of the minor pentachord tone-set could be found with different rhythmical and metrical features.





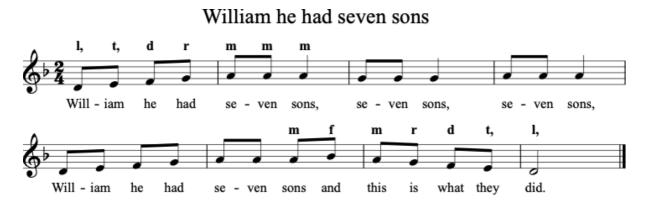
In the next Norwegian folksong *Safta, safta, safta, sala* the note **re** is missing from the minor pentachord tone-set, yet the minor feel is emphasized in the starting motif and in its variations. For clear intonation the challenging interval is the Perfect  $4^{\text{th}}$  between **mi** and **ti**,



In the following, the minor pentachord tone-set is extended with another characteristic note **fa** which is a minor step from the fifth-degree **mi** in natural minor.

fmrdt, I,

The song *William he had seven sons* below provides smooth stepwise melody from **la**, up to **fa** and down.



The next tone-set, however, is extended both up and down. The **fa** is missing from it because of the Norwegian song *Bjønnen om høsten*. Still, we feel the natural minor because the inclusion of **ti**, as well as the final tonal centre **la**.



In the following, the minor pentachord is extended with the upper la.

The first two musical examples are suitable to consolidate the inner hearing of the Tonic minor triad **la**, **do mi**. In the canon from Praetorius below this minor triad could be heard only when singing it in canon in 4 voices. Whereas in the minor transformation of Norwegian folk-song *Ro, ro, ro din båt* the minor triad could be found in arpeggio downwards as **la mi do la**,. With both the *Alleluia* canon and the folk song *Pottesalg* students can practice the intonation of octave (**la**, **- la**).

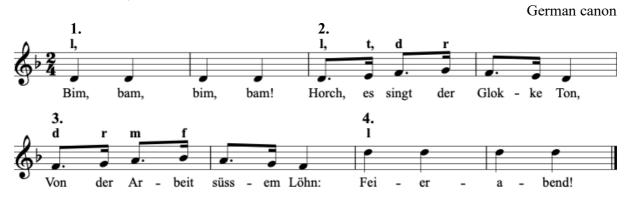


Next, the previous tone-set is complemented with the note fa.

## l fmrdt, **l,**

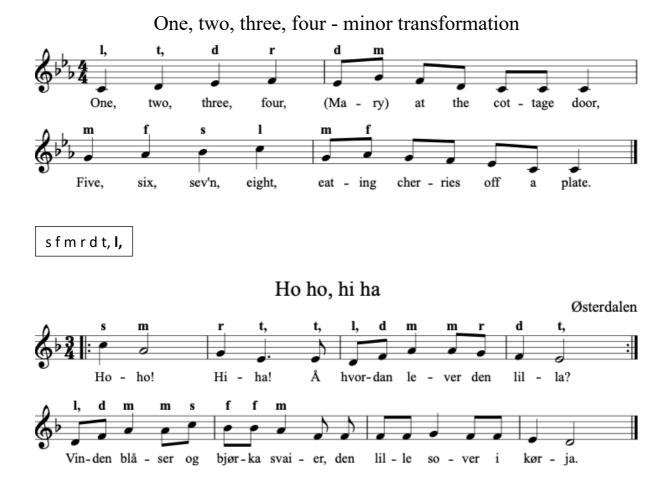
In the minor transformation of German canon *Bim, bam* the **la**-based minor triad can also be heard when singing it in canon in 4 voices.

Bim, bam - canon in 4 voices - minor transformation

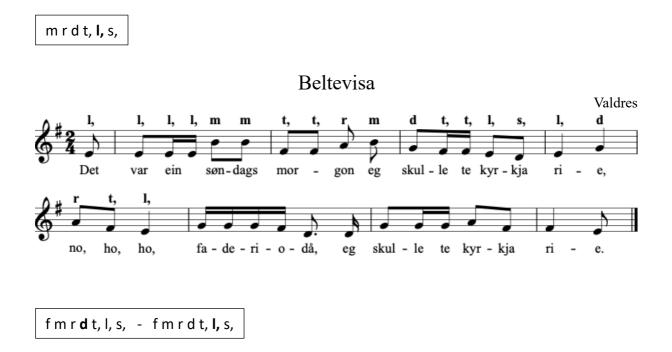


In the following two tone-sets we arrived at the full natural minor scale. However, the minor transformation of song *One, two, three, four* below reached the octave, in contrast with the Norwegian song *Ho ho, hi ha* that follows. The order demonstrates the difficulty of songs in terms of melody.

l s f m r d t, **l,** 



In the followings, the tone-sets goes below the tonal centre la, reaching the low so,.



In this tone-set both the **do** and **la**-centres are marked, as in the first 5 bars of the song *Tak hardt I hand* rather the Major tonality could be heard from the closing of the phrases. Yet, the song finishes on **la**, indicating the natural minor tonality. (See also in explanation of different tonal centres with numbers and solfa in Chapter 2, 'The connection between Major and relative minor with the cipher system and relative solfa', 'From Major (diatonic) to natural minor' in more detail).



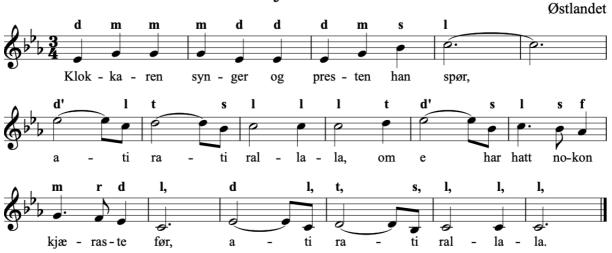
In the following more extensions could be found in tone-sets related to the quoted songs based on natural minor scale.

s f m r d t, **l,** s,



The Norwegian folk song *Fantejentas vise* below provides an ambiguous feeling in terms of tonality, therefore, a full solfa analysis is given. The song starts on **do** and the melody outlines the Major triad, furthermore the Major feel also could be heard in bars 10-12. Still, the first part of song in bars 8-9 as well as end of song closes on **la**, therefore, it is considered as minor. (See also in explanation of different tonal centres with numbers and solfa in Chapter 2, 'The connection between Major and relative minor with the cipher system and relative solfa', 'More frequent alternation of minor and Major tonal centres' in more detail).

## Fantejentas vise



In the following, the tone-set reached the low **mi**, which is the fifth degree of the natural minor. In most songs quoted below the Dominant feeling could be heard, even when the tone-set is natural minor.

#### mrdt, **I,** s, m,

In the canon *Hey Ho!* below the background harmony is **la**, **do mi** as the Tonic, and **mi**, **so**, **ti**, as the so called 'minor Dominant'. However, functional harmony will be presented in the next volume, it is recommended to sing the canon in three voices to consolidate inner hearing the harmonic progression unconsciously.



## Kysje roe banegull



In this tone-set shown above, two tonalities are marked because in the quoted Norwegian folksong *Kjerringa ho sette deg* (see below) the Major and minor tonalities alternate. The song starts in the minor with a kind of Dominant-Tonic feel **mi**, **la**. The first part then clearly closes on **do**, which is also emphasised with the upbeat **so**, to **do** in the first beat of bar 3 (Tonic-Dominant in Major). At the same time the song ends on **la**, indicating the natural minor tonality. (See also in explanation of different tonal centres with numbers and solfa in Chapter 2, 'The connection between Major and relative minor with the cipher system and relative solfa', 'More frequent alternation of minor and Major tonal centres' in more detail).



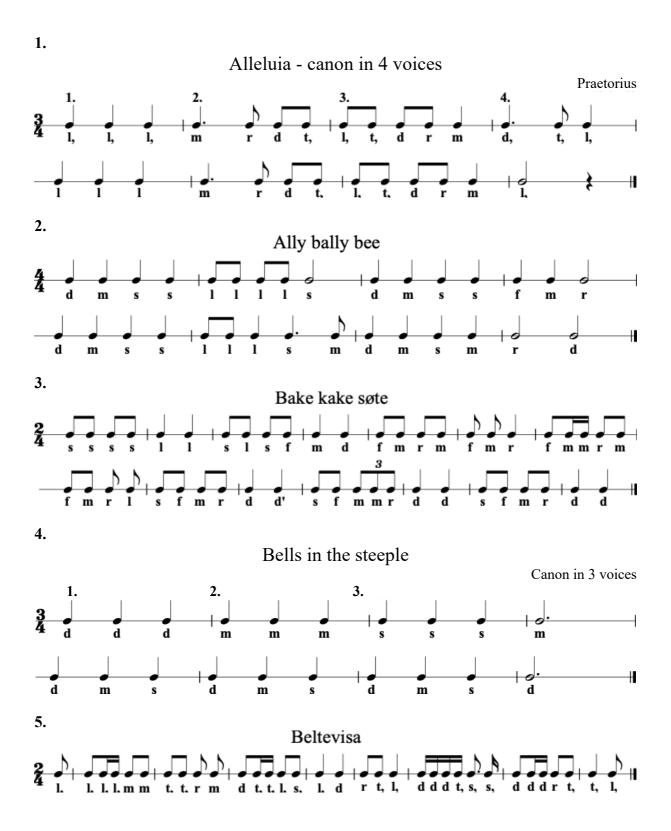
In following tone-set and the corresponding Norwegian song *Huldrekvee* a local modulation can be heard. The first part of song ends on **do** as the tonal centre, however the song ends on **la**, indicating the natural minor. (See also in explanation of different tonal centres with numbers and solfa in Chapter 2, 'The connection between Major and relative minor with the cipher system and relative solfa', 'From Major (diatonic) to natural minor' in more detail).

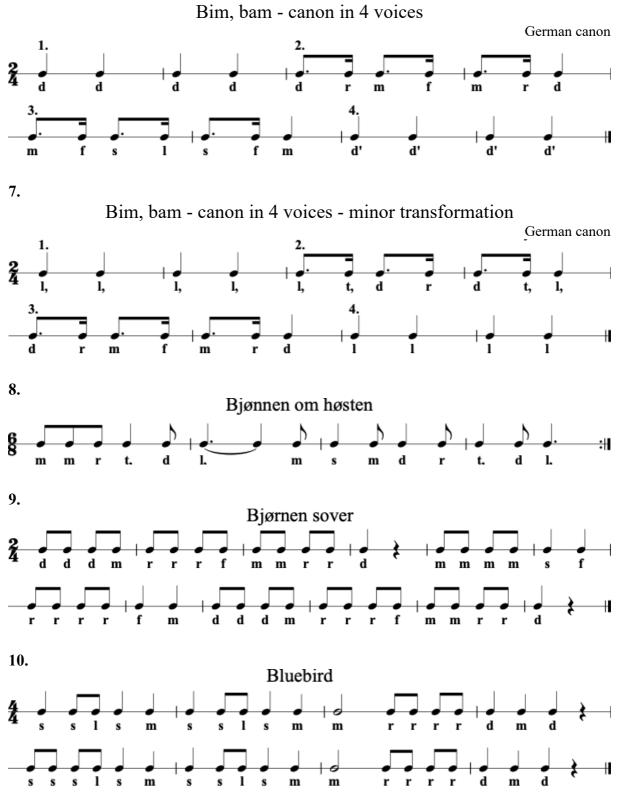
## Huldrekvee



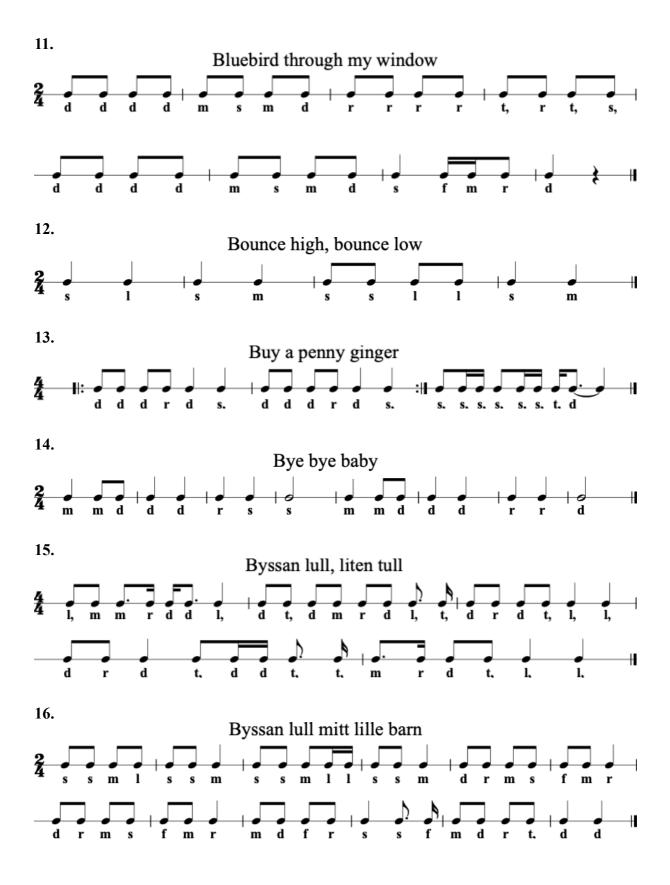
# Appendix

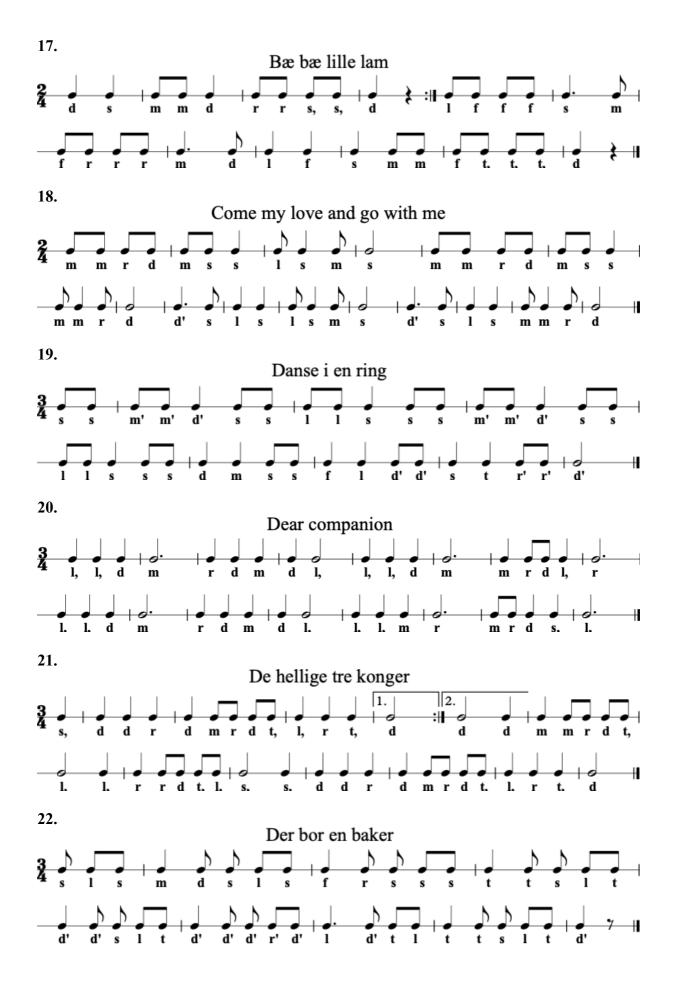
## Solutions for relative solfa analysis - Songs in alphabetical order

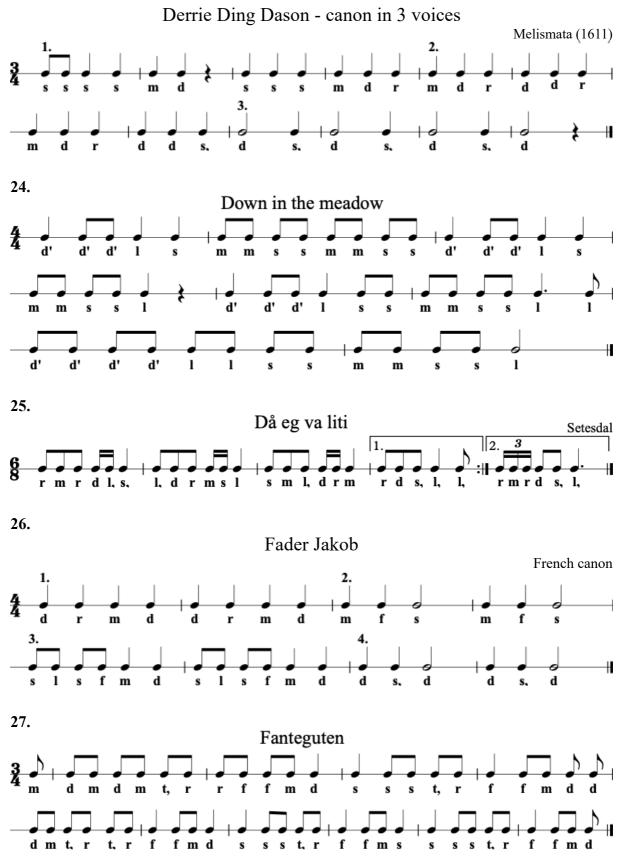




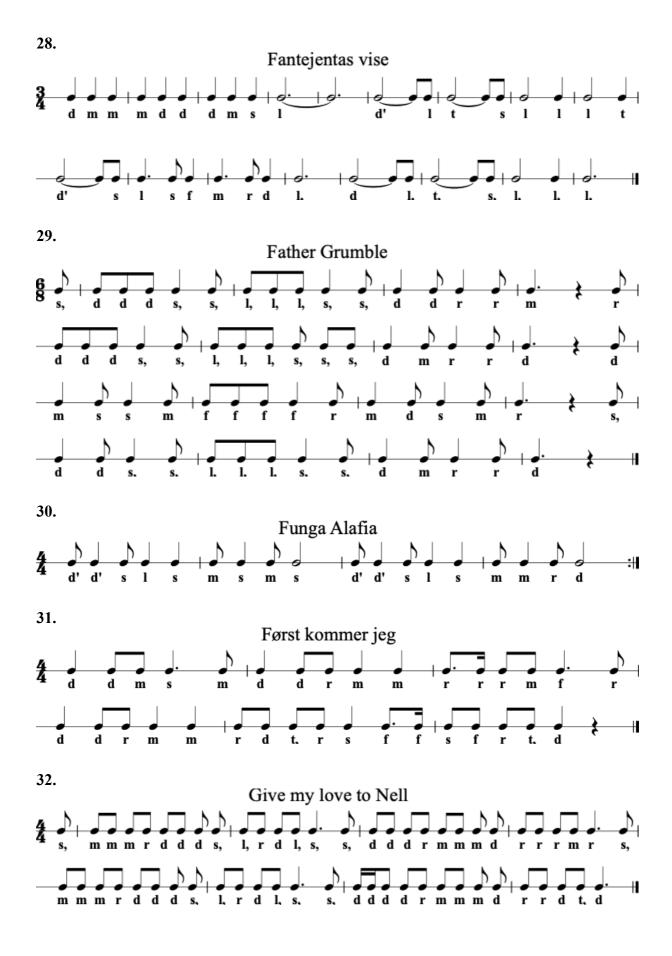
6.



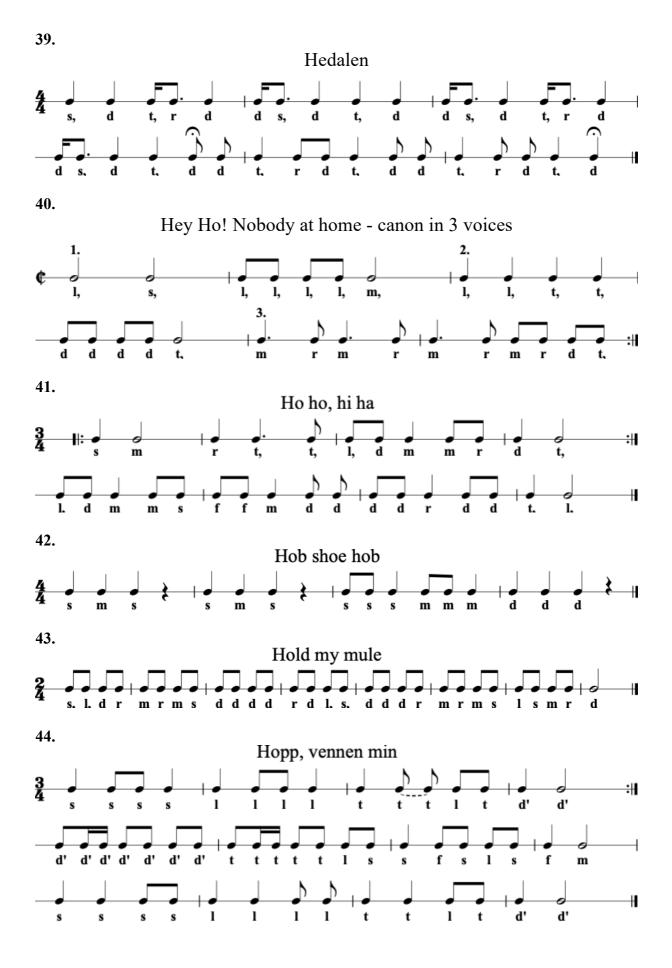


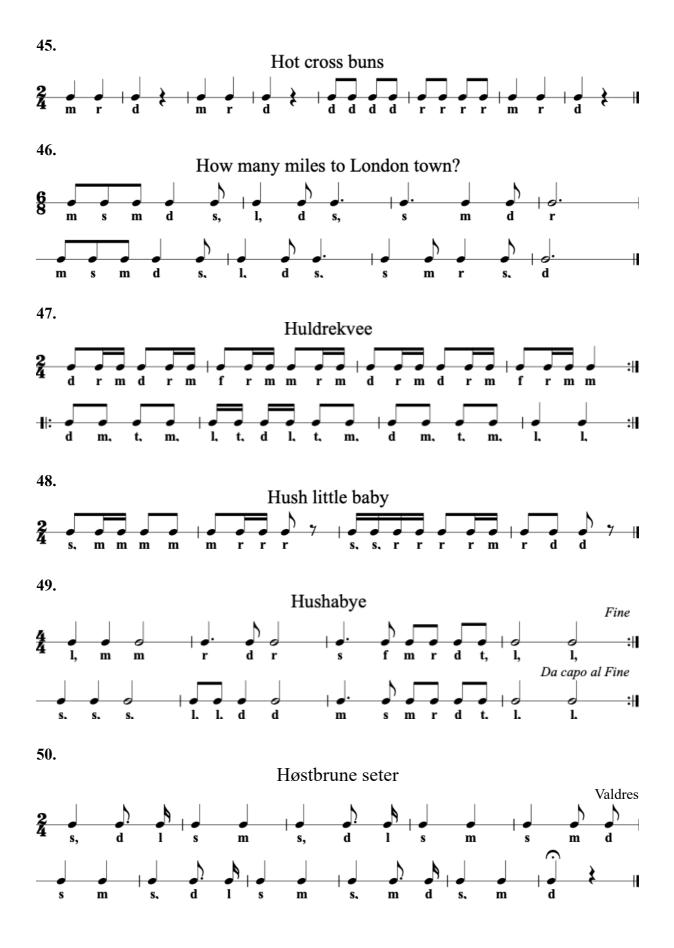


23.

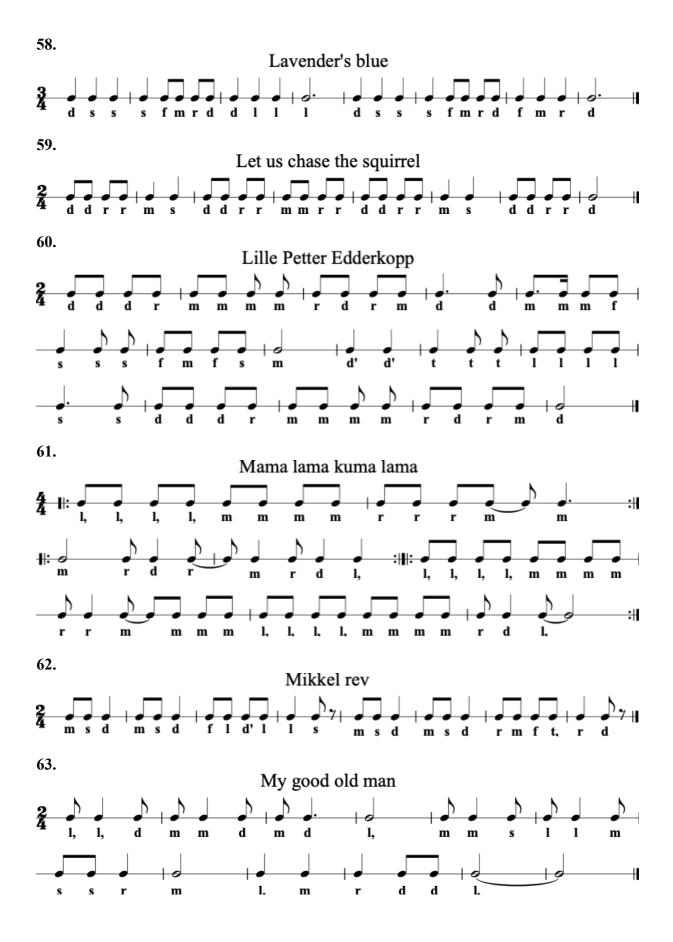






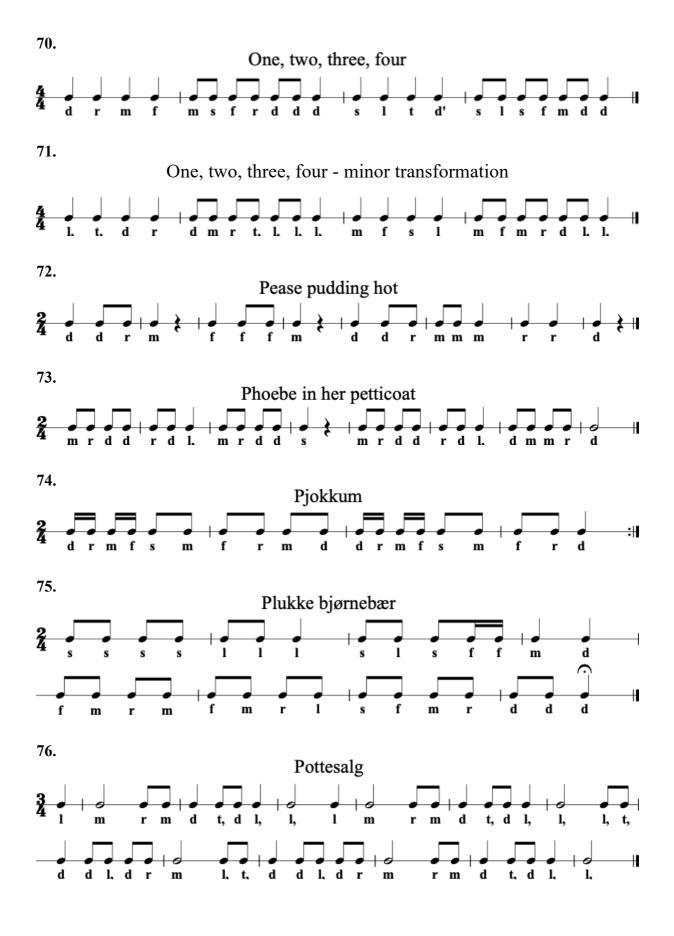








64.

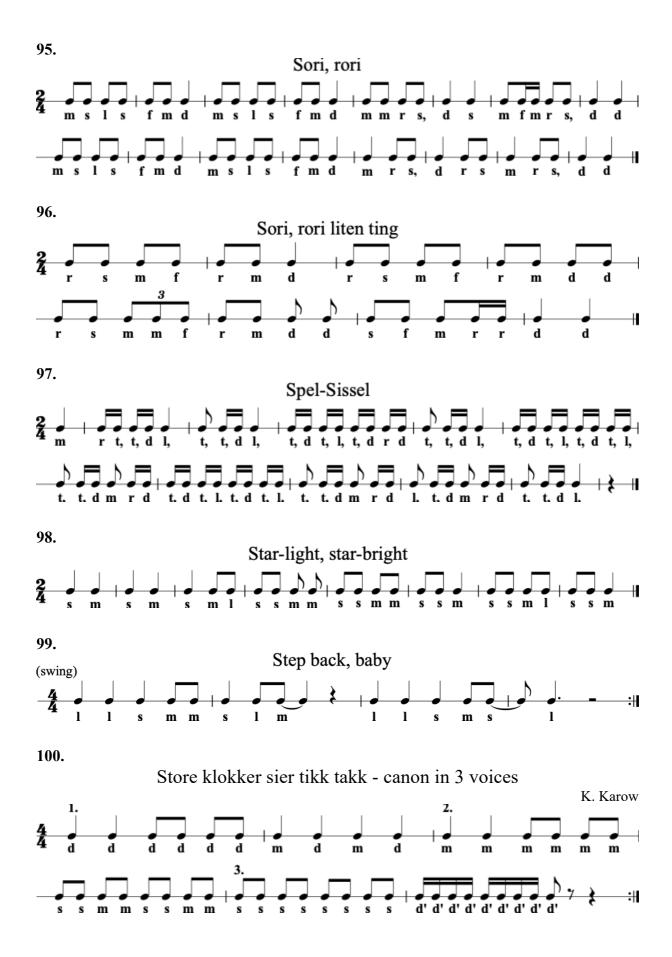


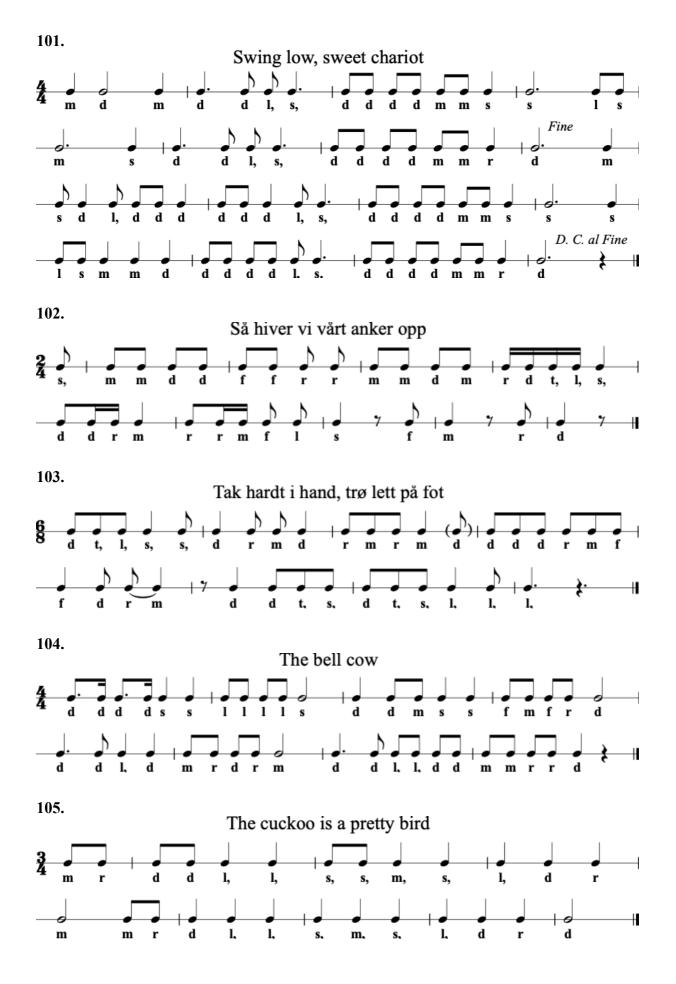


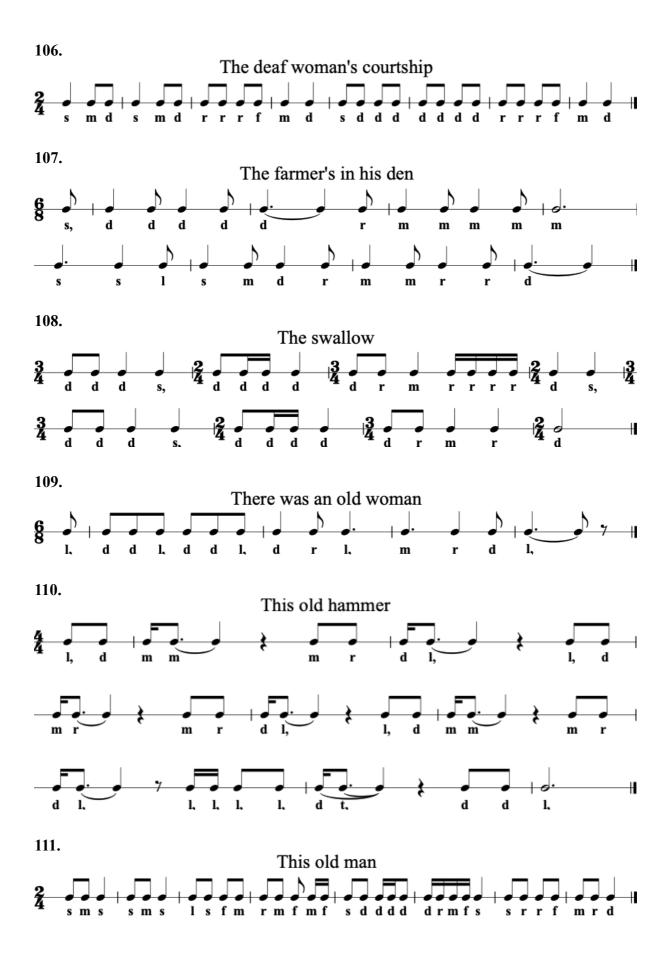


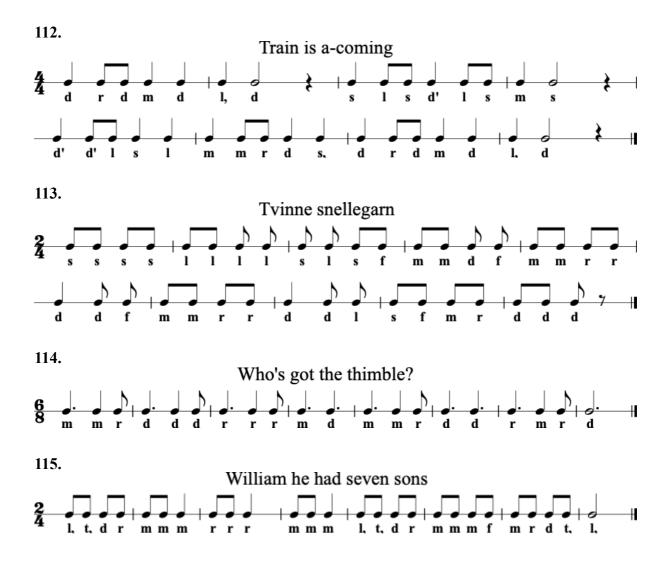


89.









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## Source of illustrations for Chapter One:

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