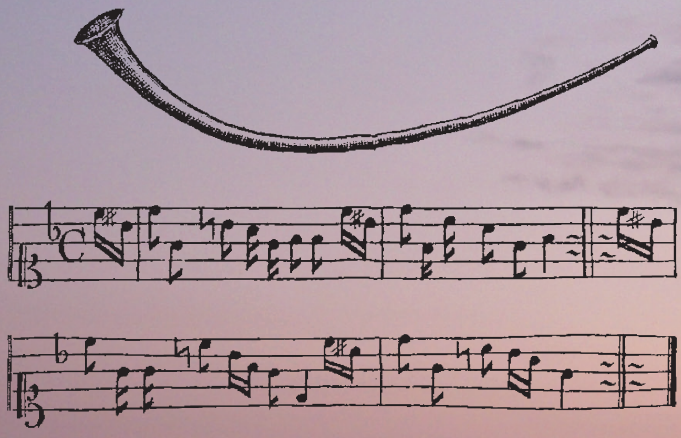
ALPINE VIBES

The Musical Connection between the Alphorn and Yodeling – Fact or Ideology?



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Translated by Gary Martin

CHRONOS

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Alphorn and Kuhreihen from Kappeler (1767: Tab. V, Fig. 2)

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Translator's Preface to the English Edition

What motivates a retired professor of Ancient Near Eastern Studies in Seattle to embark on an English translation of a German-language book on Swiss alphorn-playing and yodeling authored by musicologists from Lucerne? The answer involves a long and complex narrative that does not need to be told here, but it begins with a few key elements: A keen interest in Swiss folk music traditions, a knowledge of German, personal experience in playing alphorn, an academic bent of wanting to know as much as can be known about the history of the alphorn and related Swiss music traditions, and time in retirement to devote to such topics.

The search for materials to satisfy my curiosity led to a number of helpful publications in German and in English. I was thrilled to find a Google Books link to the 1826 *Sammlung von Schweizer-Kühreihen und Volksliedern* by F. F. Huber and J. R. Wyss. Not finding audio recordings of the seventy-six numbered print scores in the collection, I set them all in MuseScore so that I could listen to the tunes via digital playback, though without musical feeling. At least I was able to acquire a sense of the musical construction of Kuhreihen.

I was even more thrilled to find the E-Book version of *Alpenstimmung* which laid out the social and cultural background of Kuhreihen, the Unspunnenfests, and the history of the alphorn. In addition, the book introduced to me to the Swiss yodel and its possible connections to the alphorn. The title of the book points to a narrow research question: Is there a musical connection between the alphorn and yodeling that can be documented as opposed to merely assumed? In a masterful display of carefully designed and executed research explorations, meticulous evaluation of source materials, and clear explanations of applied musicological and ethnographic methodologies, *Alpenstimmung* demonstrates that finding an answer to the framed research question must extend inquiries into a broad range of topics that engage specialists as well as novices, such as myself. However, many readers who would thoroughly enjoy and derive great benefit from the book may not possess a requisite level of proficiency in reading academic German.

Convinced that an English translation of *Alpenstimmung* would be a worthwhile endeavor, on 13 January 2022 I sent an email query to Raymond Ammann, research lead for *Alpenstimmung.* Communication soon included co-authors Yannick Wey and Andrea Kammermann via email and Zoom meetings. The translation project was soon off and running. A convergence of disparate circumstances coupled with an incredibly enjoyable collaboration with the authors resulted in the production of this English translation of *Alpenstimmung: Musikalische Beziehung zwischen Alphorn und Jodel–Fakt oder Ideologie?*

Any translation project represents an attempt to balance literal renderings of the source language with the appropriate idioms and style of the target language. In addition, the translation of *Alpenstimmung* required a mapping of technical musicological and cultural terminology that often proved challenging. For example, the German musical term "Stufe" is generally "scale degree," though this translation may not be the best in every case. While online translation tools are quite useful, in such a specialized work there are many gaps and pitfalls that must be remedied by human intervention. One can only chuckle at the machine translation of "Betruf" ("prayer call") as "fraud!" Apparently, the expression for a Swiss prayer call is so uncommon in everyday usage that some machine translators assume "Betruf" is a typo for "Betrug" ("fraud") – after all, the f and g are next to each other on the keyboard, both accessed by the left forefinger.

Translations of cited non-English sources are generally by me, although in many cases I have collaborated with the authors on difficult texts, especially those from older historical German-language sources. Where available, published English translations of Latin works replace the German translations in *Alpenstimmung*.

Throughout the translation process, the authors have generously and graciously devoted their time and expertise to assist in finding the best English equivalents of difficult terms and constructions, and in a number of cases they have corrected my errant English. I owe them an immense debt of gratitude, not only for numerous instances in which they saved me from committing embarrassing mistranslations of my own, but especially for the constant flow of encouragement that kept me moving forward in the belief that this publication constitutes a major contribution to the dissemination of Swiss folk music traditions.

March 2023

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Foreword

In 1910, a group of enthusiastic Swiss yodelers and alphorn players founded the Swiss Yodel Organization (Schweizerische Jodlervereinigung), from which the Federal Yodeling Association (Eidgenössischer Jodlerverband, EJV)[1] emerged in 1932. Already at that time, the Association's formulation of its commitment to the preservation, cultivation and promotion of Swiss traditions such as yodeling, alphorn-playing and flag-waving formed the breeding ground on which fresh and new types of folk music could also flourish. Yodeling and alphorn-playing continue to be practiced and promoted within the family and in the yodeling club, and especially in recent decades, versatile approaches have developed to put new life into this kind of folk music. Earlier fears that this expression of our traditions would die out have been put to rest. However, with such a marked interest in recent decades, the form of this type of folk music, its transmission and its social environment have also changed.

Addressing a scenario of continuously changing social expectations calls for a neutral examination of past and present messaging of the Association, and the musicological processing of existing core questions about yodeling and the alphorn. To this end, the cooperation with the research team of the Lucerne School of Music has proven to be very fruitful. After a smaller study on the question of how tradition in a constantly changing cultural landscape should be conveyed, the results of this research, supported by the EJV, on the musical relationship between the alphorn and yodeling are now available. The book *Alpine Vibes: The Musical Connection Between the Alphorn and Yodeling – Fact or Ideology?* summarizes the results of a three-year intensive examination of the topic.

As anticipated, the question of the relationship between alphorn music and yodeling cannot be answered with a simply formulated statement, but rather – in addition to a historical reappraisal – music-analytical, organological and empirical sub-studies needed to be conducted to be able to present meaningful evidence and arguments. This research has confirmed that alphorn-playing and yodeling have a common history, but they have also gone their own way. In any case, the book *Alpine Vibes* affirms the significance of individual supporters of these musical genres from within the circle of the EJV and confirms the importance of numerous enthusiastic tradition-bearers, without whom Swiss yodeling and alphorn-playing would be far less known today.

1 In this publication the abbreviation EJV is used for the English title "Federal Yodeling Association."

I wish to recommend the reading of *Alpine Vibes* especially to all those with a heart for yodeling and alphorn-playing, and I would like to express my sincere gratitude for the extremely pleasant cooperation between the EJV and the research team of the Lucerne School of Music.

Eidgenössischer Jodlerverband / Federal Yodeling Association

Karin Niederberger, President

Acknowledgements

We began the research project *The Musical Connection between the Alphorn and Yodeling – Fact or Ideology*, funded by the Swiss National Science Foundation, in August 2015. We divided the focal points of research according to previous personal knowledge, preferences and interests, but we also made sure that we exchanged views on all sub-areas in order to advance research together. At the beginning of the research project, we formed an alphorn trio, two of us built their own instrument and a member of the research team also began to learn yodeling. All this was done with the intention of reinforcing our theoretical approach through a lived practice.

The research project greatly benefited from the dialogue with members of the Federal Yodeling Association (EJV), who were always willing to exchange information in harmonious interaction. At the Federal Yodeling Festival (Eidgenössisches Jodlerfest) 2017 in Brig, the board of the EJV provided us with a platform both for the presentation of preliminary results and for the implementation of empirical research. In this regard we would like to express our deep gratitude to Karin Niederberger, Antje Burri, Petra Tomanek, Rolf Marx, Reto Kippel and Sonja Diezig.

Research progress was regularly demonstrated at expert panels, and feedback of various experts was obtained. This resulted in friendships that extend beyond this research. Our sincere thanks go to these colleagues: Brigitte Bachmann-Geiser, Peter Baumann, Beny Betschart, Peter Betschart, Toni Büeler, Rolphe Fehlmann, Albert Feuz, Edi Gasser, Urs Holdener, Frances Jones, Kurt Langhard, Adrian Linder, Silvia Meister, Willi Michel, Ewald Muther, Nadja Räss, Hans-Jürg Sommer, Marcello Sorce Keller, Heini Stebler, Balthasar Streiff, Franz Schüssele, Heinz Tschiemer, Willi Valotti, Toni Wigger and Armin Zollet.

Our research was able to benefit from the support of the following museums and institutions: Musikinstrumentensammlung Willisau (Adrian Steger), Klingende Sammlung Bern (Adrian von Steiger), Dorfmuseum Zeihen (Elisabeth Glaser), Museum der Kulturen Basel (Dominik Wunderlin), Schlossmuseum Thun (Hans Kelterborn, Lilian Raselli), Landesmuseum Zürich (Bernard Schüle), Talmuseum Lauterbrunnen (Esther Graf), Zentrum für Appenzeller und Toggenburger Volksmusik Roothuus Gonten (Barbara Betschart, Bernadette Koller, Erwin Sager), Staatsarchive Nidwalden, Uri, Bern, Luzern, Zürich, Kantonsbibliothek AR Trogen, Kantonsbibliothek Vadiana St. Gallen, Burgerbibliothek Bern, Musikbibliothek Zürich and Schweizerische Nationalphonothek.

This research includes areas of Austria and Germany, and thus we were able to benefit from the support of our Austrian and German colleagues. We would like to thank Eva Banholzer, Ulrich Morgenstern, Thomas Nussbaumer and Peter Oberosler from Austria as well as András Varsányi, Charlotte Vignau and Elmar Walter from Germany.

Colleagues from the Lucerne School of Music have supported our work in many ways: Antonio Baldassare, Ivo Bättig, Marc Brand, Simone Busch, Marc-Antoine Camp, Jürg Huber, Michael Kaufmann, Priska Ketterer, Lorenz Kilchenmann, Thomas Mejer, Martina Murer, Nicole Sandmeier, Olivier Senn, Helena Simonett, Regula Steiner, Bernadette Rellstab and the Music Library team. We would also like to thank our copy editors Ulrich Morgenstern, Charlotte Vignau and Brigitte Weber.

Chapter 1: Introduction

Alphorn-playing and yodeling are celebrated together at alpine festivals and have become an integral part of national cultural events in Switzerland. Both music practices are experiencing an increase in interest and are inspiring a wide audience. It is not surprising that questions arise about music-historical contexts. Is alphorn-playing to be understood as "blown-yodeling?" Did the alphorn, with its characteristic natural tone series and sound, influence yodeling? Are both rooted in the centuries-old Kuhreihen?

This publication discusses whether there are similarities between yodeling and alphorn music, and whether evidence points to a common past of the two musical practices. The research is intended to clarify where and when in the course of history a one-sided or mutual influence occurred, and whether this persisted or periodically re-appeared. The study area originates from Switzerland and extends to the south of Germany and Austria, where alphorn music and yodeling coexist or coexisted. The research results are intended to contribute to the current discussion on the connection between alphorn music and yodeling, as well as to the global debate on the instrumental hypothesis.

Research motivated by the popularity of the alphorn and yodeling

The growing interest in alphorn music and yodeling can be seen in the extremely well-attended yodeling festivals as well as in the large and fully-booked range of various courses for learning to play alphorn and to yodel, or for the production of one's own alphorn. In addition to a majority of about 18,000 active yodelers, the Federal Yodeling Association counts more than 2,100 alphorn players (EJV [ed.] 2018: 21). This rising interest in the instrument and yodeling is even greater in reality, as not all people who have found their way to the alphorn or yodeling in the last 20 years belong to the Yodeling Association.

An increasing interest in the alphorn and yodeling can also be seen in other Alpine countries. In 2000, there were over a thousand active alphorn players living in Germany (Schüssele 2000: 63) and the number has grown since then. No figures are available for Austria and Liechtenstein, but here, too, the range of yodeling workshops suggests a rise in the number of active yodelers (Steirisches Volksliedwerk [ed.] 2009: 59).

Yodeling and alphorn groups are also found in England, the Netherlands, the USA, Canada, Japan and Korea (Vignau 2013: 157). The number of people involved in alphorn music and yodeling – both in the Alpine region and worldwide – has never been as large as it is today.

Hand in hand with this growing interest and a correspondingly rapid dissemination, alphorn-playing and yodeling have been incorporated into different music genres. Pepe Lienhard took the alphorn into pop music in the 1970s (Lienhard 1977). The composer Jean Daetwyler wrote works for alphorn and orchestra (Daetwyler 2002), and Eliana Burki uses the alphorn in her "funky" music (Burki 2008). The horn player Arkady Shilkloper and the trumpeter Hans Kennel expand the instruments of unconventional jazz compositions with the alphorn (Shilkloper 2000, Kennel 2017), and the Swiss composer Daniel Schnyder composed a *Concerto for Alphorn and Orchestra*, which was premiered by Shilkloper in 2004. Alphorn player Lisa Stoll has become known internationally through her popular recordings, concerts and live-stream events,[1] and Balthasar Streiff shows with his quartet Hornroh (Hornroh 2015) that the alphorn can be employed in experimental music. In vocal music, the formations La vache qui crie,[2] the Duo Stimmhorn (Stimmhorn 2001) and the yodeler Nadja Räss, in her project *stimmreise.ch* (Räss 2006), experiment with yodeling. Furthermore, the yodeling club Wiesenberg celebrated success in cooperation with prominent pop stars (Weber/Schilt 2012).

These growing numbers, along with the stylistic expansion of the repertoire, provide additional motivation for investigating the research question of a relationship between alphorn and yodeling music. The present work is aimed at active alphornists and yodelers who would like to become more informed about the historical, sociological and musical backgrounds of their music, as well as all persons interested in musicology. The research results should be understood as exclusively descriptive and documentary, and in no way be regarded as prescriptive. The way in which the alphorn is played, or which technique is used in yodeling, is determined solely by the musicians.

There are already a number of detailed studies on the alphorn and yodeling. Brigitte Bachmann-Geiser published her book *Das Alphorn* in 1999, with different points of emphasis written by specialists. Bachmann-Geiser (1999: 82) mentions the "alphorn-fa,"[3] which is so important for the present research, but she does not compare this natural tone with those that are partly used in natural yodeling,[4] as she focuses on other aspects. Another work of comparable importance, which appeared one year after Bachmann-Geiser's book, was published by the German alphorn soloist and multi-instrumentalist Franz Schüssele. Schüssele presents wooden horn instruments with their musical characteristics from all over Europe and points to common harmonic foundations of alphorn melodies and yodeling songs (Schüssele 2000: 215), but he does not deal with them in greater

1 www.lisastoll.ch, 11 February 2022.
2 www.lavachequicrie.de, 23 March 2018.
3 The natural tone series of the alphorn and the alphorn-fa are discussed from p. 21.
4 In Switzerland today, "natural yodeling" is understood to mean yodeling without words. For a detailed consideration of the concept of natural yodeling and its historical meanings, cf. Wey/Kammermann/Ammann 2017.

detail. In her dissertation on the alphorn, published in book form, Charlotte Vignau presents alphorn groups from Switzerland, the Allgäu, the Netherlands and Japan, linking ethnomusicological aspects of the present with media field research techniques, but she mentions yodeling only peripherally (Vignau 2013). In 2010, the alphorn composer Hans-Jürg Sommer published an *Evaluation and Interpretation of Historical Sources on Alphorn Melody*[5] and sums up that alphorn music has an ancestor in Kuhreihen (Sommer 2013). In his book on the alphorn, journalist Pierre Grandjean refers to musical parallels between yodeling melodies and Kuhreihen (Grandjean 2012: 56), but he quotes only Sommer (2013) on this issue. The English horn player and musicologist Frances Jones wrote her dissertation, also now in book form, on the role of the alphorn in classical music (2020)[6] and refers to sung Kuhreihen, which can also be understood as alphorn melodies. In his monograph on the alphorn, Eckhard Böhringer (2015) provides a detailed study of the herdsman's horn. The author has dedicated himself to the reproduction of historical herdsmen's horns and treats the alphorn as a subcategory of the herdsman's horn. Böhringer discusses the musical characteristics of long natural trumpets, but not the musical relationship to yodeling.

Max Peter Baumann published his dissertation *Music Folklore and Music Folkloristics*[7] in 1976, in which he describes seven theories of the origin of yodeling, including the possible emergence of yodeling as an imitation of the alphorn sound (Baumann 1976: 101). Heinrich Leuthold published his research on natural yodeling in Switzerland in 1981 and mentions the relevance of the natural tone series for yodeling; however, he does not see this as conditioned by a relationship with the alphorn (Leuthold 1981: 27). Bruno Mock refers to the transmission of Appenzeller yodeling styles in his dissertation entitled *Rugguusseli* (Mock 2007). Mock mentions the use of the 'alphorn-fa' (cf. p. 21) in Appenzeller yodeling (Mock 2007: 57), but he provides no music-analytical discussion. Eugen Hänggi presented his dissertation at the St. Petersburg Conservatory on the history of yodeling in the musical culture of Switzerland, in which he provides a detailed discussion of Kuhreihen from the 19th century (Hänggi 2011, in Russian).

In 2017, Helen Hahmann presented a music-sociological study on yodeling in the Harz Mountains without making any references to the alphorn. In musicological and folklore literature, the history of the alphorn and yodeling is thus well documented, whereas a consideration of the musical relationships between the two musical practices is a research gap.

5 Original title, *Auswertung und Interpretation historischer Quellen zur Alphornmelodik.* In 2013, a slightly revised version was published, which is quoted here.

6 Frances Jones (2020), *The Alphorn through the Eyes of the Classical Composer.*

7 Original title, *Musikfolklore und Musikfolklorismus.*

Methods

In developing an argument for musical similarities between yodeling and alphorn music, one must take into consideration more than the 11th natural tone typical of the alphorn, which also occurs in natural yodeling (the "alphorn-fa"). Further musical points of contact should be investigated, such as harmony, polyphony, timbre, agogics and interpretation, as well as functional and symbolic similarities. On the one hand, such complex questions require an interdisciplinary approach and a number of targeted investigative methods; on the other hand, in order to preserve objectivity of comparative research, verifiable similarities must be presented and explained in the same way as unverifiable but expected similarities. In order to ensure the completeness of source evaluation, different media, such as historical alphorns, relevant texts, illustrations, notated music, and recordings are evaluated analytically.

A meaningful number of historical alphorns are documented and played in order to capture their fundamental tone, intonation and sound. An overview of the relevant documented instruments can be found in Appendices 2 and 3. The surviving historical instruments represent the most conclusive contemporary witnesses of this research.[8]

The evaluation of relevant writings from libraries and archives as well as from private collections forms the basis of the historical approach. These texts are contextually and hermeneutically analyzed, taking into account both the historical circumstances and the intentions of the authors.[9] In addition, general terms must be understood in their epoch-specific meaning.

Early illustrations represent important sources as evidence for the morphological development of the alphorn. Bearing in mind the fact that the length of the instruments depicted can only be estimated in comparison with other objects or with persons, that artistic freedom must be considered in paintings or drawings, and that respective epoch-dominating idealization must not be ignored in pictorial representations, this iconographic approach remains a useful method to determine musical characteristics of instruments on the basis of their relative proportions.

For the music-analytical part of the research, intervals, tone series, melodic structures and the form of polyphony are compared on the basis of relevant notations. These comparisons serve to reveal similarities and differences between yodeling melodies and alphorn melodies. Research-relevant music recordings are transcribed, and existing transcriptions are compared with corresponding music recordings. Bar lines are omitted if no metric pattern prevails in the sound recordings. This takes into account the concerns of many researchers who regard metric division of yodeling as a degradation of its free melody. If bar lines are set, they are primarily to be understood as an emphasis on the following note. The ekmelic tones characteristic of the alphorn are marked with special signs. In order

8 For the definition of historical alphorns, cf. p. 155.

9 Historical texts are respected in their spelling and orthography, and the annotation "[sic]" is only put in conspicuous places.

to improve the readability of certain transcriptions, they are sometimes transposed, which is indicated in the appropriate places. Despite this simplified presentation, these are exclusively descriptive transcriptions in the sense of Seeger (1958: 184).

Recordings of yodeling and alphorn music are among the most valuable witnesses of our research. As historical documents, they are more reliable than transcriptions, but go back less far into the past. The earliest yodeling recordings from the Alpine region date from the years around the turn of the 20th century; the earliest alphorn recordings are from the 1920s. Relevant early as well as current recordings are evaluated and compared using computer-aided sound analyses with precise frequency information. The LARA program developed at the Lucerne University of Applied Sciences and Arts is used for the analysis.[10] Sound images (spectrograms and TCIF spectrograms)[11] can be used to identify accurate pitches and calculate intervals.

Positioning of the alphorn in the classification of musical instruments

The texts on the alphorn quoted in this work show that the term alphorn is not always defined by the same criteria. Depending on the region and time period, the instrument is called differently, and vice versa, comparable instruments with different shapes and lengths can bear this name.

In the 1914 *Classification of Musical Instruments*[12] by musicologists Erich Moritz von Hornbostel (1877–1935) and Curt Sachs (1881–1959), still in use today, the alphorn is classified as shown in Table 1 (in a condensed version). We observe that after 423.121 "End-blown trumpets," the alphorns investigated in our study cannot be confined to any one of the subcategories: "End-blown straight trumpets" (with or without mouthpiece) or "End-blown horns" (with or without mouthpieces). In order to circumvent this problem, the term "natural trumpet" is used as a generic term for alphorns. This term is used by Hornbostel and Sachs for end-blown trumpets of any length and shape, excluding modern developments, such as chromatic instruments with valves or finger holes. A subdivision in trumpets for instruments with a cylindrical tube, or horns for instruments with a conical tube, is found in Hornbostel and Sachs only for the valve trumpets (HS-BW 1961: 28).[13]

10 Lucerne Audio Recording Analyzer, www.hslu.ch/lara, 23 February 2018.

11 TCIF: time corrected instantaneous frequency (Fulop/Fitz 2006).

12 Original title, *Systematik der Musikinstrumente.* English translations of terms used in Hornbostel-Sachs are from: "Classification of Musical Instruments: Translated from the Original German by Anthony Baines and Klaus P. Wachsmann" in *The Galpin Society Journal*, Vol. 14 (March., 1961), pp. 3–29, cited here as: HS-BW.

13 The classification remains the same in the updated version of the system of Hornbostel and Sachs (MIMO Consortium 2011: 20), whereby the term "Trumpets" has been replaced by

Table 1: Selected entries from HS-BW, pp. 24–27

4	**AEROPHONES** The air itself is the vibrator in the primary sense	
42	**Wind instruments proper** The vibrating air is confined within the instrument itself	
423	**Trumpets** The air-stream passes through the players lips …	
423.1	**Natural trumpets** Without extra devices to alter the pitch	
423.12	**Tubular trumpets**	
423.121	**End-blown trumpets**[*1] The mouth-hole faces the axis of the trumpet	
423.121.1	**End-blown straight trumpets** The tube is neither curved nor folded	
423.121.11	**Without mouthpiece**	*Some alphorns*
423.121.12	**With mouthpiece**	*Almost world-wide*
423.121.2	**End-blown horns** The tube is curved or folded	
423.121.21	**Without mouthpiece**	
423.121.22	**With mouthpiece**	

1 The original has the (in)famous misprint: "End-blown grumpets" about which Jeremy Montagu remarks, "We also have among the trumpets my favourite misprint, 423.121, the end-blown grumpet – how many instruments can be described in this way I am not sure, but in my time as an orchestral player I have met a number of end-blown grumpeters." (8) Montagu retains the misprint in "Additions and Emendations" and notes, " I could not bear to correct my favourite misprint." (23). Undated manuscript: "It's time to look at Hornbostel-Sachs again: Hornbostel-Sachs Reconsidered." Paper at: www.academia.edu/33125887/Hornbostel_Sachs_Reconsidered, 7 February 2022.

Source: HS-BW: 24–27.

In order to clearly position the alphorn within the group of natural trumpets, organological, musical and functional criteria are taken into account. Based on the organological theory of musicologists Oskár Elschek and Erich Stockmann, this strategy, in contrast to systematic classification, represents a typological approach (Elschek/Stockmann 1968: 231). Today, the term alphorn refers to a "long" (generally over 2 meters) conical tube made of wood, without valves and finger holes, with an opening that turns upward and widens into the shape of a bell. Within this organological interpretation, authors apply different criteria for

"Labrosones" (lit. "lip-sounders" = "lip-vibrated instruments"; German "Lippenklinger" [Steiger 2001: 9]).

specific terms. For Sommer (2013: 14), a natural trumpet of this form is an alphorn only if the length is two meters or more, because typical alphorn music cannot be played on shorter instruments. For Vignau, the name alphorn refers to the modern, standardized form of the instrument (Vignau 2013: 5). Böhringer calls all natural trumpets in southern Germany "Hirtenhorn" (herdsman's horn); for him, the alphorn is a regional representative of the herdsman's horn (Böhringer 2015: 15).

The present study subsumes under the term alphorn wooden natural trumpets without valves or slides, whose cultural background lies in the Alpine region. The Büchel, a curved and shorter form of the alphorn in its overall length, is examined in this study and designated accordingly. In parts of Austria and South Tyrol, locally specific terms (Wurzhorn, Strebtuter, Waldhorn or Flatsche) are used for wooden natural horns, and these are adopted here. Natural trumpets of urban or courtly origin are not included. Different notes are produced on the alphorn by overblowing (for example, by changes in airflow and lip tension), and correspond to the natural tone series.

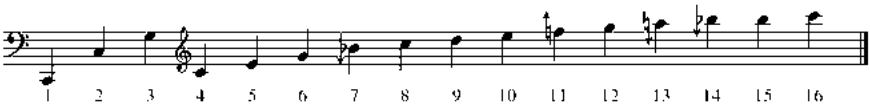

Fig. 1: Natural tone series of the alphorn. Alphorn music is generally notated in C independent of the tuning of the instrument. Accidentals with arrows up or down designate ekmelic notes.

Typical ekmelic (unequally-tempered) pitches of the alphorn are the 7th, 11th, 13th and 14th natural tones. These four tones deviate so audibly from equally-tempered intonation that they are perceived as "wrong" compared to our listening habits and can be clearly distinguished from other tonal levels despite fluctuations in intonation. Measured in cents,[14] the distances to the next equally-tempered half-tone amount to about one sixth (31 cents) for the 7th natural tone and one fifth (40 cents) for the 13th natural tone. The 11th natural tone is colloquially referred to as "alphorn-fa" and is considered one of the most important characteristics of the instrument. On an equally-tempered scale with the fundamental tone *C*, the 'alphorn-fa' lies in the middle between the tones F^2 and $F\#^2$, 551 cents above the tone C^2 and 51 or 49 cents away from the neighboring tone levels.

The number of natural tones that can be played on the alphorn is mainly determined by its length. Modern alphorns in F Sharp (about 3.4 meters) or F (about 3.6 meters) are the most common nowadays, and their repertoire usually moves between the second and the 12th natural tone. The higher range up to the 16th natural tone is largely reserved for virtuosos.

14 100 cents correspond to an equally-tempered halftone, 1200 cents to an octave.

Historical alphorns are in many cases shorter with a correspondingly higher fundamental and playable natural tone series; technically-demanding higher frequency notes are reached earlier in shorter alphorns. The characteristic 'alphorn-fa,' the 11th natural tone, which is also found in some Swiss natural yodels, does not belong to the range of short instruments. On the other hand, yodel-like sequences and triad combinations can also be played on short horns.

Yodeling terms

In regional dialects the same terms can denote different song and music genres; on the other hand the same musical genres can have regionally different names, and the meaning of the names can change over time. Names of musical instruments or song genres may have a different meaning today than they did in the same region in earlier eras. With regard to specific sources, original regionally typical spellings are used and explained in the corresponding passages. Initially, the main commonly used expressions are presented.

The change of vocal register between head and chest voice is considered a typical feature of most yodel songs. Register-changing songs are practiced in various musical cultures worldwide (cf. p. 23). For register-changing singing in non-alpine areas, the term "yodeling" is avoided. As is usual in modern ethnology, the self-designations of the corresponding ethnic groups are used in their place. Register-changing singing can be understood as a global umbrella term under which yodeling is the Alpine manifestation. Correspondingly, the term "yodeling" is used only for the Alpine region.

The term "jodlen" (yodeling) was used by the librettist Emanuel Schickaneder (1751–1812) in the 1796 comic opera *Der Tyroler Wastel* (published in Schickaneder 1798: 43, Wascher 2016: 138), and in the same year the philosopher and publicist Lorenz Hübner (1751–1807) used yodeling in his description of bringing cattle to alpine pastures near Salzburg (Hübner 1796: 287). Although the verb yodeling can be traced back to the end of the 17th century (Wascher 2016: 139), its musical connotation remains difficult to interpret for this early period because it was also associated with noise-making and bad behavior in public (Wascher 2016: 140).

In Austria and Germany today, the term "yodeler" (Jodler) can refer both to a musical yodeling performance as well as to the performing male person. In Switzerland, however, "yodeler" (Jodler) refers exclusively to the male person performing the yodel; the piece of music itself is called "yodel" (Jodel). These terms are used here according to respective regional norms.

"Kuhreihen" and "Ranz des Vaches" refer to vocal or instrumental pieces of the Alpine population that were "discovered" by traveling intellectuals in the Romantic era (cf. p. 44). Depending on the source, various alternative spellings occur, such as "rans des vaches" or "Kühreyen." In the research presented here,

with the exception of direct quotations, only the spellings "Kuhreihen" or "Ranz des Vaches" are used.

The regional terms "Juchzer," "Juiz," "Juhezer" and "Jüüzli" derive from the same word stem and stand for similar musical practices in different regions. Names such as "Kuhreieli," "Chüädreckeler" or "Löckler" refer to the same or very similar musical genres. All these terms are employed in our text according to regional affiliation.

Research area

Comprehensive studies of customs must be conducted across national boundaries since transfers of intangible and tangible cultural property take place across borders. Both the alphorn and yodeling were and are known in a transnational Alpine area, and accordingly this research area was selected for the present study.

Alphorn-like natural trumpets can be found on many continents: in South America (Lehmann-Nitsche 1908: 936), Australia (Montagu 2014: 4), North America (Appalachian Mountains), Oceania (New Guinea), Asia (Himalayas) and Africa (Montagu 2014: 71). Only in Europe is there a wide variety of different forms of natural trumpets. In his detailed book on the distribution of natural trumpets in Europe, Schüssele mentions the following areas outside Switzerland: for Germany – the Allgäu and other parts of Bavaria (Schüssele 2000: 63–93), for Austria – Vorarlberg, Tyrol, Carinthia, Styria, the Salzburger Land, Lower Austria and Upper Austria (Schüssele 2000: 94–105) and for Italy – South Tyrol (Schüssele 2000: 113). For France, he mentions three regions (the Vosges, the Pyrenees and Corsica [Schüssele 2000: 107–112]); additional areas mentioned are Croatia, Slovenia and Serbia (Schüssele 2000: 130–133). Not all of these areas are included in this investigation; the distribution area of the natural trumpets relevant for this study is limited to the Alpine region. The contiguous Alpine region, in which the natural trumpet in alphorn-like form is known and has been played for a number of generations as part of the local musical tradition, includes the south of Germany, Austria and Switzerland.[15]

Like the alphorn, register-changing songs also occur in various parts of the world, from Africa and Asia to Oceania and America, and accordingly it has been noted that "yodeling takes place all over the world." Whether among the oft-quoted "yodeling" ethnicities (Hornbostel 1925: 209, Wiora 1958: 75, Leuthold 1981: 5), such as the Dani in New Guinea, the Sami in Scandinavia, the Inuit in Canada and many others, register-changing songs are in fact involved (Baumann 1996: 1499). This is a topic that would have to be examined in more detail and

15 In Switzerland, these are mainly the mountain regions of eastern Switzerland, central Switzerland and the Bernese Ober- and Mittelland as well as some French-speaking Alpine areas. In Graubünden alphorn-playing is now cultivated; in the past the metallic Tiba was widespread, which can be associated with the South Tyrolean "Strebtuter" (cf. p. 127).

goes beyond the scope of the present research. Our research includes only the yodeling areas of the Alps and excludes other European yodeling regions, such as the Harz (Germany).

While within our research-relevant areas all references relating to alphorn and yodeling are investigated, this study is concentrated on those regions where both yodeling and alphorn-playing occur. The focus on these regions in particular makes it possible to pursue the question of mutual influences of two concrete music practices within an identifiable and clearly defined space. Nevertheless, the idea of reciprocal relationships between vocal and instrumental music concerns ethnomusicological research worldwide.

Chapter 2: Relationship between singing and musical instruments in ethnomusicology

Comparative ethnomusicological theories were first formulated at the beginning of the 20th century, at a time in which there were still many uncharted territories on the musical map of the world. Nevertheless, early "world music researchers" declared that their theories, based on hypothetical assessments and rooted in a Eurocentric view, held global validity. At the same time, scientific discourse also began to formulate explanations for the place of origin and the spread of the alphorn and yodeling. While the arguments and hypotheses that surfaced then appear erroneous from today's perspective, they do give insight into anthropological thought patterns of that time.

Hornbostel (1925: 204) assumes a unique emergence of the alphorn in central Siberia and a subsequent dissemination into the regions in which it is found today. In the 1920s, Hornbostel's distribution area included, along with Switzerland and Austria, areas in Germany, Scandinavia and Scotland. A key element in his argument was the inclusion into his distribution hypothesis of the Eastern European countries Lithuania, Estonia, Poland and Romania, through which the instrument passed and where it is still found.

This migration proposed by Hornbostel shows parallels to the thesis of a migration of the Proto-Indo-European language (formerly: Indo-Germanic language) developed by linguist Franz Bopp (1791–1867) at the beginning of the 19th century (Bopp 1847). Different variants of this theory are based on the idea of an original home of the Indo-European languages in the steppes north and northeast of the Black Sea, from where it was transmitted to Central Europe. According to Hornbostel, this commonly-held theory of his day should also apply to the migration of the alphorn. Hornbostel writes in relation to the distribution of the long natural trumpet, which he generally refers to as the alphorn:

> If the distribution clearly points to immigration from the East via an extant migration route north of the Alps, then the Asian evidence leaves no doubt about the origin of the instrument. Kalmyks, Qatscha and the Kyrgyz possess it (the latter also have the shalmei), and in the East it has penetrated to the upper Amur. (Hornbostel 1925: 204)

Hornbostel also compiled a list of the areas, in which the alphorn and related instruments were found and refers to a distribution of the alphorn in the Pacific islands (Hornbostel 1925: 205). In this migration he sees not only the distribution route of the alphorn, but he also makes the origin of yodeling dependent on the time of its arrival, since for him yodeling must have originated from the music of the alphorn:

> The fact that yodeling is limited to the Alps suggests that it originated here. Conditions for its emergence were at any rate in place very early on, and although it may never be possible to date it more precisely, cultural-historical research will at least be able to determine a terminus post quem: the time when the first Asian wind instruments reached the Alpine countries. (Hornbostel 1925: 209)

When Hornbostel publicly expressed his views on the origin of the alphorn, there were also contrasting opinions. The active Swiss alphorn player and composer Johann Rudolf Krenger (1854–1925) places the origin of the alphorn in Switzerland: "It is also a historical fact that it was not imported into our country, as many others today maintain, but that it originated in our own land at the time when our people were still really a 'people of herdsmen'" (Krenger 1921: 3).

However, Krenger does not prove this "historical fact" and his claim remains just as hypothetical as Hornbostel's thesis of the migration of the alphorn from Asia to the Alpine region. Krenger accounts for the existence of long natural trumpets outside the Alpine region with a migration from the Swiss Alps: "It is rather safe to assume that the alphorns found sporadically outside the Swiss Alps were imported there from the Swiss mountains" (Krenger 1924: 173). Krenger did not possess the international reputation that Hornbostel enjoyed at the time, and his theory found no echo. Shortly after Hornbostel's theses, an article by the Swiss musicologist Fritz Gysi (1888–1967) appeared in the *Monatszeitschrift des Schweizer Alpenclubs* (monthly magazine of the Swiss Alpine Club), which adopts Hornbostel's conclusions regarding the origin of the alphorn:

> […] its origin lies quite elsewhere, namely in northern Asia. From there it migrated southwestwards with the nomadic tribes, rendered excellent services to the steppe peoples of the Kalmyks and Kyrgyz and finally reached the Alpine regions as well as the Black Forest and the Thuringian mountains. (Gysi 1925: 53)

A year after the publication of the above-mentioned treatise, Gysi published a thematically related article in which he attempted to prove that yodel songs originated in Asia:

> […] as much as our familiar elongated wooden tube that is bent at the bottom represents a perfected type of a primitive nomadic instrument, we can also think of the yodel song of our alpine shepherds as an artistic modification and development of the herdsman's song formerly spread westwards by the Kyrgyz and Kalmyks. (Gysi 1926: 289)

The assumption that the alphorn and possibly also yodeling originally came from Central Asia lasted until late into the 20th century. The Austrian folk musicologist Karl Magnus Klier (1956: 17) and researchers active in Switzerland, Marianne Meucelin-Roeser (1975: o. S.), Johann Manser (1980: 199), Ursula Frauchiger (1992: 5) and Constantin Brăiloïu (1949: 67), directly connect their ethnomusicological considerations with these early theories.

Summary
Krenger's daring hypothesis that places the origin of the alphorn in Switzerland can be explained by his passionate commitment to Swiss folk music. Hornbostel's statement, which was quoted and accepted until the 1990s, is based on the assumption of a single emergence of natural trumpets. Such an assumption is now considered obsolete. Herdsmen all over the world use horns as signaling instruments; no doubt ethnic groups in Central Asia could also have used signal horns to herd animals a few thousand years ago. The researchers cited here have been unable to provide compelling evidence that the archetype of the alphorn or register-changing singing originates from either Central Asia or Switzerland.

The Instrumental Hypothesis

The first generation of researchers in comparative musicology dealt with musicological problems on a global scale, as the above discussion of the distribution of natural trumpets has shown. The Gestalt psychologist and founder of comparative musicology Carl Stumpf (1848–1936) published a treatise entitled *Die Anfänge der Musik* (Beginnings of Music) (Stumpf 1911) and his colleague Sachs composed the works *Geist und Werden der Musikinstrumente* (Spirit and Genesis of Musical Instruments) (Sachs 1929) and *Eine Weltgeschichte des Tanzes* (World History of the Dance) (Sachs 1933). Although the overall assertions of their theses are now considered obsolete, today, more than a hundred years later, individual aspects of their ideas can be neither negated nor confirmed. These aspects include the instrumental hypothesis, which postulates that the origin of tonal systems is found in the musical characteristics of certain musical instruments. The instrumental hypothesis constitutes a comprehensive framework for a thematic positioning of the present research.

The Blasquintentheorie (theory of blown fifths) developed by Hornbostel is considered to be a demonstrably wrong approach to the instrumental hypothesis.[1] Hornbostel's acoustic attempts to find a worldwide tonal system were based on a Chinese pan flute, the huang zhong, whose tuning is based on the circle of fifths (Abraham/Hornbostel 1903: 322). When overblown into the fifth (duodecime, or compound fifth), the result was not the expected 702 cents to the octave, but only 678 cents. Since according to Hornbostel this "impure" fifth can be detected worldwide, he assumed that this pan flute and its dimensions were to be deemed as the source of tonal systems distributed worldwide. The results of these measurements, in combination with the theories of Kulturkreislehre (cultural circle theory)[2] generally accepted then, but considered obsolete today, and the assump-

1 Hornbostel was Stumpf's assistant at the beginning of the 20th century who later took over the management of the Phonogramm-Archiv in Berlin; he is often referred to as the "first ethnomusicologist."

2 In Kulturkreislehre, cultures are assigned to certain "cultural circles" according to their "level

tion that an instrument emerges only once and then spreads globally, led the Dutch ethnomusicologist Jaap Kunst (1891–1960) to place the origin of Central African music in China (Kunst 1936: 131). The Basel-based musicologist Manfred Bukofzer (1910–1955) tested Hornbostel's Blasquintentheorie with more precise measuring instruments, also taking into account end correction and frequency changes dependent on the blowing angle, and refuted it (Bukofzer 1937: 404).

Possibly spurred on by Bukofzer's demonstrations, the British music archaeologist Kathleen Schlesinger (1862–1953) set herself to the task of finding the origin of regionally limited tonal systems in a culturally-specific musical instrument (Schlesinger 1939). On the basis of a regular division along the length of the Greek aulos,[3] Schlesinger calculated the position of the finger holes and in this way tried to find an "original tuning system" for Greek and thus for European music. Even before Schlesinger, Gysi argued equally for a regional instrumental hypothesis. He places the origin of the register-changing songs of the northern Solomon Islands in the "panpipes" or the "shalmei flutes" (Gysi 1926: 292), which have been native there "for thousands of years."

In addition to the aulos and overblown panpipes, the globally occurring musical bow[4] was identified as a source of tonal systems, though limited exclusively either to an associated musical culture or to a specific region. The German ethnologist and physician Robert Lehmann-Nitsche (1872–1938) argues that in the musical cultures of southernmost South America he examined, melodies of the musical bow are also sung or, in his words, "yodeled," and thus the culture's own tonal system must have its origin in the musical bow (Lehmann-Nitsche 1908: 938). Frequency changes in the tones of the musical bow can be produced either by shortening the string or by reshaping the resonance chamber. When playing the mouth bow, a certain type of musical bow, a variable resonance chamber is formed in the throat. In this way, individual overtones, in particular the first notes of the natural tone series, can be made more strongly audible. The intervals between these tones can also be found in register-changing singing, which explains Lehmann-Nitsche's argument that the idea of register-changing singing can be found in the musical bow.

As late as the 1960s, the Austrian musicologist Walter Graf (1903–1982) regarded the natural tone series adopted from the musical bow as a globally applicable tonal system and referred to musical cultures in South Africa that use corresponding intervals in their singing. Graf (1961: 39) does not specify the musical cultures to which he refers, but in a subsequent publication he points to the research of the Scottish musicologist Percival Robson Kirby (1887–1970) from

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of development," which are characterized, among other things, by the use of specific musical instruments and tonal systems.

3 The ancient wind instrument aulos belongs to the reed instruments and usually has two unconnected sound pipes, which are held in the form of a V during playing.

4 The musical bow consists of a flexible stick or bow, between the ends of which one or more strings are stretched.

1939 (Graf 1972: 71), who believed to have discovered the inspiration for their tonal systems in the overtones of the African musical bow among the Khoisan, Bantu and Mbuti.

Since the natural tone series can be produced more clearly in natural trumpets compared to other instruments, natural trumpets came into focus already at the beginning of the 20th century as the origin of tonal systems based on the natural tone series. Stumpf (1911: 38) argued that on natural trumpets without finger holes and valves, the first intervals (octave, fifth, fourth and third) can be produced effortlessly and therefore come into consideration as the origin of tonal systems found worldwide. That such physical features explain globally-encountered, culturally-independent musical phenomena is considered doubtful today.

Earlier scientific endorsement of instrumental hypotheses mentioned above can be explained by the acceptance of an evolutionist and diffusionist ethnology of that time. These now outdated theories are based on the idea of a unique emergence of a simple musical instrument, which in the course of history made its way into its current regions of distribution. The idea of a unique creation of technically easy-to-produce musical instruments is considered untenable today. In ethnomusicology, it is assumed that musical instruments such as panpipes, horns, musical bows or flutes were "invented" multiple times and in multiple places; perhaps some fell into oblivion and then later some were rediscovered. They are constantly subjected to external influences and their form and function adapt to a continuously changing aesthetic.

Interest in the question of the origin of music and its tonal systems gained new impetus at the beginning of the 21st century, when research results from musicology, music psychology, cognitive science, archaeology, linguistics and genetic research were compared using an interdisciplinary approach. Unlike the early attempts discussed above, no ethnological or sociological theories and hypotheses have yet been acknowledged as a model; instead, lines of reasoning follow from comparisons of diverse, yet thematically-related research results.

In 2006, Victor Grauer published his remarkable article *Echoes of Our Forgotten Ancestors* (Grauer 2006a). The former "Cantometrics" collaborator[5] of the ethnomusicologist Alan Lomax (1915–2002) (Lomax 1976) continued the idea of developing a global history of music, taking into account relevant and up-to-date findings in archaeology and DNA research. Drawing on the "Out of Africa" theory, Grauer adopts the thesis established by Steve Olson (2002: 50) that ethnic groups living in Africa, which Grauer in somewhat vague and generalizing fashion refers to as "bushmen" and "pigmy," not only carry the genetic material of all people living today, but consequently can also account for cultural similarities among our ancestors. Accordingly, he formulates his hypothesis that these cultures are home to the archetypes of today's globally distributed musical

5 The "Cantometrics" project consisted of an attempt to classify music using 37 stylistic elements, thereby making music styles comparable worldwide (Lomax 1976).

traditions, which Grauer calls the Pigmy/Bushmen or P/B style[6] (Grauer 2006a: 13). On closer inspection, included here are the musical bow and the pan flute of the Khoisan ("bushmen") and Mbuti ("pigmy"), which were already enlisted in the development of the early instrumental hypothesis.

According to Grauer's theories, the musical structures carried into the world by *Homo sapiens* 100,000 years ago should be understood as universals, including a feature Grauer describes as interlocking, which applies not only to the alternation of one or a few notes by two music-makers or music-making groups, but also extends to the alternation of musical themes in antiphonal and responsorial (call-and-response) singing. Grauer mentions a number of musical cultures on the "Cantometrics" list, in whose music interlocking can be identified as a means of compositional structuring. These include the Sajek of Taiwan, the Dani of New Guinea, the Ainu of Japan, the Shuar of Ecuador, the Asháninka of Peru and Brazil and the Hupa of California.[7] For Europe, he refers to "some yodeling cattle herders in Switzerland" (Grauer 2006a: 17) and cites a musical example entitled *Zäuerli* from the Appenzell (Zemp [ed.] 1995: 35). He justifies this selection as follows:

> [It] gives us an opportunity to experience a rarely heard type of European polyphonic yodeling, also with wide intervals, relaxed, open voices, and nonsense vocables. This is from Switzerland, forming a variant of P/B style featuring more sustained and extended vocalization with cowbells in the background. (Grauer 2006a: 17)

The recognition of a typical element of the "P/B style" (Grauer 2006a: 17) in a Zäuerli[8] serves Grauer's argument that register-changing singing has survived as a universality in music to this day. Interlocking as a musical design principle is applied by Grauer not only to singing, but also to instrumental music. In this connection he mentions panpipes, which are mainly played alternatingly and are distributed worldwide. Grauer does not cite the overblown character of these gedackt (stopped) aerophones, but mentions another peculiarity typical of his "P/B style," namely, the "Paleosiberian breathless" style (Grauer 2006a: 35). Grauer associates this "breathless" style with the underlying feature of bagpipes and Asian mouth organs. His investigations into the music of the "Paleosiberians" lead him to the view that "breathlessness" was transferred from instrumental music to singing, entirely in line with the early instrumental hypothesis. Singing in the "breathless" style contains elements that, according to Grauer, also apply to yodeling:

> Elements of yodel (in the form of true yodel, falsetto, and/or glottal embellishment) may have been retained, along with a conception of music as a continuous stream of unphrased sound, along with some other P/B traits that also tend to persist, such as

6 Grauer coined the designation "Pygmy/Bushmen" from studies of the Bushmen of the Kalahaa ri Desert and the Pygmies of the tropical forests (Grauer 2006a: 8).

7 Grauer adopted the names of the ethnic groups from the "Cantometrics" project of the 1960s, some of which are now regarded as derogatory and have been changed here. Instead of Shuar he wrote "Jivaro" and instead of Asháninka "Campa."

8 Zäuerli: Local name of the natural yodel in Appenzell Ausserrhoden.

> wide intervals, predominance of nonsense syllables and/or word repetition, open, relaxed voices, slurred enunciation, relaxed accent, and also, in some cases, even a form of hocket. (Grauer 2006a: 35)

Grauer (2006a: 44) describes the most original and typical formal elements of *Homo sapiens*' earliest music succinctly as "highly integrated, interlocked, freely polyphonic, improvised, and playfully hocketed yodeling." According to his interpretation, the change of head and chest registers should therefore represent an early form of the music of *Homo sapiens*. This includes other musical elements that are characteristic of yodeling in the Alpine region: free polyphony, motif-alternating, improvising and playful music-making. Grauer views the rapid change of register when singing as an original musical element and also gives further indications of a connection between instrumental music and singing.

Among experts taking up the discussion of Grauer's hypotheses, the field of reactions ranges from staunch supporters (Nettl 2006: 59–72, Rahaim 2006: 29–42) to vehement opponents (Stock 2006: 73–91, Cooke 2006: 93–100, Leroi/ Swire 2006: 43–54, Cross 2006: 55–63). Grauer tried to refute the criticisms (Grauer 2006b: 101–134, Grauer 2006c: 9–12) and also published a more detailed formulation of his views in 2011 (Grauer 2011), which, however, could not convince his opponents.

Summary

Although there are about a hundred years between the time that Stumpf and Hornbostel formulated their theories and the time of Grauer, the hypotheses show similarities in argumentation and are partly based on the same musical references. Although Stumpf's and Hornbostel's statements are outdated and Grauer's hypothesis remains controversial, we cannot deny that a possible source of inspiration for a particular singing style of a culture can lie in the simple organology of a natural tone instrument. Yet, it goes without saying that such a specificity, even if proven, may under no circumstances be transferred to a global level.

From the instrumental hypothesis as described by Hornbostel, to Grauer's reformulation that was brought into the discussion of global music evolution about a hundred years later, conjectures remain. These are investigated in this research on the basis of a selected, regionally limited model – the musical relationship between the alphorn and yodeling. Both Hornbostel's Blasquintentheorie and Grauer's more recent research aim to explain similarities in globally encountered tonal systems. Counter-arguments and contradictory circumstances can easily surface, because the developments of musical forms and functions are determined by cultural change, aesthetic demands and spontaneous adoptions.

Yodeling as sung alphorn music?

If the fundamental idea of the instrumental hypothesis is restricted to a limited geographical area of investigation, as well as to a certain genre of music and a specific instrument, in our example to the alphorn and the yodel, then it should be possible to formulate statements that apply exclusively to this geographical area, which then within a comparative framework involving additional case studies yields an instructive and presumably complex picture that can contribute to the current interdisciplinary discussion on universals and instrumental hypotheses.

A clearly formulated reference to a musical point of contact between yodeling and the alphorn can be found as early as 1818 with the Bernese Professor of Philosophy Johann Rudolf Wyss (1781–1830) (1818: XV),[9] but it was not until a hundred years later that such a connection was articulated in the musicological discussion. As already mentioned, Hornbostel postulated an instrumental origin of yodeling in 1925, whereby alongside the alphorn he also included the shalmei that was present in the Alpine region (Hornbostel 1925: 204). Hornbostel's argument is based on six characteristics indicative of an instrumental origin of yodeling (Hornbostel 1925:203):

– Register change between chest and head voice
– Large interval jumps, which are considered "un-singable" in other singing styles
– Legato over large intervals and longer motifs
– Wide overall range of tone
– Harmonic structure, based on triads
– Textlessness

While these characteristics speak for a connection, Hornbostel sees the clearest indication, supported by the argument of his teacher and colleague Stumpf (cf. p. 27), in the alphorn-fa:

> The most striking proof for the vocal imitation of the alphorn, however, is provided by those Appenzell (Innerrhoden) yodels and Kuhreigen, which instead of the fourth use the tritone above the tonic, which has to replace the missing fourth as the eleventh partial tone on the natural trumpet. (Hornbostel 1925: 206)

In addition to the common occurrence of the alphorn-fa in both musical practices, Hornbostel sees the frequent incidence of large intervals, such as octaves, sixths, fifths and fourths, the wide range of tones, the break of the voice, which is reminiscent of overblowing the instrument, as well as the vocalization without text and the harmonic structure based on triads as arguments that the origin of yodeling is found in alphorn music and thus in the natural tone series as a tonal system.

Although the musicologist Jacques Handschin (1886–1955) (1948: 311) admits that in some yodeling the alphorn-fa is "imitated," he assumes that alphorn-blowing and singing alpine musicians are influenced by diatonicism and are "more

9 A detailed discussion can be found on page 98.

attuned to the melodic form with the pure fourth." According to Handschin (1948: 311), the raised fourth also occurs in regions where no natural wind instruments are known, and thus this tone level does not necessarily have to be inspired by the natural tone series.

The Romanian composer and ethnomusicologist Constantin Brăiloïu (1893–1958), who worked in Switzerland, among other places, rejected a connection between yodeling and the alphorn based on the fact that even in musical cultures in which no natural trumpets occur (Brăiloïu 1949: 69) register-changing singing exists. However, this reasoning is only valid if a unique emergence and a subsequent global spread of the instrument is assumed, a scenario completely at odds with recent views. Convinced by Brăiloïu's argumentation, the German musicologist Walter Wiora (1906–1997) formulated his opinion, based on the theory of cultural circles, in the musicological lexicon *Musik in Geschichte und Gegenwart* 1958: 76):

> The thesis that it [yodeling] is assumed to be a vocalized imitation of an instrument (the alphorn in Europe, the panpipe in Melanesia) is refuted by numerous arguments, which C. Brailoiu in particular has presented. To be sure, the instrument was later often imitated; but yodeling did not originate in this way, as is shown by its spread among early hunter-gatherers who do not have instruments.

Since the arguments of Wiora and Brăiloïu are no longer acceptable due to their evolutionist and diffusionist backgrounds, other approaches for and against a connection between yodeling and the alphorn must be pursued. The Swiss composer and natural yodel expert Heinrich Leuthold (1910–2001) does not rule out an influence of alphorn music on yodeling, but sees it as small (Leuthold 1981: 41), since in his opinion the natural tone series is not only a property of the alphorn, but also a property of human vocal organs (Leuthold 1981: 36):

> With the alphorn, the sound automatically jumps up into one of the next levels of the overtone series through stronger lip tension and greater intensity of the air column. …Human vocal organs are also subject to the same principle. Perhaps one will have already made the observation that a male voice, especially one that has not fully changed, suddenly breaks into the falsetto register, namely up to the duodecime, which is identical to the 3rd partial of the natural tone series.

Leuthold assigns the same physical and acoustic properties of the alphorn to the vocal cords and thereby substantiates that vocal intervals naturally correspond to the natural tone series (Leuthold 1981: 36). According to Leuthold, natural tone intervals in singing would thus be a global phenomenon and not derived from the alphorn.

The discussions for and against the hypothesis of a musical relationship between alphorn and yodeling have continued since Wyss' remarks in 1818 to the present day. In particular, Baumann's previously mentioned dissertation (1976) has stimulated the discussions anew. His remarks are of particular importance for yodeling research and are quoted in various places in this text. His hypotheses on the origin of yodeling form the source for numerous quotations (cf. Haid 2006,

Räss/Wigger 2010, Luchner-Löscher 1982). Baumann (1976: 99–114) mentions seven original hypotheses of yodeling, the "echo hypothesis," the "affect hypothesis," the "instrumental hypothesis," the "phonation hypothesis," the "reflection hypothesis," the "race hypothesis" and the "call-out hypothesis." The terms easily suggest the contents of these hypotheses. Baumann immediately rejects some of these suppositions, but not the instrumental hypothesis.

Summary

The suppositions presented above on the origin of the alphorn and yodeling are largely based on obsolete theories. They are built on fundamentally evolutionist and diffusionist ideas, which today are no longer valid for questions about the emergence and migration of musical instruments and singing styles. The evolution of an instrument such as the alphorn or a certain vocal technique such as yodeling involves complex processes, some of which are also subject to chance, various aesthetic ideas of sound, as well as cultural or socio-economic shifts.

Wyss's early reference to a possible connection between alphorn music and yodeling 200 years ago forms the starting point for many musicologists who suspect that such a relationship exists. Nevertheless, arguments remain rather superficial when they are limited exclusively to the presence of the alphorn-fa in both musical practices and neglect historical realities. The questions of when and where a mutual influence could have taken place are investigated in the main part of this study.

Chapter 3: References to connections between the alphorn and singing before 1800

Early references to register-changing singing exist exclusively in written form, both as a description of the singing and in the form of notation. The existence of the alphorn, on the other hand, can be documented both from written sources and on the basis of preserved instruments. In addition, iconographic sources can be used for the alphorn, which is only possible with very few representations of yodeling.[1] Historical instruments in museums and collections provide the most direct and detailed information about their construction. Due to better source material for the alphorn, the historical appraisal of the two musical practices from their beginnings to the 19th century is mainly considered from the evidence of the alphorn. Among these sources the focus is directed toward those documents in particular that allow for a link to yodeling. Other sources exclusively related to the alphorn are only taken into account in order to explain the distribution and development of the alphorn in the course of history.

Origin of the alphorn and yodeling in Swiss legends

The origins of the alphorn and yodeling have been poetically incorporated into various Swiss legends. A common origin of alphorn music and yodeling, or Kuhreihen, which can possibly be understood as a precursor of yodeling, can be found in the romantic *Sage von der Bahlisalp* (Legend of the Bahlisalp), which the Swiss teacher and author Johann Jakob Romang (1830–1884) related along with the *Sage von der Wengernalp* (Legend of the Wengernalp) under the title *Die Entstehung des Kuhreihens* (The Origin of the Kuhreihen) (Romang 1869: 165). Although the use of legends leaves considerable room for interpretation, it leads to valuable information about ideas of the origin of yodeling and the alphorn among the people of that time.

The Legend of the Bahlisalp was handed down by a family from the upper Haslital. The family moved to the Bernese Oberland 50 years before its writing, around the year 1819, and spread the legend there. Romang emphasizes that he did not find this legend written down anywhere, but reproduced it directly from the "vernacular" (Romang 1869: 164), although he retells it in poetic and romanticizing language. The following account presents a concise summary of the legend that highlights details most relevant to our research goals.

1 Whether a person yodels or sings in a different style cannot be determined from a picture.

One evening, the herdsman Res on the Bahlisalp near Hasliberg called out the evening greeting and the usual alpine blessing to his lover across the deep ravine toward the Seealp. "…His raw jubilations rang sharp and shrill into the breeze, shrill and piercing also resounded the monotonous and coarse tones of his artlessly wrought herdsman's horn out into the distance and again back from the dark shadowy rock face" (Romang 1869: 165). Res received no response from Röschen, his lover, and went to bed. A crackling fire suddenly tore him out of his sleep, and from his bed he saw three figures in his hut: a giant herdsman, his servant and a huntsman, who were making cheese over a fire. Since the doors of the hut were still locked, just as always at evening, these three must be supernatural figures. Fearfully, Res observed the scene. Suddenly, the pale servant went out in front of the hut and "very soon tones and melodies could be perceived such as Res never expected, far less had ever in his life heard. A song-like voice penetrated outward with long, deep and melancholy tones, a song without words, lifting almost imperceptibly upward and across in a bright and blaring howl, and then diminishing to wondrously mellifluous sounds that slowly faded away in the distant ravines" (Romang 1869: 166). Res was overwhelmed by the beauty of the singing and noticed his herd animals had begun moving towards the singer. "Again, the pale singer came back into the hut. He grasped a long horn formed out of wood and wrapped in willows and roots, which leaned in a corner and had never been noticed. Again the singer stepped out in front of the hut and let the same melody sound out through the starry night, only slower and more prolonged than before" (Romang 1869: 166).

Meanwhile, the herdsman poured whey into three large jugs, which strangely enough turned red in the first jug, green in the second and white in the third. Then the three figures approached Res and he had to choose one of the different colors of whey: the red whey would give him superhuman physical strength as well as a hundred beautiful red cows. Should he drink of the green whey, he would receive silver coins and gold. But Res opted for the servant's white whey, which imparted to him the alphorn and the gift of yodeling the Kuhreihen. The three figures proclaimed that he had chosen wisely, otherwise he would have been ordained to die. Thereupon they disappeared. The next morning, Res yodeled and blew the Kuhreihen toward the Seealp and thus won Röschen's heart. "That was the language of love that bound together Res and Röschen their whole life. That dreamy melody…yodeling and alphorn blowing were passed on to their children and grandchildren unto this very day" (Romang 1869: 168).

The legend told by Romang identifies the same melody that was both yodeled and blown on the alphorn as a Kuhreihen. If the legend was widely known in the mid-19th century in the Bernese Oberland, it can be assumed that at that time the idea of a connection between alphorn music and yodeling was also widespread in this region. The motif of a young faithful herdsman, who has a choice of drinking from three different types of whey, and then chooses the one that gives him the gift of alphorn blowing or yodeling, exists in various recent versions of this legend (Lienert 1960: 121, Müller 1929: 218, cf. also Bachmann-Geiser 1999: 14).

Romang's legend assumes that the alphorn, Kuhreihen and yodeling originated in the Swiss Alps and connects their emergence with the supernatural. This supernaturalism confers upon the alphorn and Kuhreihen a characteristic essence that situates the performance of this music in the spirit world or in connection with a divine authority. The Alpsegen or call to prayer, which fulfils the same function to this day, is connected with the alphorn and yodeling and will be examined in more detail (cf. p. 109). First, early sources for a possible connection between the alphorn and yodeling are examined, and the question regarding Kuhreihen as the original form of this music is pursued.

Sources before 1500 from Nonsberg and St. Gall

Up to the year 1500, our extant sources are limited to three accounts that provide material for relevant research discourse: the Nonsberg martyr reports of 397, the Sequences of the St. Gall monk Notker Balbulus from the 9th century, and the reports of the chronicler Ekkehard in the 11th century. In the 4th century, Christianity spread in the Alpine region and the migration of peoples displaced ethnic groups along with their economic forms, technologies and cultural practices. Written sources on music for that formative period in the cultural development of Europe are quite sparse and sometimes exaggerated to bolster evidence for preconceived theories.

In the files of the Nonsberg martyrs of 397, the three Christian priests Alexander, Martyrius and Sisinnius[2] are mentioned, who were murdered by the Anaunians in the Nonstal (in today's South Tyrol) during an annual fertility procession (Schmidt 1948: 122). The *Acta Sanctorum* about these three martyrs consist of several accounts, from which some formulations have been linked to the sounds of yodeling or the alphorn. The songs that the Anaunians sang were described by a Christian reporter as "ululato carmine diaboli,"[3] which the Austrian folklorist Leopold Schmidt (1912–1981) translates as "Gedudel eines teuflischen Liedes" (Tootle of a devilish song) (1948: 122). However, Schmidt's statement that the word "ululare" can "hardly be translated other than 'tootling' or 'yodeled'" (Schmidt 1948: 122) does not do justice to the various translation options, such as "howling," "crying out" or "yelling."[4]

Another account from the *Acta Sanctorum* describes how the martyrs "inter strepentes & horridos jubilos pastorales"[5] were murdered by the Anaunians during

2 www.heiligenlexikon.de/BiographienM/Martyrius.html, 11 March 2022.
3 www.heiligenlexikon.de/ActaSanctorum/29.Mai.html, 11 March 2022.
4 Possible meanings of ululare are: To utter drawn-out cries, howl, yell in grief, distress, battle-cries, in ritual with religious excitement. Cf. *Oxford Latin Dictionary,* ed. P.G.W. Glare (Oxford, 1992), p. 2087.
5 www.heiligenlexikon.de/ActaSanctorum/29.Mai.html, 12 March 2022 ("amid the clamorous and horrid pastoral jubilations").

this procession. Bukofzer translates this passage as "among loud and gruesome yodels (or herdsmen's cheers)" (Bukofzer 1936: 212), and Hornbostel muses that these could have been register-changing songs (Hornbostel 1925: 206). According to Schmidt, who translates according to his thesis, the "jubili" "could have been nothing more than yodels" (Schmidt 1948: 122). However, as early as 1903, the Appenzell folklorist Alfred Tobler (1845–1923) expressed reservations about translating the Latin "jubili" as "yodeling." He writes:

> These coarse and dreadful "jubili" can only have been unmelodious, suddenly expelled joyful outbursts, but not yodels. For in contrast to cries of joy, yodels move in an orderly, beautiful, melodious flow and therefore belong to the musical artistry of a much later time. (Tobler 1903: 78)

The same view is held by the Swiss musicologist Fritz Gysi (Gysi 1926: 290), who does not associate yodeling with unmelodious expressions and noise:

> …the aesthetic feeling is resistant to identifying these "eerily noisy yelps" with real yodeling. Much more these "jubili" must be only inarticulate sounds, coarse expressions of barbaric joy.

The following passage can also be found in the martyrdoms: "strepitu tubæ… furiose percussus."[6] The aforementioned "tuba" is understood by Wiora (1949: 9) as an indication of the possible presence of the alphorn; he interprets the noise of the "tuba" as a ritual:

> The word "strepitu" does not allow the interpretation that he was beaten with the instrument as if with a stick; perhaps there is here an apotropaic sound ritual: the instrument belonging to the cult should "blow away" the calamity by its sound, just as the alphorn scares away the demons of the night at dusk.

Despite doubts expressed by Tobler (1903: 78) and Gysi (1926: 290), the later authors Schneider (1978: 85) and Deutsch (1995: 370) suspect that along with indications of the presence of yodeling in these martyr reports in South Tyrol in the 4th century, also documented here is the coexistence of the alphorn.

These authors employed an agenda-driven approach in their compilation and translation of selections from the *Acta Sanctorum*. Their interpretations show a passionate attempt to incorporate this source into a hypothesis of an early coexistence of the alphorn and yodeling in the Alpine region. However, neither the source nor arguments made from it rest on a foundation of sound research.

The monk Notker Balbulus (840–912), who came from the area of Jonschwil in the canton of St. Gall, is considered an important scholar and poet of the Carolingian period, to whom also a large number of Sequences (sacred vocal compositions) are attributed (Stotz 2010). Among them is a *Cantus paschalis* (Easter song), which the music historian Anselm Schubiger (1815–1888) printed in 1858 in his work *Die Sängerschule St. Gallens vom achten bis zwölften Jahrhundert* (Singing School of St. Gall from the 8th to 12th Century) (Schubiger 1858: 38).

6 "Nam S. Sisinnius senior, strepitu tubæ, qua se ad ritus suos convocabant, furiose percussus" ("For S. Sisinnius the elder, at the sound of the *tuba*, by which they were calling themselves to their rites, was furiously smitten.")

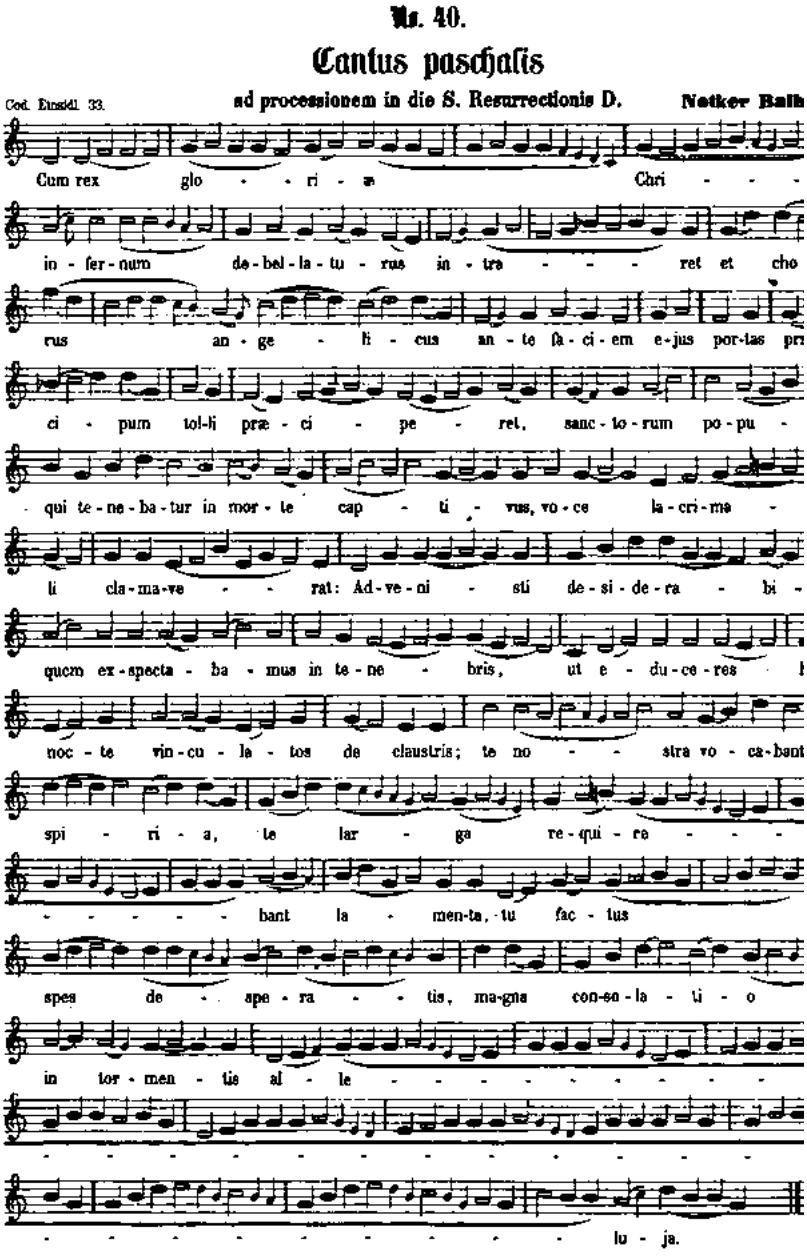

Fig. 2: *Cantus paschalis Cum rex gloriae* by Notker Balbulus (Schubiger 1858: 38 f.).

He notated this *Cantus paschalis* in the five-line system with phrase division and vocal text (Fig. 2).

The Austrian music historian August Wilhelm Ambros (1816–1876), in his *Geschichte der Musik* published a few years later, points out in the analysis of this Easter song that the Alleluia at the end of the processional of the Easter vigil, *cum rex Gloriae*, shows similarities to alphorn melodies: "almost reminiscent of irregularly wandering alphorn melodies" (Ambros 1864: 112). However, he doubts that this kind of folk music was already cultivated in Notker's time: "The similarity is unmistakable. But whether the old inhabitants of Switzerland sang such mountain melodies is more than doubtful" (Ambros 1864: 112). The sequence, which Ambros adopted unchanged from Schubiger, consists of the pitch sequence *d-e-f-g-a-b-c-d-e* (Dorian mode, Fig. 2, from the second bar of the third lowest line). Neither by transposition nor by ignoring the instrument length and thus the available ambitus can the tones of this scale be completely played on an alphorn due to the sequence *major second – minor second – major second* (*a-b-c-d*). Despite these objections, Ambros' comparison with the alphorn melodies and the singing of the mountain dwellers caused all sorts of speculations about their age and presence in Switzerland, as well as about the connection between singing and alphorn music.

Only the notes at the end of the Alleluia in the last three bars are actually playable on an alphorn if they are transposed by a fourth to the beginning note of *c* (cf. Sommer 2013: 26). Without transposition, only parts of it can be played, which misled the Swiss music director and folk music researcher Heinrich Szadrowsky (1828–1878) into saying that individual four-tone motifs of the piece point to a connection to the alphorn, and that the instrument was known in eastern Switzerland in the ninth century (Szadrowsky 1868: 289).[7] The Swiss violinist and composer Ernst Heim (Heim 1881a: 102) and Alfred Tobler (1903: 122) agree with this opinion and Krenger also accepts this reference to Notker's notation as proof of the early existence of the alphorn:

"Historical research proves that this instrument must have been in use already at the time of the famous St. Gall monk Notker Balbulus (9th century)" (Krenger 1921: 3). Hornbostel confirms this reference to Notker: "The Sequences of Notker Balbulus ultimately lead back to the beginning of the 10th century, whose similarity with the alphorn melodies that Ambros, Szadrowsky and Tobler have pointed out" (Hornbostel 1925: 207). However, Gysi (1926: 288) criticizes this interpretation by arguing against an inspiration from folk music with the prohibition of yodeling in liturgical chants:

> …and if one knows how strictly in the 8th century in the widely famous music conservatory of the monastery of St. Gall purity of style was enforced, one understands

7 As a further but equally questionable argument, Szadrowsky adds that he heard these melodies sung in the "Appenzellerlande" by "Gaisbuben" ("goat-herd lads") – that is, about 1000 years after the notation of Notker Balbulus (Szadrowsky 1868: 289). Tobler also adopts Szadrowsky's statement that "as early as the 9th century, the herdsmen in the Appenzeller Land sang and played melodies that can still be recognized today in our Appenzeller Kuhreihen and yodels" (Tobler 1890: 8).

> the prohibition issued there, according to which voices that imitated those who tell coarse jokes, yodelers, Alpine dwellers, the songs of the women or even the howling of the animals, were considered unworthy of God and the sacred purpose and in short order banished from the monastery. (Gysi 1926: 288)

According to these strict requirements in St. Gall in the 8th and probably also in the 9th century, an adoption of folk melodies into sacred music seems unlikely. The Swiss musicologist Antoine-Elisée Cherbuliez (1888–1964) is also skeptical, but notes that an influence could nevertheless have taken place: "In any case, the Swiss yodeler in the monastery of St. Gall was expressly forbidden and rejected as unholy and unworthy as early as the 10th century, and yet he still may have influenced Notker…" (Cherbuliez 1932: 35).

The authors mentioned assume that the Alleluia shown in Figure 2 has its origin in eastern Switzerland. However, after the theologian Johannes Duft (1915–2003) verified that Notker's melodies come from the Abbey of Jumièges in Normandy (Duft 1962: 206), the assumption of a Swiss alphorn melody seems even less likely (cf. Geering 1961: 48, Bachmann-Geiser 1999: 22).

The research of the musicologist Meucelin-Roeser, who carried out investigations with specialists from the Einsiedeln Abbey, lead to further discrepancies ten years after Duft's publication. Notker was a poet, and Meucelin-Roeser (1972: 211) doubts that he can also be regarded as a composer of the *Cantus paschalis*; she also doubts that this *Cantus* represents an alphorn melody: "Otherwise instead of the note b (si) the note b*♭* (sa) would be indicated" (Meucelin-Roeser 1972: 212). The theologian Fr. Roman Bannwart (1909–2010), who transcribed the mensural notation for Meucelin-Roeser, assured her "that he would sing the note h with the Schola here" (Meucelin-Roeser 1972: 221). Meucelin-Roeser summarizes her research in two clear statements: First, "Notker Balbulus is a poet; to regard him as a composer of the Sequence melodies of the *Cantus paschalis* in manuscript 484 is a pure hypothesis, without historical basis," and secondly, "to compare the *Cantus paschalis* and the Sequences of the St. Gall singing school with melodies of the alphorn lacks any musicological basis" (Meucelin-Roeser 1972: 212).

The arguments against a combination of singing and alphorn melody in the 9th century outweigh the indications in favor. Ambros (1864: 112) triggered a chain of speculations with his thoughts on the Notker Sequence that cannot be confirmed today. Short motifs built on the intervals of the natural tone series can occur in any kind of music and alone do not constitute proof of their origin in alphorn music. The use of a natural-tone motif or theme in singing is not sufficient as an argument for its origin in the alphorn.

The important role of the monastery of St. Gall as a center of Western culture in the early Middle Ages may be the reason why, in addition to Notker Balbulus, reference is often made to a second person from this monastery, Ekkehard IV (c. 980 to after 1057). However, indications of a relationship between alphorn music and singing that are associated with Ekkehard are based on a fabrication of the historiography from the 19th century. Tracing the reception history here

provides an illustrative example of how legends emerged about a connection between alphorn music and yodeling in the Middle Ages.

The chronicler and poet Ekkehard IV headed the monastery school of St. Gall from 1031 to 1057 and in this function carried on the monastery chronicle *Casus sancti Galli* begun by the scribe Ratpert (ca. 855 to after 911) (newly published by Albu/Lozovsky 2021). Ekkehard's chronicle mentions how horn blowing was cultivated at the time of the St. Gall abbot Hartmann (before 895–925):

> Enimvero eo claustri solius gubernacula curante et praepositis religionem, quam docuit, etiam deforis in sancta simplicitate artissime servantibus, maiores locorum – de quibus scriptum est, quia servi, si non timent, tument – scuta et arma polita gestare inceperant, tubas alio quam ceteri villani clanctu inflare didicerant; canes primo ad lepores, postremo etiam non ad lupos sed ad ursos et ad lepores, postremo etiam non ad lupos sed ad ursos et ad *Tuscos*, ut quidam ait, minandos aluerant *apros*.[8]

Ekkehard's chronicle appeared in 1606 in the first of the three volumes *Alamannicarum Rerum Scriptores* edited by Melchior Goldast (1578–1635) with the passage quoted above (Goldast 1606: 61), which allows an interpretation of the term "tuba" as a war or hunting horn. Goldast, in his glossary under the entry "Tubas alio quam ceteri villani"[9] gives the following explanation: "Tubas pastoricias, ex arborum corticibus contextas, quas vulgo vocamus Alphörner"[10] (Goldast 1606: 191). At the time of publication in the beginning of the 17th century, the term alphorn was thus known in colloquial language and referred to the bark-wrapped horns of farmers. More than 200 years later, in 1829, the chronicle appears in the second volume of the edition series of historical German documents *Monumenta Germania Historica* with the passage quoted above, extended by a reference to a footnote on the word "tubas":

> *Hirtenhörner*, et in montibus *Alphörner* vocabantur hae tubae. Earum in Helvetia a longo tempore nullus est usus, cum armentarii iam gargaridiando sonos (*with Kuhreihen sauern, und rungusen*) ad tuguria vocare consuescant vaccas et capellas.[11] (von Arx 1829: 103)

8 "While he [Hartmann] attended only to the management of the cloister, and the provosts, in their holy simplicity, very strictly observed, even outside the monastery, the ways of devotional life that he taught them, the stewards of the estates, about whom it is written: 'If servants have no fear, they get puffed up with arrogance,' started carrying gleaming shields and arms, learned how to play their horns with a sound different from that of the other peasants; they reared hounds, at first to chase after hare and as time went on not only wolves but bears and *Tuscan boars,* as someone said." Translator's note on *Tuscos…apros,* Tuscan boars: "The Tuscan boar is often mentioned in classical literature…" (p. 451). Latin with English translation from Albu/Lozovsky (2021: 140f, emphasis original).

9 "learned how to play their horns with a sound different from that of the other peasants" (transl. Albu/Lozovsky 2021: 141).

10 "Shepherd's horns, wrapped with barks of trees, which we commonly call alphorns."

11 "*Shepherd's horns*, and in the mountains these horns were called *alphorns*. These have not been in use in Switzerland for a long time, as the cattle herders are now used to calling the cows and goats to the hut with a gurgling [gargaridiando] sound (with Kuhreihen sauern and rungusen)."

The author of the footnote is given as the St. Gall monk Ildefons von Arx (1755–1833), who was the publisher of the first two volumes of the *Monumenta*. Compared to the glossary entry on the shepherd's horn by Goldast (1606: 191), von Arx (1829: 103) associates the word "tuba" with "Kuhreihen" and the Appenzell expressions for local yodeling styles, "sauern and rungusen" (zauren and rugguussen). The use of the regional terms "sauern" and "rungusen" for yodeling shows that von Arx's conclusion refers to northeastern Switzerland and that he evidently did not know about the initiatives with which the alphorn was promoted in the canton of Bern at that time (cf. p. 77). Tobler (1890: 6) formulates his criticism of the editors of the Chronicle, Goldast and von Arx, as follows:

> [It] is not apparent how the older editors, Goldast 1606 and von Arx 1828, could report that the horns had long been out of use, since herdsmen now lure the cattle with "sauern" or "rungusen."[12]

This statement by Tobler is misleading, as he equates Goldast (1606) with von Arx (1829). The claim that yodeling replaced alphorn playing can only be found in von Arx (1829: 103), but not in the edition of Goldast (1606). Since this false quote has not yet been corrected, several authors[13] adopted the statement that the terms "sauern" and "rungusen" had already been used in Appenzell in 1606 and that the alphorn was already replaced by singing at that time; the opposite is the case, the instrument was used by the farmers at that time according to Goldast (1606: 191).

Ekkehard IV becomes a literary figure in Joseph Victor von Scheffel's novel *Ekkehard, Eine Geschichte aus dem zehnten Jahrhundert* (Ekkehard, A Story from the Tenth Century) from 1855. Inspired by the chronicle published in 1829 (Scheffel 1855: VIII), Scheffel transfers his knowledge of the alphorn, yodeling and Kuhreihen into Ekkehard's life.[14]

> When the melody rhythmically ended, she made a sharp yodel call to the neighboring alp, then from there a soft but firm blowing of the alphorn rang out, her sweetheart, the herdsman from the ravine, stood under the dwarf spruce tree and blew the Kuhreihen – that strange natural tune, which, unlike any melody, seems at first dull noise, as if a bumblebee or a beetle was trapped in the horn humming to find the way out, when slowly but surely the great song of longing, love and homesickness penetrates into all the corridors of the human heart, so that it either cheers or breaks. (Scheffel 1855: 248)

12 Tobler gives the date of publication of Arx (1829) as 1828.

13 Gerold Rusch (1990), *Die Appenzeller Tracht in der Druckgraphik der Kleinmeister,* takes up Tobler's statement. He writes: "As early as 1606, there is talk of 'sauren and rungusen' as a lure" (Rusch 1990: 207). For another false citation cf.: www.appenzell.ch/index.php?id=6466.

14 Tobler criticizes Scheffel for the fact that it is an "arbitrary interpretation that…the alphorn was already in action in the tenth century," at a time when "the alphorn had long since disappeared from our Appenzell mountains" (Tobler 1903: 117). This criticism, in turn, is based on ignorance of Goldast's description of the "tuba pastoritia" among the farmers of eastern Switzerland (Goldast 1606: 191).

Here the romantic mindset of the author becomes apparent, which he projects into the tenth century thus generating a native and idealized image.[15] Schüssele (2000: 47) sees in Scheffel's novel a "possible indication" of the presence of the alphorn in the Middle Ages, and Sommer (2013: 21) holds that "the oldest sources found – 11th century (Ekkehard in St. Gall) – do not necessarily mean that the instrument [alphorn] was not already in use earlier."[16]

The view of these historical sources shows that some clues are generously interpreted by the researchers. As Sommer (2013: 21) states, this does not necessarily mean that yodeling and the alphorn did not exist before the 16th century, since written sources from these centuries are generally rare. However, reports of the existence of the alphorn and yodeling before the beginning of the 16th century are not to be regarded as evidence of a connection between the alphorn and yodeling. Neither the Nonsberg records (4th century), Notker's *Cantus paschalis* (9th century), nor Ekkehard's Chronicle (11th century) provide clear, scientifically convincing evidence for a connection between alphorn music and register-changing singing.

Alphorn and Kuhreihen in the Alpine region between 1500 and 1700

From the 16th century we have sources that document the existence of long natural trumpets as a utility instrument of herdsmen and shepherds. It was in this era that the term "alphorn" appeared for the first time: In a record of accounts of the monastery of St. Urban from 1527, a "Valaisan with alphorn" is mentioned who was paid "two batzen" (Bachmann-Geiser 1999: 24). Also documented in this era are the first instances of "Kuhreihen."[17] However, before the sources of the Kuhreihen from the 16th and 17th centuries can be analyzed, the term Kuhreihen

15 In a note, Scheffel writes that he could not explain exactly what the Kuhreihen was, but he had "received an answer at the Säntis to the question about the Kuhreigen when one took an alphorn from his back and blew it without singing or yodeling a word" (Scheffel 1855: 460).

16 Pictures and old instruments also provide information on this. Cherbuliez (1932: 33) cites a 14th-century mural in the Neunkirch church (Canton of Schaffhausen) as a source "on which the shepherds of Bethlehem blow alphorns," He is referring to the Idiotikon of 1885, which states about that church, "Where the shepherds of Bethlehem carry large, curved horns" (Staub, Tobler, Schoch 1885: 1620). This reference is tenuous, as "large, curved shepherd horns" are found in many churches worldwide. In their search for early alphorns, Frauchiger (1992: 7) and Schüssele (2000: 43) refer to Kälin's note regarding the 1976/77 excavation from a well in Meilen-Friedberg of a "shepherd's horn consisting of two hollowed out halves, curved, about 40 cm long…which can be dated to about the middle of the 14th century" (Kälin 1988: 17).

17 The calling of cows, which pictorially come by one after the other in a row when they are driven in, is called "Kuhreihen" in the current literature, with deviations in spelling, such as Chuhreihe, Chüereihe, Chühreili, Kühereihen, Kühe-reyen (Tarenne 1813: 8). The term "Kuhreihen" is used in central and eastern Switzerland and in an adapted linguistic form in the area around Salzburg in Austria (Chuhschroah – Kuhschrei). The spelling "Kuhreigen" admits the idea of dance. In the French-speaking part of Switzerland, the name "Ranz des Vaches" used

itself needs to be discussed in order to answer the question of whether it yields similarities to yodeling and alphorn music.

The use of the term Kuhreihen can be documented over several hundred years, and accordingly, the content and applicability of its use over the course of time must be investigated. According to the Swiss musicologist Martin Staehelin (1981: 83), the problematic nature of this undertaking lies in the many contradictory and often inaccurate sources on the Kuhreihen. He sees this as a general difficulty of "exploring the early history of a largely unwritten folk music practice," and specifically with regard to the Kuhreihen, he adds:

> Perhaps, however, folk music research is also partly to blame for this shortcoming, because it has above all failed to question the historical and literary sources with the necessary scientific criticism directed toward their testimony; thus, views have occasionally been able to furnish their own validity, which, as interesting as some of their ideas may be, sometimes have to be deemed as patently wrong, even adventurous. (Staehelin 1981: 83)

On the same point, Staehelin adds that it has not been possible for "research up until now to actually solve any one of the core problems relating to the early history of the Kuhreihen truly and without contradiction" (Staehelin 1981: 83). The deficits of "Kuhreihen research" can be partly explained by the complexity of the classification of this musical genre and are not only a result of incompletely processed sources. A first problem area is the fact that in the heyday of the Kuhreihen, in the late 18th and early 19th centuries (cf. p. 101), there were different views on what was meant by a Kuhreihen.

The Appenzell pastor Johann Rudolf Steinmüller (1773–1835) composed a *Beschreibung der Schweizerischen Alpen- und Landwirthschaft* (Description of Swiss Alpine and Agricultural Economy) (1804) and pointed out that among themselves the alpine herdsmen "were no longer in agreement about the content and the way it [the Kuhreihen] must be sung" (Steinmüller 1804: 126). At the beginning of the 19th century, the Enlightenment scholar and agricultural scientist Johann Beckmann (1739–1811) wrote something similar about the Kuhreihen in his monumental lexicon *Physikalisch-ökonomische Bibliothek* (Physical-Economic Library): "It seems as if there is no agreement as to what kind of song should actually be understood by it" (Beckmann 1806: 74).

The age of the Kuhreihen is unknown, as one of the first collectors of Kuhreihen notations, George Tarenne,[18] determines in his volume *Recherches sur les Ranz des Vaches* (Research on the Ranz des Vaches): "Le Ranz des vaches qui a existé le premier en Suisse, est si ancien, qu'on ne peut dire à quelle époque il parut, ni même à quel canton est dû l'honneur de l'avoir inventé" (Tarenne 1813: 8).[19] Despite Tarenne's resignation about the impossibility of discovering

there refers to the function of lining up in a row (Tarenne 1813: 9). The term "yodeling" was scarcely used until 1796 (cf. p. 22) and is therefore discussed in later literary sources.

18 Dates of life unknown.

19 "The Kuhreihen, which first existed in Switzerland, is so old that one can neither say in which

the temporal and spatial origin of the Kuhreihen, he assumes a Swiss origin. In an article in the *Intelligenzblatt von Salzburg* (Intelligence Gazette of Salzburg) from 4 August 1810, the confusing situation is summed up in a nutshell: "The Kuhreihen. No shepherd's song has received as much celebrity as this one of the Swiss mountain dwellers, and yet one rarely has correct terms for it, indeed one can hardly have them…" (Pillwein [ed.] 1810: 482).

A lexical definition of the Kuhreihen at the beginning of the 19th century explains it as "a very simple original Swiss melody, which the alpine herdsmen sing on the pastures or when the cows are driven out, or blow on the alphorn" (Häuser 1833: 221).[20] This definition allows for the two interpretations of the melody, both sung and blown on the alphorn, and thus the Kuhreihen could form the link between alphorn-playing and singing. To facilitate further discussion of this question, Kuhreihen notations are musically analyzed to show possible similarities in the use of the tone series. An additional approach to this question is provided by the written sources, which point to the Kuhreihen as a melody to be sung, or as an alphorn tune. These procedures should lead to answering the question whether in an early period the Kuhreihen were only played on the alphorn and then sung in later times, or the other way around, or whether the Kuhreihen were both played on the alphorn and sung in the same time period. Consequently, all pieces of music that are designated in the originals as "Kuhreihen" are also here called "Kuhreihen" and treated as such without justification through internal criteria, such as their musical form.

The earliest currently known mention of "Kuhreihen" can be found in a song from 1531 from the collection *Die historischen Volkslieder der Deutschen vom 13. bis 16. Jahrhundert* (The Historical Folk Songs of the Germans from the 13th to the 16th Century), which was published in 1869, thus about 300 years later, by the Germanist Rochus von Liliencron (1820–1912) and introduced as follows (Liliencron 1869: 27):

> A lovely song about the battle at Capell (Kappel) that occurred on behalf of the only sanctifying faith between those of Zurich and the five old laudable Catholic cantons of Lucerne, Uri, Schwyz, Unterwalden and Zug in the year, as one counts, one-thousand-fifteen-hundred-thirty-one, and which was set in print by a young and trustworthy confederate.

In verse 26 of the song of the Battle of Kappel, a planned attack of Zwingli's followers from Zurich against the Catholic Confederates is described: "You know well, my dear soldiers, that by day we have the courage of rabbits, so we will attack them at night, as they sleep we will murder them all and whistle the Kuhreihen (kureien pfyfen) to them" (Liliencron 1869: 29). It can therefore be assumed that the activity "kureien pfyfen" refers to an instrumental performance of the piece of music. The verb "pfyfen" can be variously interpreted; since the content of

era it appears, nor even which canton deserves the honor of having invented it."

20 Comparable lexicon entries can be found in Lieber (1836: 515) and in Long (1841: 299).

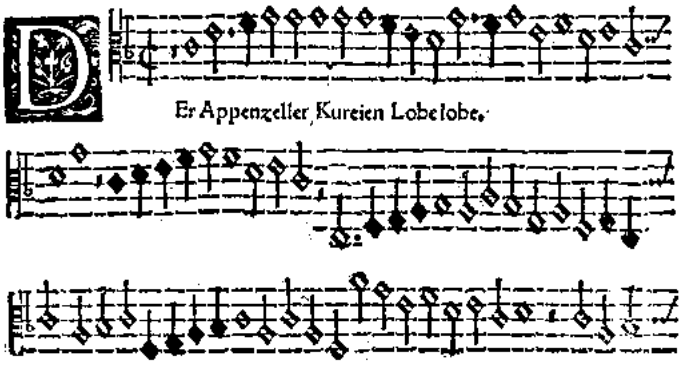

Fig. 3: Beginning of the *Appenzeller Kureien Lobelobe superius vox* (Rhaw 1545a: 84).

the song refers to a warlike environment, the term "pfyfen" could refer to the Schwegelpfeife (Colonial Fife).[21] However, there is no mention of the alphorn or yodeling here.

The first Kuhreihen set in musical notation, the *Appenzeller Kureien Lobelobe*, comes from a collection of two-part compositions from 1545, edited by the German book printer and cantor Thomas Georg Rhaw[22] (1488–1548) (Rhaw 1545a: 84). The two-part songs were published for *superius vox* (upper voice) and *inferius vox* (lower voice) in one volume for each, and the *Appenzeller Kureien Lobelobe* can be found in both volumes as number 84 (Rhaw 1545b: 84). The music teacher and conductor Albrecht Tunger (1926–2014) lists three possible authors of this transcript of the Kuhreihen: Sixt Dietrich (c. 1490–1548), Cosmas Alder (c. 1497–1553) or Benedikt Ducis (c. 1480–1544) (Tunger 1998: 151)[23] (Fig. 3).

The piece is identified as a Kuhreihen by the title, which also indicates its regional origin. Further information on its performance is missing, there are no lyrics and there is no indication of an instrument for which this melody might have been intended. The first one and a half lines in the upper voice (cf. Fig. 3) show a strong dependence on the natural tone series and contain characteristic motifs of the alphorn melody such as the "Lobe" motif (2nd line, notes 7 to 11, cf. p. 115). However, the whole melody is not playable on the alphorn as notated, so it cannot be regarded as evidence of early alphorn music, but could have been inspired by it or yodeled with syllables.

The Bernese playwright Hans von Rüte (1500–1588) provided the first concrete connection between alphorn and singing ten years later in the performance instructions for his biblical drama *Goliath* from 1555 (von Rüte 1555).[24] There he

21 A transverse wooden flute often used in military Fife and Drum Corps.
22 The spelling "Rhau" instead of "Rhaw" is also known.
23 For the background of these three persons, cf. Tunger (1999: 151).
24 Von Rüte wrote several dramas that were performed by the citizens of Bern. "Ein Fassnacht-

calls for an accompaniment with "Chorus/Alphorn" (von Rüte 1555: 149)[25] for the place where David moves out with "Stäcken unnd [sic] Schlingen (sticks and slings)." How exactly this connection between chorus and alphorn took place cannot be shown. The alphorn could have been played as an accompaniment or doubled on the melody. The music for *Goliath* is not known and in the drama text there are no references to melodies at the respective place (von Rüte 1555: 149). Thus, although no concrete statement can be made about the music presented, this source does constitute the first evidence of a combination of alphorn and singing.

In 1555, references to the shape of the alphorn also appeared. The physician and naturalist Conrad Gesner (1516–1565) describes in his book on the mountain botany of Pilatus, *De raris et admirandis herbis* (Of Rare and Wonderful Herbs), the "lituum alpinum" (alphorn) with a length of 11 feet (3 to 4 meters)[26] and "viminibus scite obligatum" (skillfully wrapped with branches) (Gesner 1555: 52). In the middle of the 16th century, long natural trumpets were also known in Germany and Austria, but were not called alphorns there. An Allgäu "Waldhorn" or "Acherhorn" (Ackerhorn), a snail-shaped coiled wooden horn from the 16th century of about three meters in length is in the Kunsthistorisches Museum Vienna (previously: Schloss Ambras, Innsbruck) (Schlosser 1920: 96, cf. p. 127). An altarpiece dated to 1568 in the chapel of St. Anna im Rohrmoos in the Allgäu depicts a herdsman with a long, straight natural trumpet (Münster/Gebhard 1985: 129).[27] Furthermore, there are two passages from this period which also refer to a natural trumpet in the Allgäu: "einen hierten oder zuhelfer, welcher das Algeyerhorn gar wohl blasen khindt" (a herdsman or helper who could play the Allgäu horn quite well) (1598), as well as "zweyen Allgeyern, welche mit langen hörnern geblassen" (two persons from the Allgäu who played long horns) (1604/05) (cf. Bredl, quoted from Vignau 2013: 216).

The composer Michael Praetorius (alias Michael Schulteis, 1571–1621) depicts a "wooden trumpet" in *Syntagma Musicum*, a treatise on contemporary music

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spiel den ursprung, haltung und Baepstlicher Abgoettereyen allenklich verglychende" (A carnival play comparing the origin, maintenance, and the whole of papal idolatries) was the last carnival play of the Stadtbernischen Spielbetrieb (Greco-Kaufmann 2005: 1546). In his creative phase after the Fasnachtsspiele he wrote biblical dramas, including *Goliath* in 1555 (dated to 1550 by Cherbuliez 1932: 32). Geiser (1976: 8) and Frauchiger (1992: 7) refer to *Goliath* as a carnival play, which contradicts the available sources according to the *Theaterlexikon der Schweiz* (Lexicon of Theatre Studies) (Greco-Kaufmann 2005: 1546).

25 The fact that von Rüte does not use the then well-known Latin name *lituus alpinum* in the original, but the German designation "Alphorn," may indicate the folkloric staging of the play and possibly that the alphorn should simply symbolize David's relationship to pastoralism. In addition to alphorn and choir, trumpets are also used ("Die Trummeter blasends ouch uff," von Rüte 1555: 18).

26 The *Historisches Lexikon der Schweiz* (Historical Dictionary of Switzerland) recommends assuming a length of 26–36 cm for the foot for this period (Dubler 2011: 3), so 11 feet correspond to 286–396 cm.

27 Vignau (2013: 177) questions the dating of this altarpiece: Although the painting as a whole is dated to 1568, Vignau doubts the dating of the shepherd, who does not appear in Albrecht Dürer's original altarpiece.

practice (Praetorius 1619: Panel VIII).[28] In that place he writes in reference to the depiction that "darmit die Schaper [Schäfer] aussm Voigt: und Schweitzerlande (die Wästerwälder genand) in den Städten herumbher lauffen / und ihre Nahrung suchen"[29] (Praetorius 1619: 33). Praetorius gives information on the function and use of the instrument as a begging instrument, but provides no indications of the music played on it or any possible connections to singing.[30]

Summary

From written sources of the 16th and 17th centuries on the alphorn, detailed references to the instrument shape and length can be gathered. But only von Rüte, through his inclusion of a chorus with alphorn (von Rüte 1555: 149), provides a connection between the alphorn and singing. Since von Rüte does not provide any further information on the use of the term "chorus," the type of singing and its relationship to the alphorn cannot be determined.

In the 16th century, a notated Kuhreihen (Rhaw 1545a: 84) appears for the first time, which, based on the designation "vox" (voice) and its embedding in a song collection, suggests a piece meant for singing. Since there is no text, one could have sung the Kuhreihen with yodel syllables, but could also have played the natural tone sequences on the alphorn. There is no evidence of register-changing singing in folk culture from the 16th and 17th centuries. A connection between alphorn and register-changing singing cannot be argued for in this era.

Kuhreihen as yodeling and alphorn music in the 18th century?

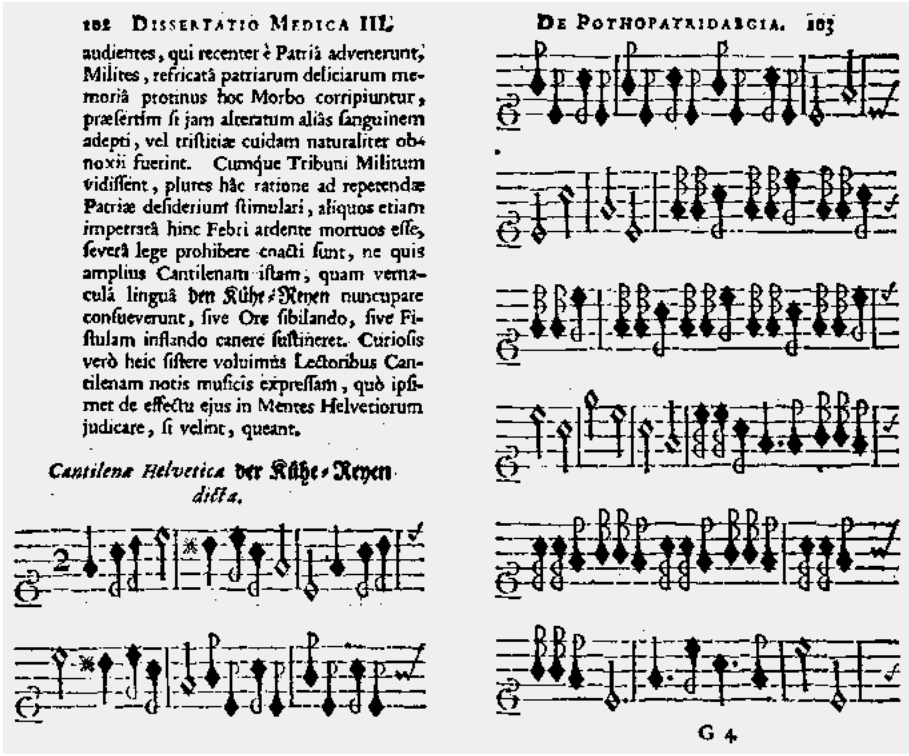
The sources presented so far suggest that natural trumpets in the form of alphorns existed in the Alpine region before the 18th century, but unequivocal conclusions cannot be drawn about the type of music due to undifferentiated classification of sources. Though references to a connection between alphorn music and singing from the 18th century are rare, they do become more concrete.

The Basel physician and university professor Theodor Zwinger III (1658–1724) published a new edition of a series of medical texts in 1710. This contains the dissertation *Dissertatio medica de nostalgia, oder Heimwehe* of the physician and pastor Philipp Hofer (1669–1752) from Mülhausen in Alsace from 1688. Hofer

28 Sommer (2013: 77) estimates the instrument depicted to be 170 cm based on a scale also shown there, Böhringer (2015: 47) estimates it at 190 cm.

29 "with which the shepherds from the Vogtland and Switzerland (who are called the Westerwälder) wander about in the cities and seek their sustenance." It is unclear precisely to whom Praetorius refers by the designation "Westerwälder." If Praetorius has in mind the "Westerwald" region of the Rhineland-Palatinate in Germany, for example, then perhaps he does not mean "Switzerland" as it is commonly understood.

30 The use of the alphorn as an instrument of beggars is also documented by other sources in the 16th and 17th centuries, not only in the Alpine region, but also in Basel and the Swiss Plateau (Bachmann-Geiser 1999: 26) as well as in Ansbach, Bavaria (Vignau 2013: 216).


102 DISSERTATIO MEDICA III.

audientes, qui recenter è Patriâ adverunt, Milites, refricatâ patriarum deliciarum memoriâ protinus hoc Morbo corripiuntur, præsertim si jam alteratum aliàs sanguinem adepti, vel tristitiæ cuidam naturaliter obnoxii fuerint. Cumque Tribuni Militum vidissent, plures hâc ratione ad repetendæ Patriæ desiderium stimulari, aliquos etiam impetratâ hinc Febri ardente mortuos esse, severâ lege prohibere coacti sunt, ne quis amplius Cantilenam istam, quam vernaculâ linguâ den Kühe-Reyen nuncupare consueverunt, sive Ore sibilando, sive Fistulam inflando canere sustineret. Curiosis verò heic sistere voluimus Lectoribus Cantilenam notis musicis expressam, quò ipsimet de effectu ejus in Mentes Helvetiorum judicare, si velint, queant.

Cantilena Helvetica der Kühe-Reyen *dicta.*

DE POTHOPATRIDALGIA. 103

G 4

Fig. 4: Beginning of the *Cantilena Helvetica der Kühe-Reyen dicta* (Zwinger 1710: 102).

addresses the severe homesickness[31] of Swiss people abroad (Hofer 1688: Chap. II). Zwinger has greatly revised this dissertation, added sections and given it the new title *De pothopatridalgia*.[32] In the newly inserted chapters XI and XII he addresses the homesickness of mercenaries, which is caused by the melody of the Kuhreihen. He gives a musical example of a *Cantilena Helvetica der Kühe-Reyen dicta*[33] (Zwinger 1710: 102) (Fig. 4).

Although Zwinger uses the verb "canere" (to sing) (Zwinger 1710: 101) and the title "Cantilena" suggests a vocal piece, the melody is completely based on the

31 "Heimweh" ("Homesickness") was originally a Swiss dialect word (Greverus 1965: 1), which found its way into High German (Vignau 2013: 216).

32 Sections I–IV agree with Hofer (1688: n.p.) except for individual terms. Part V has been rewritten by Zwinger. Hofer's V–VII thus corresponds to Zwinger's VI–VIII, the latter has been heavily revised by Zwinger. Hofer's VIII divides Zwinger into IX and X and adds a few lines to X. This is followed by Zwinger's own sections XI and XII, in which he addresses the Kuhreihen and adds the notation of the same at the end of XII (Zwinger 1710: 101–105). Sections IX–XII at Hofer correspond to XIII–XVI at Zwinger with small changes.

33 *Called a Swiss Song of a Kuhreihen* (transl. by the author). The authorship of this transcription is unknown.

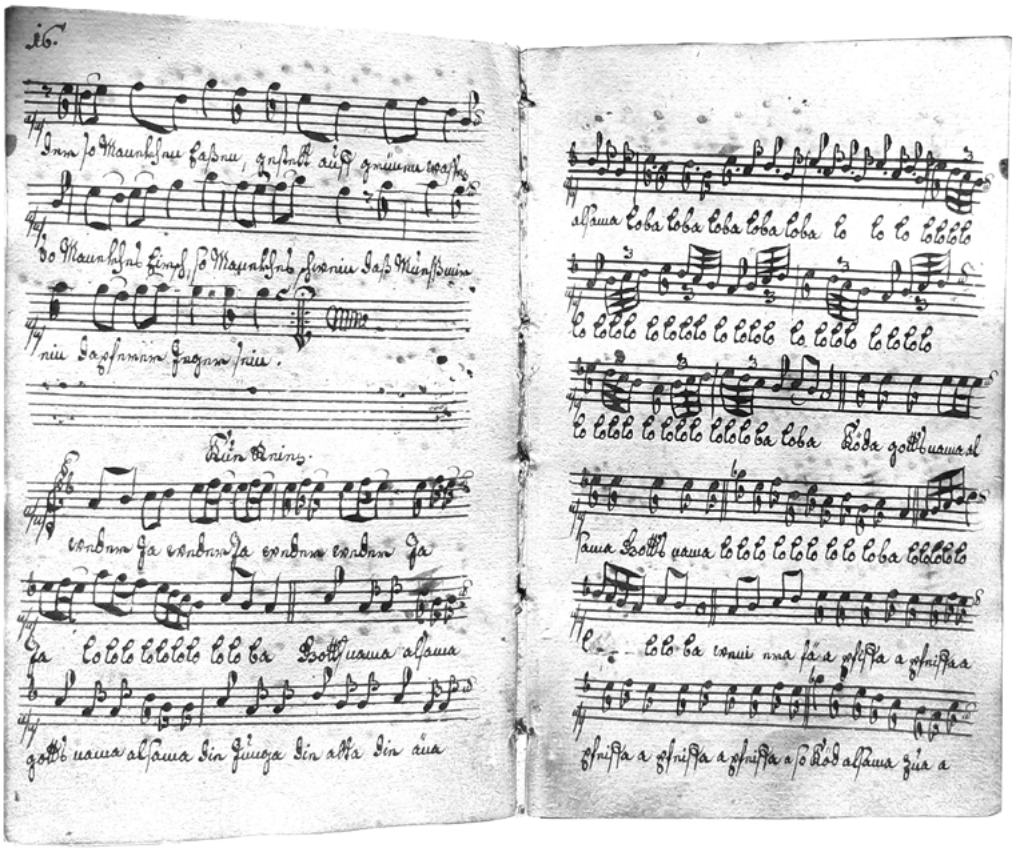


Fig. 5: The first of a total of seven pages of the *kue reien* from the Liederbuch of M. J. B. Brogerin (1730: n.p.).

natural tone series (ranging from the 6th to the 12th natural tone) and can thus be played perfectly on the alphorn. However, the tone series used here remains the only indication for a reproduction on the alphorn.

About 20 years after Zwinger's notation, the *kue reien* is dated in a songbook from an Appenzell monastery (Brogerin 1730: n.p.). Maria Josepha Barbara Brogerin, baptized in Appenzell in 1704, entered the monastery of Maria der Engel [Mary of the Angels] in Appenzell at the age of 18 (Tunger 1999: 366). Although little information is available about her monastic life, sources agree that she wrote down songs during her time in the monastery. Her handwritten booklet is dated 1730 and is kept in the Roothuus Gonten, the Center for Appenzell and Toggenburg Folk Music.[34] Among the 60 songs notated by Brogerin, the last piece is a melody entitled *kue reien*.

34 In 1996 Joe Manser and Urs Klauser edited and published the song booklet under the name *Mit wass freüden soll man singen* (With what joy shall one sing).

The Kuhreihen of Brogerin (1730: n.p.) comprises seven pages, is accompanied by text and was therefore most likely sung. For the first time, yodel syllables appear here for a Kuhreihen with alternating passages of text (cf. Fig. 5).[35] Evidence for the vocal interpretation of Kuhreihen in the Appenzell region from that time can be found in a letter from the Trogen physician Laurenz Zellweger (1692–1764) to the philologist Johann Jakob Bodmer (1698–1783):

> Le Kühreÿen est une chanson, qui dure prés d'une Heure, quand nos vachiers la chantent, je n'en ay pu decouvrir une Copie, quelque recherche que j'en ay faite, deja depuis 10 ans, quand on la demande, ces diables là n'en font que rire.[36] (Ms Bodmer 6a.02, No. 003, pp. 1–4)

The melody noted by Brogerin contains only natural tones, which at least theoretically makes this piece playable on the alphorn. However, the note range is from the 6th to the 16th natural tone, and the melody contains many technically demanding sixteenth note series. Although this could be performed by virtuoso alphorn players on today's instruments, on the alphorns as they are known from that time (Bachmann-Geiser 1999: 26 and 31), the piece could hardly be played.[37] In comparison with the melody of Rhaw, whose Kuhreihen probably also comes from the Appenzell region (Rhaw 1545a: 84, cf. p. 46), Brogerin's melody shows no formal similarities.

A special reference to the Kuhreihen is provided by the reports of the processional celebrations in 1687 on the occasion of the transfer of the bones of the martyr St. Benedict to the monastery of Mary of the Angels in Appenzell (Tunger 1999: 379). In the fourth stanza of the lament for the dead is the following passage: "and blast with a sweet sound the mountain Kuhreihen. Here two alphorns were blown (by wild men)" (Cod. Sang. 1826: 3, cit. after Tunger 1999: 380). Should the fact that two alphorns on which a "mountain Kuhreihen" was played at the same place where the Kuhreihen is written down about 40 years later be regarded as a coincidence or as an indication of a combination of alphorn and singing via the Kuhreihen?

A further reference to a vocal interpretation of the Appenzell Kuhreihen is given by the Göttingen professor of medicine Johann Friedrich Blumenbach (1752–1840) in his text from 1783: "Nor is it blown with the alp-horn like the others – which the Appenzeller herdsmen do not have at all, – but only sung" (Blumenbach 1783: 742). The Swiss physician and travel writer Johann Gottfried Ebel (1764–1830) also confirms the Kuhreihen as a song by stating that the Kuhreihen is always sung in Appenzell (Ebel 1798: 152). Contrary to the view of

35 This form is reminiscent of a yodel song, but these are first composed at the beginning of the 19th century (cf. p. 99).

36 "The Kühreyen is a song that lasts almost an hour when our cowherds sing it. Despite some research I've done for almost 10 years, I haven't been able to find a single transcript yet; when one is demanded, then these devils just laugh." Zellweger's correspondence is found in the Kantonsbibliothek Appenzell Ausserrhoden, Nachlass Ms Bodmer 6a.02, No. 003, pp. 1–4.

37 In 2006, Hans-Jürg Sommer and Emil Frei recorded an arranged, shortened version of this Kuhreihen, played on modern alphorns (Sommer/Frey 2006: Title No. 7).

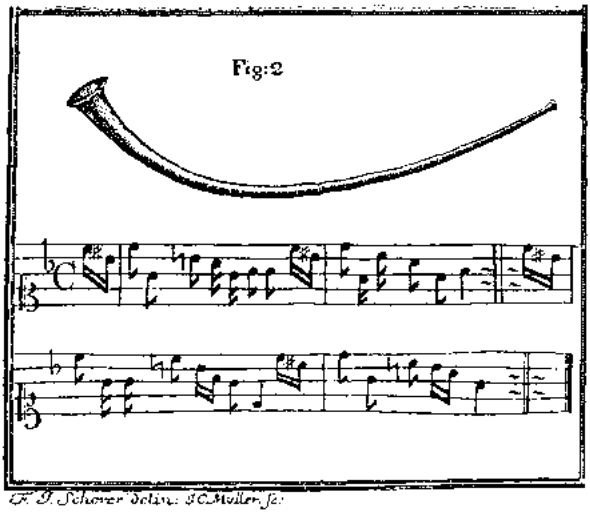


Fig. 6: Alphorn and Kuhreihen from Kappeler (1767: Table V, Fig. 2).

Blumenbach and Ebel, the Geneva writer and mountaineer Marc-Théodore Bourrit (1739–1819) writes in his geographical report *Description des Alpes Pennines et Rhetiennes* about the alphorn among the Appenzeller:

> On s'accorde à attribuer aux Appenzellois un caractère franc, honnête, un sens droit, un esprit vif, prompt en reparties. …Les hommes sont robustes & bien faits: ils s'exercent dès leur jeunesse à la lutte, à la course, à lancer de la main des pierres d'un gros poids: ils jouent d'une espèce de luth & du cor des Alpes.[38] (Bourrit 1781: 126)

Bourrit's statement thus contradicts the remarks of Zellweger (1724: n.p.), Ebel (1798: 152) and Blumenbach (1783: 742), which for the Appenzell region document the song of the herdsmen, but not the alphorn. Despite contradictory statements about the existence of the alphorn in the Appenzell region in the 18th century, the possibility of a vocal and an instrumental interpretation of the Kuhreihen must not be discarded. The naturalist Moritz Anton Kappeler (Mauritius Antonius Cappeller, 1685–1769) describes the Kuhreihen in his book *Pilati Montis Historia* (History of Mount Pilatus) from 1767 and gives detailed information about the shape of the alphorn at that time:

> Alp-Horn it is called by the people. It is a long tube made entirely of wood, the length of which is four to sometimes twelve feet. The curvature mimics the curve called cissoid in geometry: from the sound opening, which measures 3–5 inches in

38 "It is agreed to ascribe to the Appenzeller a frank, honorable character, a sense of justice, an alert spirit, quick-wittedness. …The men are robust & well built: they have been practicing wrestling, racing, stone-throwing since their youth, they play a kind of lute & alphorn."

> cross-section, the tube tapers, so that the blowing opening is only one and a half thumbs wide. The cavity is formed by long, narrow wooden slats, which are tightly braided along the outside by flexible willow rods, and so that the air flow cannot escape through any crack, the entire surface is carefully sealed with pitch and wax. (Kappeler 1767/1960: 65)

With regard to the length of the instrument, Kappeler states a very large range from four to twelve feet, which can be between one and around four and a half meters.[39] Kappeler supplements his description of the alphorn with a figure (Fig. 6).

Because Kappeler places the image of the alphorn directly above the notation of the Kuhreihen, this notation can be misunderstood as an alphorn melody.[40] However, Kappeler's description of the Kuhreihen melody is not directly related to the alphorn depicted:

> We include an image [of the alphorn] (Table V. Fig. 2), because I am not sure if one can be found elsewhere, and for the sake of completeness, also the most popular melody of the herdsmen called *Kuh-Reyen*, which they underlay with various texts of herdmen's songs. (Kappeler 1767/1960: 66)

Possibly the melody represents a verse, which could be repeated with various textual variants as desired. This would explain why the Kuhreihen notation from Pilatus, in contrast to the one from Appenzell, appears strikingly short. The melody contains several chromatic tone intervals and cannot be played in this form on a natural tone instrument.[41] One year after Kappeler's publication, another Kuhreihen notation with the French title *Ranz des Vaches*[42] appeared in the *Dictionnaire de Musique* of the philosopher Jean-Jacques Rousseau (1712–1778) in 1768 (Fig. 7).

Rousseau's notation is based entirely on the natural tone series (6th to 13th natural tone), built on the basic tone *d*. In this case, the fourth tone interval, in the notation *g#*[2] is noted one semitone higher, which can be interpreted as a reference to the alphorn-fa. Furthermore, it must be mentioned that this is a technically demanding melody if it is to be played on the alphorn.

Rousseau specifies in the *Dictionnaire de Musique* that the melody is played on a "cornemuse" by the herdsmen while tending the cattle (Rousseau 1768: 405). The French term "cornemuse" is now translated as "bagpipe," which raises the question of whether "cornemuse" was also understood as an alphorn in the 18th century. Linguistic research by Michael Venero (2015: 122–154) speaks against

39 Cf. footnote 26.

40 Bachmann-Geiser (1999: 27) points out that a comparable melody with song text was published as a song of the Emmenthaler in the collection *Acht Schweizer-Kühreihen* from 1805 (cf. p. 87).

41 The notation is difficult to read and interpret. Assuming that the clef defines the *c* on the lowest space, the following scale results for the first line: *e-f-g♭-a-a#-b-c*; for the second line *c-f-g-a♭-b-c*. The interpretation is complicated by the fact that the notes are not always clearly placed on the line or in the space between them. Through some adjustments, however, different melodies can be formed, which can be reproduced on the alphorn. W. Chappuis plays such an arranged alphorn version on the CD *Zur Ehre des Alphorns*.

42 Rousseau uses both the spelling "Ranz" and "Rans."

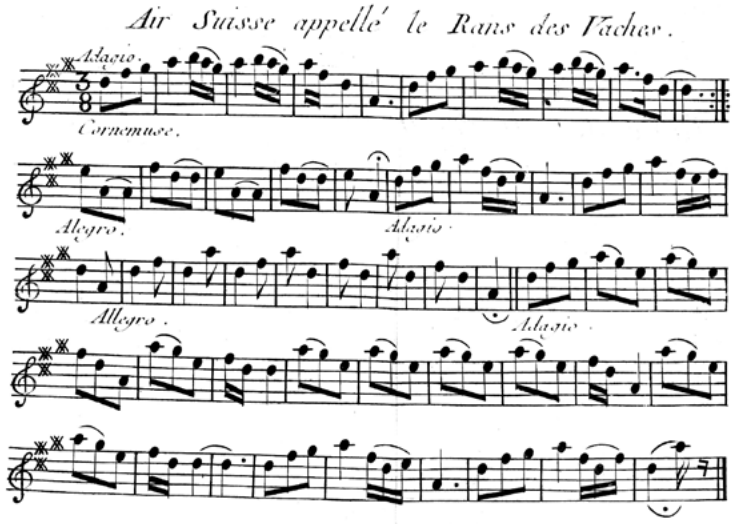


Fig. 7: The version of a Kuhreihen as shown by Rousseau (Rousseau 1768: Appendix).

this. Venero examined the term "cornemuse" in detail and came to the conclusion that it primarily refers to bagpipes with drone tubes ("corne") (Venero 2015: 147). According to Venero, "muse" and "cornemuse" may also mean other reed instruments (Venero 2015: 154), but Venero does not mention that the term refers to horns that are made to sound with the lips. Rousseau formulates a further reference to the instrumental performance of the Kuhreihen in a letter to the Maréchal de Luxembourg from 20 January 1763, in which he writes of the homesickness of the Swiss mercenaries (Rousseau 1839: 457): "Il y a dans la Suisse un air célèbre appelé le ranz des vaches, que les bergers sonnent sur leurs cornets, et dont ils font retentir tous les coteaux du pays."[43] Rousseau probably refers to a horn instrument by "cornet." In his *Dictionnaire de Musique* there are neither entries for "cornemuse" nor "cornet," which means that the exact definition of the instrument by Rousseau remains unclear.[44]

In addition to the Kuhreihen notations from the late 18th century, there is an increasing number of travel reports from the Alpine region during this time which address the Kuhreihen. In his travelogue *Voyage de M. De Mayer en Suisse, en 1784* (M. De Mayer's Trip to Switzerland, 1784) the French writer Charles-Joseph

43 "There is a famous tune in Switzerland called the Kuhreihen, which the herdsmen play on their 'cornets' and make the slopes of the country resound."

44 In Émile Littré's *Dictionnaire de la langue française* (1873–1874: 813), "cornet" is called "Petite trompe rustique. Cornet a vacher" around 100 years later and the relevant quotation of Rousseau is cited as an example. The present meaning of the cornet as a post horn with valves arose only with the invention of piston valves in the 1820s.

de Mayer (1751–1825) refers specifically to Rousseau's Kuhreihen and describes in an article from the surroundings of Basel (Mayer 1786: 90):

> Notre Postillon va, un cor pendu autour de son cou, il sonne: ce n'est pas le cor de l'Enchanteur de Charlemagne, & qu'on entendoit à cent lieues à la ronde. Il sonne le ranz des vaches, cet air dont J. J. Rousseau a parlé avec attendrissement.[45]

Whether Mayer was familiar with Rousseau's *Dictionnaire de Musique* and whether he recognized the melody of the *Ranz des Vaches*, or whether this is a casual generalizing statement remains unclear. The horn on which the coachman played the melody would have been so long that the 13th natural tone could be reached, which does not correspond to the common idea of a post horn. However, Mayer also emphasizes that it was an unusual instrument. In a later letter, Mayer describes his journey through the Appenzellerland, where he heard a Kuhreihen sung:

> Je suis revenu à Appenzell… Ici, dit-on, naquit cette musique alpestre, ce ranz des vaches si célébré. …quant au ranz des vaches, je l'ai entendu; mais il n'est point si goûté, si général que des Voyageurs enthousiastes l'ont affirmé. La plupart des paysans rient quand on leur demande le ranz. Ce n'est pas que je n'aime beaucoup un chant particulier, & propre au pays. Je voudrois que chaque Nation eût son, air favori, sa romance & son vaudeville. …Cela n'est plus, & pas davantage en Suisse qu'ailleurs.[46] (Mayer 1786: 160)

This anecdote confirms the assumption that Rousseau's publication aroused the interest of traveling intellectuals in Kuhreihen and that this interest initially confused Swiss herdsmen. Rousseau writes, like Zwinger (cf. p. 49), about the homesickness effect of the Kuhreihen on Swiss mercenaries (Rousseau 1768: 317). This phenomenon gave a boost to the popularity of the Kuhreihen in the later era of Romanticism.

The first evidence that a Kuhreihen was both sung and played on a horn can be found in a letter from the composer and violinist Giovanni Battista Viotti (1755–1823). Viotti transcribed a melody entitled *Rans des Vaches* which he heard in Switzerland (D'Eymar 1799/1800: 44), and formulated the feelings it triggered in him in a letter from 1792 to the ambassador and politician Ange Maire D'Eymar (1747–1803), who lived in Geneva at the time.

> C'était une longue trompe; une voix de femme se mêlait à ces sons tristes, doux et sensibles, et formait un unisson parfait, frappé comme par enchantement, je me

45 "Our coachman goes along, a horn hung around his neck, and blows: This is not the horn of the magician of Charlemagne, which you hear again and again in a hundred places. He plays the Kuhreihen, the melody of which J. J. Rousseau spoke with tenderness." What he alludes to with the phrase "the horn of the magician of Charlemagne" could not be determined.

46 "I returned to Appenzell… Here, it is said, this alpine music was born, this so famous Kuhreihen. …As for the Kuhreihen, I have heard it; but I didn't like it as much as the enthusiastic travelers claimed. Most of the farmers laugh when you ask them about the *Ranz*. Not that I don't love a typical, local song in the countryside. I would like every nation to have its favorite melody, its love song, and its *vaudeville*. …That is no more, neither in Switzerland nor elsewhere."

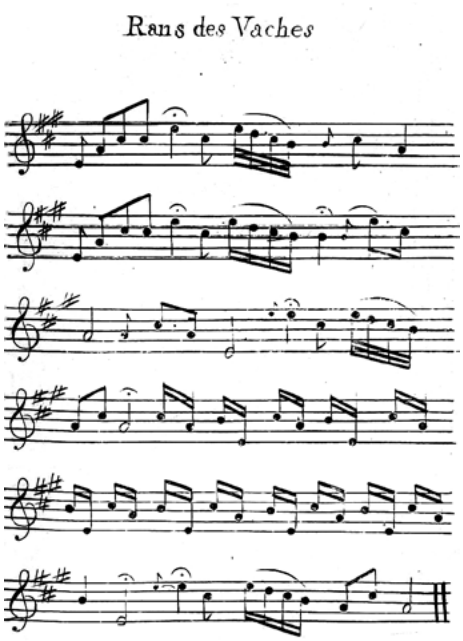


Fig. 8: Transcription of the Kuhreihen that Viotti heard during his travels through Switzerland. The original rendering depicted here was handed down by Ange-Marie D'Eymar (D'Eymar 1799/1800: Appendix).

> réveille soudain, je sors de ma léthargie, je répands quelques larmes, et j'apprends, ou plutôt je grave dans ma mémoire le Rans des vaches, que je vous transmets ici.[47] (D'Eymar 1799/1800: 45)

This is the only source from the 18th century that documents as an eyewitness account a joint music-making of a Kuhreihen with alphorn-playing and singing. However, the extent to which the singing and the sound of the alphorn corresponded with each other, and whether we have here the same or two different melodies, Viotti's wording does not clarify. His transcription is now considered one of the most important and reliable historical sources for alphorn music and pastoral singing. As a composer and violinist, one can attach to him a high degree of competence in transcribing what he heard; furthermore this is also the only Kuhreihen transcription for which the author exactly describes the circumstances, and which he undoubtedly notated himself (Fig. 8).

The notation based on the natural tone series shows a range from the 6th to the 12th natural tone that is easy to play on the alphorn. If Viotti detected the absolute pitches – as is not unusual for violinists – and his transcription corresponds to the pitches actually heard, then this horn must have been about three meters long. This length results from the register of the notated natural tone scale with the fundamental A_1 (cf. Sommer 2013: 12). Viotti's statement that a woman

47 "It was a long horn; a woman's voice mingled with these sad, sweet, sensitive sounds, and formed a perfect unison. Struck as if by magic, I wake up suddenly, I come out of my slumber, I shed a few tears, and I learn, or rather I engrave in my memory, the Kuhreihen that I transmit to you here."

sang to it speaks for an instrumental and vocal performance of the same Kuhreihen. Nevertheless, as already mentioned, it cannot be determined with certainty whether the female voice sang the same melody, accompanied the tune, or sang an independent song that blended with the horn melody.[48] In addition to Viotti's description, there are further references to instrumental or vocal interpretations of Kuhreihen from the same years.

Johann Georg Krünitz (1728–1796) mentions in the 54th part of his work *Oekonomisch-technologische Encyklopädie* from 1791 that the Kuhreihen was both sung and played on the alphorn, but indicates that at that time it was known only in the Appenzell:

> You can hear the Kuhreihen in its original simplicity only in Appenzell, though it is set for more artificial instruments and spoiled ears in almost all Swiss cities with new and manifold changes. The Appenzell Kuhreihen was sung and played earlier in all mountainous areas of Switzerland on the great Herdsman-Horn (Alpine-Horn); however, now this instrument and the Kuhreihen are known only in Appenzell. (Krünitz [ed.] 1791: 688)

According to this dictionary entry, the Kuhreihen in other parts of Switzerland, especially in the cities, was already adapted to art music. Contrary to this fact, seven years later Ebel describes the Kuhreihen in the Appenzell region in the context of alpine farming primarily as singing, but with the acoustic character of a wind instrument (Ebel 1798: 155):

> When the cows rush to the shepherd's song from all sides, all those that grazed together…arrive in such a way that one follows the other, and therefore they go in rows. I suspect that this has become the reason for giving the song that summons the cows the names Kühereihen, Kuhreihen. …When one plays it on stringed instruments, it loses all its expression and its originality; wind instruments alone are able to let something of its character be heard; but it is best when it is sung.

Ebel specifies: "This song does not consist of articulated sounds, and is never sung with words by the herdsmen and shepherds" (Ebel 1798: 152) and goes on to explain that the sounds are produced "in the glottis without using anything other than the pharynx" – which suggests a yodel-like singing style. Ebel adds several notations in the appendix to his writing: a *Kuhreihen of the Herdsman* and a *Kuhreihen of the Handboy* as well as a *Milking Song* and a *Call or Ruguser* (Ebel 1798: 156 and appendix).[49] None of the four wordless songs is based exclusively on the natural tone series, but the wide range of tones (up to a thirteenth) suggests register-changing singing. This could be used to argue that the origins of yodeling are rooted in Kuhreihen (in the chapter on *Kuhreihen Collections*, this topic is dealt with in more detail, cf. pp. 87–101).[50]

48 In addition, it is not clear whether the woman sang a wordless, yodel-like song or a song in a dialect that Viotti may not have understood.

49 In addition to the four notations described, Ebel reproduces the already discussed notations of Zwinger, Kappeler and Rousseau (Ebel 1798: 156 and appendix).

50 Ebel describes the singing of the Kuhreihen in a way that is very similar to the yodeling practice

In his detailed explanations, Ebel confines himself to the Appenzell region, but notes that he also heard the Kuhreihen "being sung or blown" in the other Alpine regions and in the Jura mountains (Ebel 1798: 153). Regional differences must here be taken into account: While according to Ebel the Kuhreihen was sung in the Appenzell region, in other regions reproductions on the alphorn were also likely. This could explain why both forms are brought together in the lexical formulation cited above (cf. Krünitz [ed.] 1971: 688).

In addition to his records of Kuhreihen, Ebel's estate in the Zurich State Archives also contains two undated notations of alphorn melodies under the title *Nachrichten aus verschiedenen Kantonen* (News from Different Cantons). The melodies document the "Püchelspiel, so popular in the Wägitaler Alps" of a herdsman, which would appeal to people and cattle alike (estate of Ebel: StAZH B IX 250).

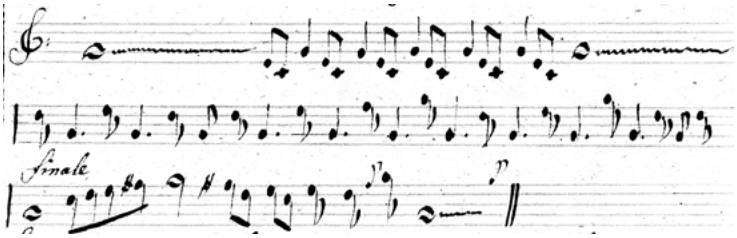


Fig. 9: *Püchelspiel* in the Wägitaler Alps (estate of Ebel: StAZH B IX 250), first melody.

The anonymous author describes how the herdsman on the long notes, the lengthening of which is illustrated with wavy lines, "dallies" for a while and sways "back and forth" (estate of Ebel: StAZH B IX 250). The melody ranges from the 4th to the 12th natural tone and thereby establishes the extent of the tone range of the Büchel used. The large intervals in the middle line are comparable to those in register-changing singing. After this first piece, the herdsman plays the following melody "singing on the Püchel":

in Appenzell today: "Nowhere other than in Appenzell can you hear it [the Kuhreihen] sung by two and three at the same time, so that one or two always hold only one tone, depending on what the melody of the singer requires" (Ebel 1798: 153).

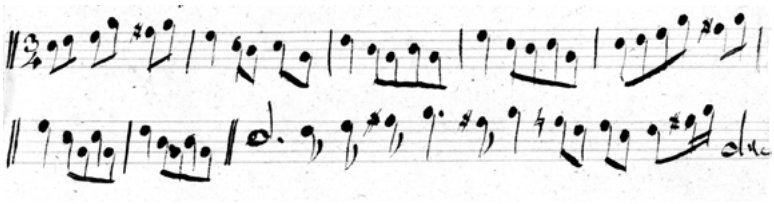


Fig. 10: *Püchelspiel* in the Wägitaler Alps (estate of Ebel: StAZH B IX 250), second melody.

This melody consists of a seven-bar phrase and a second phrase without measure bars. The first phrase is strikingly similar to the yodeling that is still known today in the Muotatal as "Bücheljuuz" (cf. p. 185), and the formulation that the herdsman sang on the Büchel also indicates a closeness to yodeling. The second phrase could represent an improvisation, freely constructed in tempo. While the first melody of the *Püchelspiel* is based entirely on the natural tone series (cf. Fig. 9) and therefore leaves no doubt about the instrumental performance, the second melody also contains the note b^1, which cannot be played on the Büchel (cf. Fig. 10). With correct notation, the herdsman would have to play a deepened bb^1 at this point or yodel this part.

The German physician and editor Ernst Gottfried Baldinger (1738–1804) published a short article about the Kuhreihen in his *Neue Zeitschrift für Ärzte* (New Journal for Doctors) in 1791 and presented four notations. The first Kuhreihen is a notation that was unpublished until then and the second is a slightly modified version of Rousseau's *Ranz des Vaches* (1768: Appendix), both of which he received from Blumenbach.[51] The third Kuhreihen he incorporated from Kappeler's publication and the fourth he received from a "Herr Bürger, aus dem Zürichischen" (Baldinger 1791: 377). This seems to be an Entlebucher song, for Baldinger (1791: 377) writes above the noted melody: "Entlibucher – according to today's taste – by a virtuoso on the shalmei!" The two melodies, which do not go back to Rousseau and Kappeler (No. 1 and No. 4), are not based on the natural tone series and are therefore not analyzed further here. In addition, Baldinger's statement should be mentioned here, that in the near future he would receive texts to the Kuhreihen from Bürger (Baldinger 1791: 377). However, no further information on these texts could be found.

The writer and pedagogue Heinrich Zschokke (1771–1848) depicts in the appendix of his published travelogue *Die Wallfahrt nach Paris* (The Pilgrimage to Paris), in addition to the Zwinger Kuhreihen, another Kuhreihen notation with piano accompaniment and with text that describes the Siebenthal (Zschokke 1797:

51 Blumenbach (1784: 740) discusses the Kuhreihen in his *medical library*, but does not reproduce the notes in question.

Appendix).[52] An *Alpenlied* appears there as well, which in its form corresponds to Baldinger's first Kuhreihen (Baldinger 1791: 378).

The published notations before 1800 allow for meaningful musical analyses, which could be evaluated within the framework of the research question. The Kuhreihen summarized in the following table differ significantly in their melodies, so they are most likely not mere copies of an earlier transcription under a different name. A breakdown of the individual Kuhreihen transcriptions and their presumed origin can be found in Appendix 1.

Table 2: Chronological overview of notated Kuhreihen melodies with an indication of whether they are based on the natural tone series. The third column (authorship/editorship) is usually the publisher of the publications. Only Viotti is certain to be the author of the transcription.

Year	Name	Authorship / Editorship	Comprised of the natural tone series	Performance notes
1545	*Der Appenzeller Kureien Lobelobe*	Georg Rhaw	no[1*]	vocal (?)
1710	*Cantilena Helvetica*	Theodor Zwinger	yes	vocal, poss. "tibia" (flute)
1730	*Kue reien*	Maria Josepha Barbara Brogerin	yes	vocal
1767	*Kuhreihen*	Moritz Anton Kappeler	no	vocal
1768	*Ranz des Vaches*	Jean-Jacques Rousseau	yes	"cornemuse" (bagpipe), "cornet" (small horn)
1791	*[No. 1]*	Ernst Gottfried Baldinger	no	vocal (?)
1791	*Entlibucher*	Ernst Gottfried Baldinger	no	shalmei
1792	*Rans des Vaches*	Giovanni Battista Viotti	yes	vocal, "trompe" (horn)
1798	*Kuhreihen des Sennen*	Johann Gottfried Ebel	no	vocal
1798	*Kuhreihen des Handbuben*	Johann Gottfried Ebel	no	vocal

1* As shown with Rhaw (1545a: 84), certain motifs are close to the alphorn melody. The indication that the Kuhreihen is to be sung is not made explicit, but the notation is in a collection of songs.

Half of the Kuhreihen notations known today from before 1800 are based on the natural tone series. As a result, the assumption that the melodies in question were played on a natural tone instrument such as the alphorn seems possible and realistic. A concrete account of the interpretation on a "long horn" can be

52 In later editions, this melody is entitled *Kuhreihen der Siebenthaler* (cf. p. 90).

found in Viotti (D'Eymar 1799/1800: 45). Rousseau's Kuhreihen, also based on the natural tone series, was played on a small horn (cornet) according to his letter to the Maréchal de Luxembourg (Rousseau 1839: 457). This is consistent with Mayer's statement, who heard the Kuhreihen played on a post horn (Mayer 1786: 90). In the case of the Kuhreihen from the Appenzell region, the sources agree that they were sung (Rhaw 1545a: 84, Brogerin 1730: n.p., Ebel 1798: Appendix), and Kappeler also refers to his Kuhreihen of Pilatus as a song of the herdsmen. Since he depicts the notation just below the alphorn (Kappeler 1767: Table V, Fig. 2), it is sometimes understood as an alphorn melody and the notes, which are not limited to the natural tone series, are arranged accordingly. Towards the end of the 18th century, the category Kuhreihen became more popular and several copies appeared. Baldinger (1791) and Ebel (1798) were the first to present small collections of Kuhreihen, but the new notations in these publications do not build on the natural tone series and are therefore only indirectly related to the alphorn.

Sung natural tone melodies may have been taken over from the alphorn, for example in the case of the Zwinger Kuhreihen. The German musicologist Wolfgang Sichardt (1911–2002) assumes that the Kuhreihen of Rousseau and Zwinger are alphorn music: "the two melodies in question…adhere exclusively to the natural tone series, which suggests that they originated on the alphorn" (Sichardt 1939: 83). The musicologist Paul Helmer also describes how Zwinger's melody is confined to the natural tone series and assumes that it must be an alphorn melody. "Hofer's [Zwinger's] melody is instrumental in nature and originates from the overtone series of the alphorn with the fundamental tone C" (Helmer 1983: 140).[53]

A melody based on the natural tone series and with large intervals requires virtuosity and a special vocal technique, which speaks for yodel-like singing with voice register change. However, the present notations of the Kuhreihen have a relatively small range (often within the framework of an octave), so this assumption must be put into perspective.

A comprehensive analysis of the Kuhreihen discussed so far is provided by Sommer (2013), who, through his numerous Kuhreihen compositions and publications of his form analyses of traditional Kuhreihen, makes a considerable contribution to the current increase in the playing of Kuhreihen on the alphorn and to the composition of melodies in the form of Kuhreihen for this instrument. In the Kuhreihen of the 18th century he finds congruent structures and references to alphorn music and yodeling.

Sommer (2013: 12) analyzes the form of the surviving Kuhreihen notations in detail and makes them the focus of the film *Die Mundart des Alphorns* (The Dialect of the Alphorn) (Sommer/Juchli 2015). On the basis of his analyses, he divides the Kuhreihen into three component sections: an invocative introduction,

53 The Kuhreihen, which Zwinger includes in his extended version of Hofer's dissertation (1688, cf. p. 49), is attributed by some authors to Hofer.

a row-call section and a caesura. The invocation section, whose name comes from the Swedish musicologist Carl-Allan Moberg (1896–1978) (Moberg 1962: 30), is musically formed from a slow melody that ascends to play around the alphorn-fa (a key characteristic of the alphorn) and then descends again. The invocation section refers to the "Betruf" ("call to prayer"), which is known as a ritual invocation in various parts of the Alpine region (for the role of the Betruf in connection with alphorn and yodeling, cf. p. 109). The invocation section is followed by a row-call section, a sequence of small, repeated motifs that can be understood as instrumental cow calls (Sommer 2013: 34). In some Kuhreihen, which are accompanied by text, the names of cows are listed in the row-call section. The third formal section, the caesura, consists of a quiet passage that interrupts the row-call section. The character of the caesura is reminiscent of interjections or shouts of joy, which is not surprising, since the Kuhreihen are also sung. Regarding the connection to yodeling, Sommer writes:

> What is certain is that the sung and the blown Kuhreihen or yodels were practiced by the same people with the same musical background. In other words, the cradle of both musical practices stood in the same chamber. So if you want to examine the alphorn melodics, you will not be able to avoid dealing with the sung form of this melodics. (Sommer 2013: 22)

Despite some deviating and idiosyncratic Kuhreihen forms that do not meet Sommer's formal criteria, his form analysis for the period under investigation is convincing. In the first decades of the 19th century, new, differently formed Kuhreihen are composed, which are presented and discussed in Chapter 5.

Summary

The earliest references to alphorn and yodeling date back to the 4th century in South Tyrol (cf. p. 37) and in Switzerland (St. Gall) to the 9th and 11th centuries respectively (cf. pp. 39 and 42). However, these references turn out to be doubtful assumptions or later inventions. Since the middle of the 16th century, long natural trumpets have been documented, played by herdsmen and shepherds in the mountains. Parallels to register-changing singing cannot be determined at this stage. The earliest notation of a Kuhreihen dates back to 1545, but no further information on the performance of this as a "duet" is available. In the 18th century, descriptive transcriptions of Kuhreihen increasingly appeared. The earliest documentation of a Kuhreihen with lyrics can be found in Brogerin's song book of 1730, whose transcription reveals "yodel syllables" between the text stanzas. Viotti's description of a Kuhreihen shows both an instrumental and a vocal rendition. With respect to the source material, it can be assumed that in the second half of the 18th century the Kuhreihen were practiced both as instrumental music and as singing.

Whether a transfer of the intervals of the alphorn to the sung yodel took place, and thus the instrumental hypothesis for this period and this area applies, however, can neither be clearly proven nor negated. Joint music-making of alphorn and singing is mentioned very sporadically (von Rüte 1555: 149, D'Eymar 1799/1800:

45), but in the 17th and 18th centuries some sources refer to the Kuhreihen as a link between register-changing singing and alphorn music, as this was performed both vocally and instrumentally.

The general interest in the Kuhreihen grew towards the end of the 18th century. They are increasingly noted down and adapted for art music. The musical practice of the alpine mountain population moves into the focus of the bourgeoisie. This movement must be considered in the context of the political and social developments of this period, which was dominated by the Napoleonic Wars, social transformations and Enlightenment ideas.

Chapter 4: The Unspunnenfests and their impact

At the end of the 18th century, Europe experienced armed conflicts, political instability and social transformations. In these unstable times, philosophers reflected on alternative social structures and new forms of economy. Rousseau's writings were significant in two ways for the re-evaluation of folk music at the time. First, in his *Essai sur l'origine des langues* (Essay on the Origin of Languages, 1781), in *Héloïse* (1761) and in his *Dictionnaire de musique* (1768), he abandoned the view that the only acceptable music was that based on academic teachings, and he pursued a musical aesthetic based on taste and sensuality. This path led to a growing interest in folk music. Secondly, Rousseau's pedagogical writings *Émile* (1762) and especially the *Discours sur l'origine et les fondements de l'inégalité parmi les hommes* (Discourse on the Origin and Foundations of Inequality Among People, 1755) provided new perspectives on forms of society and led to a greater esteem of the general populace and their cultural forms, among which the Swiss mountain population was counted. Rousseau's philosophy contributed to the emergence of a romantically idealized image of "folk culture" among the educated middle class of Switzerland and beyond. In order to counteract the decline of this idealized and imagined folk culture, influential persons organized folk culture festivals. In this way, the customs were to be cultivated and accordingly the activities of collecting stories, legends and songs of the "Volk" were to be promoted.[1]

In 1805, an Alphirtenfest (alpine herdsmen festival) took place in Switzerland that played an important role in the development of folk culture and the economy, and which was held again three years later. Other such festivals, called "Unspunnenfests," followed only in the 20th century, and they have been held regularly since 1981.[2] The first two Unspunnenfests were particularly relevant for the development of the alphorn and the Kuhreihen, as they had not only given the two musical genres a new impetus, but had also created an opportunity for

1 On the intellectual milieu from which the interest in yodeling and alphorn music in Switzerland arose, cf.: Dübi (1914a: 57), Dübi (1914b: 85), Zulauf (1972), Baumann (2000: 155) and Oehme-Jüngling (2016).

2 The term Unspunnenfest (pl. Unspunnenfeste) locates the alpine herdsmen/shepherd festivals (Alphirtenfeste) at Unspunnen, an area of Interlaken in the meadows of the old ruin of Unspunnen Castle. German terms ending in "-fest" in the singular are untranslated; for the plural the English form is used "-fests" (instead of "feste"). The festivals of 1805 and 1808 were not yet referred to as "Unspunnenfests," but as "Alphirtenfests." Today, the term "Unspunnenfest" is used. In the 20th century, festivals were held in 1905, 1946, 1955, 1968, 1981 and 1993. In 2005, the festival had to be postponed by one year to 2006 due to flooding, followed by the most recent festival in 2017. Thus, since 1981, the festivals have been held in a cycle of 12 years. Around 90,000 visitors of cultural customs and 8,000 active participants met in Interlaken in 2017 for the 10th edition of the Unspunnenfest (www.unspunnenfest.ch/unspunnenfest/unspunnenfest-2017, 25 May 2022). The next Unspunnenfest is planned for the year 2029.

combining the two musical practices. In the following reappraisal of the sources on the alphorn and singing at the Unspunnenfests, the term "yodel" does not appear, as it was not yet in use in Switzerland at that time; the central vocal styles at the festivals were the Kuhreihen and the folk song, and the central musical instrument was the alphorn.

Alphorn and singing at the Unspunnenfest 1805

In 1803, after the end of the Helvetic Republic and the constitution of the Swiss Confederation (*Confoederatio Helvetica*) as a league of states and vassal state of France, the Swiss economy picked up speed and representatives of the bourgeoisie intended to take back their old offices and positions. The rural population was dissatisfied with this impending turn towards the old order and feared renewed oppression and paternalism by the urban patriciate (Gallati/Wyss 2005: 10). Disappointment and mistrust prevailed especially in the Bernese Oberland, which existed in the Helvetic Republic as an independent canton and was now to be governed again from the capital as part of the canton of Bern (Gallati/Wyss 2005: 10). With the implementation of the Alphirtenfest at the ruins of Unspunnen near Interlaken in the Bernese Oberland, the Bernese patricians hoped for an improvement in relations between the rural population and the bourgeoisie. The first Unspunnenfest took place on 17 August 1805 in honor of Berchtold V, the founder of the city of Bern (Baumann 2000: 166).

Among the initiators of the festival were four patricians (so-called Stadtburger): the Bernese Schultheiss Niklaus Friedrich von Mülinen (1760–1833), the Oberamtmann of Interlaken Friedrich Ludwig Thormann (1762–1839), the art lover, draftsman and engraver Franz Sigmund Wagner (1759–1835) and the painter Franz Niklaus König (1765–1832) (Gallati/Wyss 2005: 7, Sebastian 2017: 41).[3] These initiators were perceived by the Bernese Oberlanders as representatives of the urban upper class, and the idea of restoring the old order met with resistance from them. The Bernese Oberlanders reacted to the initiated restoration of the old social order with protest and political disobedience (Oehme-Jüngling 2016: 108).

Along with political intentions to establish a friendly relationship between town and country, the Unspunnenfests were also intended to promote the emerging tourism (Baumann 2000: 163), and for this purpose invitations to potential tourists from home and abroad were an important component (Wagner 1805a: 11). According to Wagner, more than 3000 people gathered on the meadow at Unspunnen for the festival (Wagner 1805a: 13). This number was confirmed by a participant with the initials "F. M.," who wrote in the *Gazette de Lausanne* No. 17 from Tuesday, 27 August 1805: "J'ai vu là en tout au plus 3000 ames [sic],

3 The *Historical Dictionary of Switzerland* also names Gottlieb Jakob Kuhn as an initiator (www.hls-dhs-dss.ch/textes/d/D10714.php, 21 April 2022).

tant acteurs que spectateurs, & parmi ceux-ci plusieurs étrangers des deux sexes, & des Suisses de tous les cantons"[4] (F.M. 1805: 135). In addition to many Bernese patrician families, "more than a hundred other foreign gentlemen and ladies of distinction" attended the festival (Wagner 1805a: 12, Baumann 2000: 166). The first Unspunnenfest was widely advertised and announced in the *Gemeinnützigen Schweizerischen Nachrichten* (Non-Profit Swiss News) of 20 June 1805 published by the Bernese pharmacist Johann Georg Albrecht Höpfner (1759–1813):

> Thus a feast will be celebrated and concluded, the sole purpose of which is to revive and perpetuate among us the old simple customs and joys of our forefathers; to establish new bonds of friendship among the different pastoral peoples of Helvetia, but most especially between the inhabitants of the countryside and the inhabitants of the cities… (Höpfner [ed.] 1805a: 2 [Supplement])

The motto of the festival of 1805 was "In Honor of the Alphorn" and accordingly the commemorative medal specially minted by the organizers shows a herdsman with this instrument (Wagner 1805a: 20).[5] The idea of memorializing an alphorn player on the medal testifies to the great importance that the initiators attached to the alphorn. This can also be seen from the fact that the best alphorn player to be determined by a competition should receive the "highest of the prizes intended for all the winners in the various games" (Höpfner [ed.] 1805a: 1 [Supplement]), and be "loudly proclaimed as king of the festival" (Höpfner [ed.] 1805a: 1 [Supplement]). The victory in alphorn playing was thus rated higher by the organizers than the victories in singing, shooting, Swiss wrestling or stone throwing. The initiators expected a considerable number of alphorn players from Switzerland and also from Tyrol, which can be read in the announcement of the festival of 1805:

> The blowing of the alphorn will mark the beginning of the games. It is known that this instrument, which is now found in nearly all the high Swiss and Tyrolean mountains, owes its fame especially to the so-called Kühreyhen, an ancient pastoral music form, whose words and ways breathe the greatest simplicity of our customs and the emergence of musical artistry. (Höpfner [ed.] 1805a: 1 [Supplement])

Furthermore, the same announcement states for the first time that several alphorn players would play together. According to Höpfner (1805a: 1 [Supplement]), the alphorn players were to distribute themselves "some individually, some in smaller or larger troops, on the neighboring hills" and produce sounds that would be enhanced by the reverberating rock walls. "Well-known music experts and all the founders of this festival" were to judge the alphorn players at the competition (Höpfner [ed.] 1805a: 1 [Supplement]). At the actual festival, however, to the disappointment of the initiators, only two alphornists appeared:

> There were only two present. It seems that several of them did not yet feel competent to perform, and the music samples presented likewise demonstrated how right the

4 "I saw there in all at most 3000 souls, both performers and spectators, and among them several foreigners of both genders, and Swiss from all cantons."

5 Such a commemorative medal can now be found in the Bernese Historical Museum (MS 3495).

> founders of this festival were not to let this Swiss peculiarity and old heart-stirring music fall into decline. (Wagner 1805a: 10)

Wagner's designation of the alphorn as a "Swiss peculiarity" may have had patriotic motives, as the initiators were aware that the instrument or variants of it were also known in Tyrol (Höpfner [ed.] 1805a: 1 [Supplement]). Since the organizers assumed a wide distribution of the alphorn, they had to explain the meager participation differently. Some alphorn players may have stayed away from the festival in protest against the bourgeois organizers. Wagner himself gives a hidden hint of this in his festival report:

> After the end of the festival and the days that followed, many people, especially country folk, came to Mr. Wagner, who remained in Interlaken for a few more days, and testified to him of their satisfaction and joy in this whole event…; they regretted that they had initially allowed themselves to be taken in by all sorts of rumors against this festival, but they now see how the event was established solely for the benefit and joy of the Oberland. (Wagner 1805a: 24)

Wagner's statement provides a glimpse of a tense situation before the festival. The small number of participants with only two alphorn players at the first Unspunnenfest may also have had economic reasons. The two alphorn players who performed at the festival came from Ringgenberg and Walkringen, two villages in relative close proximity to Interlaken. For alphorn players from more distant places, the transport of a long one-piece alphorn may have been too much of a burden, especially since the festival took place in the month of August, which is labor-intensive in the alpine economy.[6] With regard to the quality of the alphorn music performed, the festival visitor signed "F. M." expresses his frustration in the *Gazette de Lausanne* of 27 August 1805:

> Pendant ces jeux, j'entendais dans un des coins du cercle un concert de voix de femmes, dans un autre un concert de cor-de-chasse et d'autres instruments, là enfin un concert de deux de ces trop fameux cors des Alpes (alphorn) long de 5 ou 6 pieds, dont le son aigre, sec & monotone fatiguait singulièrement mes oreilles.[7] (F. M. 1805: 135)

Despite the allegedly unpleasant sound of their instruments, the two alphorn players present, Ulrich Joss of Walkringen and Ulrich Frutiger of Ringgenberg, received their unrivalled prizes, a medal with a silk ribbon bow and a Spanish ewe

6 Ursula Frauchiger also harbors this assumption: "Although there were other alphorn players, only a few had made the arduous journey to Unspunnen" (Frauchiger 1992: 11).

7 "During these games I heard in one corner of the square a concert of women's voices, in another a concert of hunting horns and other instruments, then finally a concert of two of these very famous alphorns, 5 or 6 feet long, whose shrill, dry and monotonous sound tired my ears immensely." The participant "F. M." describes the two alphorns with a length of five or six feet. With a foot measurement of 26 to 36 centimeters, this corresponds to a length of between 1.3 and 2.16 meters (Dubler 2011: 3). It can be assumed that the alphorns played at that time were shorter than today's standard instruments (cf. p. 156). The statement "a concert of two of these very famous alphorns" could be understood as an indication of polyphonic or at least joint playing of the alphorns.

with lamb for the winner Ulrich Joss and a Spanish Métis-ram for the second-placed Ulrich Frutiger (Wagner 1805a: 15).

According to some authors, a well-known etching by the painter Gabriel Lory the Elder (1763–1840), which shows a young herdsman from Oberhasli with an alphorn, depicts the second-placed Ulrich Frutiger (Gallati/Wyss 2005: 100). The etching is dated 1805 (Landesmuseum Zurich, LM-47485) and shows a herdsman with a white shirt and a brown vest, a leather belt and blue knee breeches. Compared to today's instruments, his alphorn has a narrower bore and is shorter.[8]

Various illustrations of different scenes of the festival of 1805 show two alphorn players. The historical calendar of Bern *Der Hinkende Bott* (The Limping Messenger) from 1806 shows a woodcut with two alphorn players against the background of the festivities (Zentralbibliothek Zürich, quoted from Gallati/Wyss 2005: 92). The French painter, engraving publisher and art dealer Johann Peter Lamy (1760–1838) published his book in Bern around 1805 entitled *La fête des bergers des alpes, près d'Unterseen, dans l'oberland bernois* (The Alpine Herdsmen Festival, near Unterseen, in the Bernese Oberland) which contains four of König's colored copper engravings, one of which shows two alphorn players on a hill. The two play instruments with a narrow bore, which can be estimated at an approximate length of 1.9 to 2.2 meters. Lamy writes:

> Il faut avoir passé un ou plusieurs jours dans les retraites élevées et tranquilles des alpes, pour sentir tout ce que le haut-bois,[9] cet instrument d'ailleurs si dissonant pour les oreilles délicates du citadin, a de doux et d'harmonieux.[10] (Lamy [1805]: 6)

The Frenchman Lamy, who worked in Bern from 1791 to 1838, combines the image of the two alphorn players with the poem "Le Ranz des Vaches" by the Geneva city official Jean-Louis Mallet (1757–1832) (cf. Mallet 1809: 25):

> La première planche représente deux bergers qui, sur un tertre de gazon, entourés d'un vaste cercle d'auditeurs, entonnent avec enthousiasme, ces airs chéris de tous les Suisses, qui font l'admiration des étrangers et dont un poëte, ami des champs et de la nature, a dit:

8 The length of the instrument can be estimated in terms of body size. Men who applied for a passport in the Canton of Bern around 1800 were on average 170 centimeters tall (Staub 2010: 235). If one presumes a body size in this range for the herdsman and assumes that the proportions relative to the instrument depicted are close to realistic, an alphorn length of perhaps 180–210 centimeters may be deduced. This estimate narrows the indication of the Lausanne "F. M." quoted above of five or six feet and corresponds to the length of most of the alphorns that can be seen in illustrations connected with the Unspunnenfest of 1805.

9 Lamy writes "haut-bois" (oboe), but evidently thereby designates the alphorn. Judging by a source from 1840, the alphorn was also referred to in French as "haut-bois" ("high forest"): "The '*Alp-horn*,' or '*Alpenhorn*,' called in the French canton *haut-bois* (high-forest), *trompe*, and *cor-des-alpes*, on which the various *Ranz-des-Vaches* airs are by the Swiss peasants occasionally performed …" (Hook [ed.] 1840: 368, emphasis original).

10 "You have to have spent one or more days in the high and quiet retreats of the Alps to feel everything that the alphorn – this by the way so dissonant instrument to the delicate ears of the city's inhabitants – has in terms of pleasantness and melodiousness."

"Quel est cet air simple et grossier,
Qui pour le Suisse a tant de charmes;
Et qu'on ne peut chez l'étranger
Jouer sans lui coûter des larmes? *(Le ranz des vaches.)*
Ce n'est point un air enchanteur
Qui charme par sa mélodie,
C'est un air qui parle à son coeur
Et lui rappelle sa patrie!"[11] (Lamy 1805: 7)

Lamy probably added the note in brackets "(Le ranz des vaches.)" himself, because it is not to be found in Mallet's publication (Mallet 1809: 25). This passage can be understood as a possible indication that Kuhreihen melodies were played on the alphorn at the Unspunnenfest. As already mentioned, the Kuhreihen was an important song genre at the Unspunnenfest and underpinned the popularity of the alphorn (cf. Höpfner [ed.] 1805a: 1 [Supplement]). The communal singing of the rural population and the bourgeoisie, which was made possible by the distribution of song sheets, was also to have a unifying effect. Singing was heard already on the eve of the festival:

> On the large, covered seating area of the inn, some gentlemen from Bern had united with each other as friends of special music for this festival in order to enliven the whole affair through well-suited harmonies; and during the breaks, in a circle of the most beautiful ladies, who had not shied away from the arduous journey to extol this festival, the singers rehearsed their voice and their natural skill, and gave a pleasant foretaste of the morrow's festival. (Wagner 1805a: 5)

The phrase "natural skill" of the singers can be understood as an indication that they did not sing in the style of art songs, but in a different way that to the bourgeois travelers came across as though bound with nature, which could speak for the use of untempered tuning.

In order to promote communal singing at the Unspunnenfest, the initiators had a number of songs printed: The famous collection *Acht Schweizer-Kühreihen* (Wagner 1805b), *Schweizer-Kühreihen und Schweizer-Küherlieder*, the songbook *Ein Dutzend hübsche neue Lieder für das Landvolk* (A dozen lovely new songs for country folk) (Haller [ed.] 1805: n.p.), *Drey Volkslieder, auf die Feyer des schweizerischen Alpen-Hirtenfests zu Unspunnen* by the Bernese pastor and folklorist Gottlieb Jakob Kuhn (1775–1849) as well as a *Lied zu singen bey dem Wettkampf der Alphörner* (Haller [ed.] 1805: n.p.) were published in anthologies and also distributed as leaflets.[12] Only in the case of the collection of

11 "The first panel shows two herdsmen who, on a small grassy hill, surrounded by an extensive circle of listeners, enthusiastically sing these melodies, beloved by all Swiss, which bring the admiration of strangers and of which a poet, friend of fields and nature, has said: 'What is this simple and raw melody, / which has so much grace for the Swiss; / and which one in a foreign land / cannot play without it costing him tears? (The Kuhreihen.) / It is not magical music / that delights with its melody / it is a way that speaks to his heart / and reminds him of his fatherland!'"

12 Another song, a *Chor aller Sänger am Hirtenfest zu Unspunnen* (A chorus of all singers at the

Acht Schweizer-Kühreihen (Wagner 1805b) were the melodies printed in musical notation (cf. p. 87). The remaining song sheets printed only the lyrics. In some cases, a well-known melody was indicated, to which the text was sung. To the melody of *Freut euch des Lebens* by Hans Georg Nägeli (1773–1836) (Haller [ed.] 1805: n.p.), the song *Lied zu singen bey dem Wettkampf der Alphörner* was heard, which shows that the alphorn and singing were combined at the Unspunnenfest. The melody of this song is not based on the natural tone series. Whether the singing sounded together with the alphorns, or whether it framed the competition of the alphorns, remains open.

The collections published for this festival likely served the purpose of encouraging the non-local guests to join in the singing. In addition, Wagner gave away the lyrics to boys and girls during the lavish festival after the award ceremony with the intention of motivating them to sing:

> …the whole society mixed up anew to end the rest of the day with dancing, with pleasure walks, with cheerful goblets, or in the way that made everyone feel most comfortable. Mr. Wagner… himself had the pleasure of awarding a whole basket full of rural songs printed on the occasion of this folk festival to the numerous Oberland youth of both genders who clamored about him. Boys, young men and girls competed with each other, each one wanting to have the most, and most beautiful, and all promised to sing along the next festival year. (Wagner 1805a: 18)

The fundamental question of whether at this festival register-changing singing occurred can be partially answered with a statement by Wagner. He speaks of cheering and Kuhreihen to welcome the festival procession to Unspunnen:

> Already at first view and at entering into this magical world, the so cheerful mood opened up even more to pleasant anticipation. As the procession arrived in the meadow, it was unexpectedly greeted from the bushes above with a sweetly sung Kuhreyhen and cheering; the music that was brought along alternated, as did the singers after they had taken their respective place. (Wagner 1805a: 8)

As mentioned earlier, the term yodeling is still unknown in Switzerland at the time of the first Unspunnenfest. Instead, Wagner speaks of cheering and of singing the Kuhreihen. The Appenzell word "Rugguussen" is mentioned in connection with a participant of the festival, the Appenzeller Anton Joseph Fässler: In the *Avis-Blatt für Herisau und die umliegenden Gegenden* No. 33 (Schäfer [ed.] 1805a: n.p.) he is described as an "outstanding Rüggüsler, Kuhreihen-singer and wrestler (Ringer)." Together with the winner of the stone throwing competition, Ulrich Joseph Thörig, he entertained guests at the Unspunnenfest with his natural yodeling to earn money. In the *Avis-Blatt* it is reported that "united through their Ruggüslen and Kuhreien-singing, both of them entertained the distinguished foreign guests and Swiss comrades pleasantly and with much success for their purse" (Schäfer [ed.] 1805b: n.p.). The Innerrhoder painter Johann Baptist Dähler

herdsmen festival at Unspunnen) is in the collected writings of Haller (1805 [ed.]: n.p.), but could not be printed in time for the festival.

(1810–1876) immortalized the Rugguussler Fässler in a painting that shows him singing with two fingers in his ears.[13] Fässler may also be on a painting by Lory entitled "Appenzeller Ruguser," which was used as an illustration of the *Kuhreihen Collection* of 1826 (Wyss 1826a: title).[14] Whether Fässler took part in the singing competition is not known, in any event he returned home without a prize. The winner in the singing category was the Brienz teacher Johannes Kehrli (1774–1854) (Wagner 1805a: 18). He won the first prize with a girls' choir. About 20 years later he sang at Giessbach with his family for tourists and played the alphorn. Several pictures show Kehrli with his children at such performances.[15] With regard to alphorn playing, which Kehrli cultivated at Giessbach, concrete information can be gleaned on the basis of a travelogue by Wyss from 1817:

> A schoolmaster of Brienz, named Kehrli, built the bench, and often I found him here nearby on his meadows, where he waited good-natured for the traveler… Twice I found the old man with the alphorn *) in his hands, and although he wasn't very skillful in playing, it sounded wonderfully to our hearts when from some distance above he sent those sounds down to us from the dizzying footbridge into the purest air through the roar of the Giessbach Falls… (Wyss 1817: 892)

In the footnote marked "*)," Wyss describes Kehrli's alphorn in detail:

> Such a horn tends to be 4–5 feet long, and is straight at the top, but at the bottom is curved upwards, and opens like a trumpet. Two matching pieces of a cut tree root, hollowed out in the middle and wrapped airtight with bast makes up the whole artless construction for this simple instrument of alpine musical art. (Wyss 1817: 892)

Compared to the alphorn paintings in the context of Unspunnen, this description of Kehrli's alphorn matches the instruments played at the Unspunnenfests. This is confirmed by a colored copper engraving showing Kehrli and his family at the Giessbach, where he plays the alphorn and his wife and children sing in front

13 www.roothuus-gonten.ch/cms/images/PDF/Bildarchiv/B008Buuregsang_Jodler.pdf, 25 May 2022.

14 Tunger (1993: 86) suspects this, as Lory and Fässler traveled to Interlaken together.

15 A colored aquatint shows Kehrli with his children in a kind of living room. The family sings for four adults. An alphorn hangs on the wall. The print is dated around 1820 (Gallati/Wyss 1993: 146, Gallati/Wyss 2005: 163). A very similar illustration shows the same representation, but with only two listeners. The alphorn hangs less prominently and not completely visible on the right wall of the living room (Landesmuseum Zürich LM-59102). This illustration is dated by the Swiss National Museum in Zurich to around 1830 and described thus: "Depiction of a house concert by Régent Kehrli. Outline etching on vellum, in color" (LM-59102). The name of the artist is not given. Elsewhere, the same illustration (with reference to the Swiss National Museum) is attributed to Franz Niklaus König and dated to 1820 (Simmen/Bachmann-Geiser 1979: 150). A fourth depiction shows Kehrli with his five children at a spinet. On the lithograph, attributed to Franz Niklaus König, no alphorn is visible (Gottfried Keller Foundation, Depositum Kunstmuseum Bern, quoted from Gallati/Wyss 2005: 125; Cherbuliez 1932: Plate 14). The illustration is dated around 1830 and commented on as follows: "At the Brienzer Giessbach the school teacher Kehrli (1774–1854) for many years sang folk songs with spinet accompaniment along with his family to strangers and locals and 'blew' (orig. 'blus') the alphorn" (Cherbuliez 1932: 303).

of three tourists (Museum für Kommunikation Bern BE/Gie 0001).[16] Whether Kehrli and his family yodeled during their vocal performances is not mentioned, and there is also no information about whether Kehrli played the alphorn at the time of the first Unspunnenfest. Perhaps Kehrli was inspired to play the alphorn at the Unspunnenfest of 1805; at least he took on an intermediary role as a singer, alphorn player and schoolmaster.

Summary

In the preparation for the Alphirtenfest, more alphorn players were expected than finally appeared. The two alphorn players present played both as soloists as part of the competition and together or in alternating manner for the further entertainment of the audience. The steep mountain walls in the landscape around Interlaken were cleverly incorporated to embellish the sound of the alphorn with echo. Here we have a parallel to the yodel, whose echoing triad arpeggios generate a desirable chord (Gassmann 1936: 16, cf. p. 145).

Instead of the term "yodeling," which was not common in Switzerland at the time, the terms "jauchzen (cheering)" and "Kuhreihen singing" were used in the reports. The only reference to a natural yodel can be found in the *Avis-Blatt für Herisau und die umliegenden Gegenden* (Schäfer [ed.] 1805a: n.p.), which mentions Fässler and his Rugguuser. Kehrli, who took part in the first Unspunnenfest as a singer and also appeared as an alphorn player in later years, may be regarded as a possible musical intermediary between singing and alphorn-playing.

Continuation of the alphorn and singing competitions in 1808

Exactly three years after the first Alphirtenfest, again on 17 August, the second Unspunnenfest took place (Gallati/Wyss 2005: 28). As a result of extensive advertising for the festival, almost 5000 people attended in 1808 (Gallati/Wyss 2005: 40). Among them were famous personalities such as the French painter Louise-Elisabeth Vigée-Lebrun (1755–1842), who painted the festival in oil,[17] and the writer Anne Louise Germaine de Staël (1766–1817) (Kuthy 1976: 159). According to the long list of visitors in the appendix of his festival report of 1808, Wagner summarizes: "On the whole, the number of foreign guests of both genders at the festival may be about two hundred people, the Swiss about three hundred, but the total number of visitors to the festival are probably to be put at four to five thousand souls" (Wagner 1808: 18). As at the first Unspunnenfest,

16 This scene is dated differently by different authors: circa 1814 (MfK BE/Gie 0001), 1825 (Grandjean 2012: 151) and 1830 (Bachmann-Geiser 1999: 52).

17 Deposit of the Gottfried Keller Foundation/Kunstmuseum Bern, cf. https://youtu.be/81Zqe8oukDQ, 25 April 2022. Traditional costume depictions of König served as a pattern for some of the figures.

Wagner distributed song sheets to the audience, but this time in larger numbers (Wagner, quoted from Gallati/Wyss 2005: 43).

According to the program, it was expected that on the eve of the festival during the burning of the alpine fires from the nearby hills "in alternating songs the alphorns reverberating against the mountains" would sound (N.N. 1808/1946: 159, cf. Bachmann-Geiser 1999: 40). Wagner (1808: 4) confirms in his final report that the announced scenario took place in such a way that the alphorns could be heard for about "half an hour." On the evening before the festival, when the heavy rains had subsided and fires were lit on the neighboring slopes, the sound of the alphorns mixed with the "bright magical illumination" (Wagner 1808: 4). In addition to alphorn playing there was also singing:

> […] à neuf heures le bailli donna le signal, et à l'instant, sur la montagne vis-à-vis du château, partit un feu d'artifice qui éclaira au même moment tous ces groupes; bergers et bergères chantèrent aussitôt en choeur une musique pastorale et harmonieuse. De tous côtés aussi s'allumèrent les feux que l'on avait préparés sur les hautes montagnes qui entourent ce riant vallon; les cors des Alpes se répondaient. Le premier moment fut si attendrissant, si solennel, que les larmes m'en vinrent aux yeux. Je ne fus pas seule à éprouver cette émotion: elle nous vint de l'ensemble du pays et des habitants. En retournant à ma maison, je jouis encore des effets de ces feux…[18] (Vigée-Lebrun 1835: 212)

The question remains unanswered as to whether the "alternating songs of the alphorns" announced in the program and described in the festival report indicate a kind of polyphony in alphorn playing. On the following day, according to Wagner, several alphorn players performed music together:

> Right from the start, the alphorn players, divided into several groups, stood opposite each other on the heights of the populous slope. The tones of their horns sounded alternately, often mixing in with the singing, often with the cheering voices of the crowd. (Wagner 1808: 9)

How this mixture of alphorn playing and singing sounded, and whether an alternating of playing with singing was intended, cannot be deduced from this report. It also remains unclear whether differently positioned instruments were played simultaneously or alternately. Bachmann-Geiser, in agreement with the reports and in relation to Vigée-Lebrun's image, wonders how the "ensemble of individual alphorns of different tunings might have sounded" (Bachmann-Geiser 1999, p. 44). She suspects that this "polyphonic alphorn playing… corresponded less to a tradition than to an idea conceived for that festival day and may have sounded

18 "…at nine o'clock the governor gave the signal and at the same moment fireworks were set off on the mountain opposite the castle, illuminating all the groups; at the same time, herdsmen and herdswomen sang pastoral and harmonious music in the choir. Fires were lit from all sides, which had been prepared on the mountain heights surrounding the joyful valley; the alphorns answered each other. The first moment was so overwhelming, so solemn, that I was in tears. I was not the only one who experienced such feelings: they overtook us through both the landscape and the people together. As I went home, I still felt the effect of these fires…"

anything but pure" (Bachmann-Geiser 1999: 44). The use of a scenic backdrop for the sound of the alphorns was already envisaged in 1805, but could not be satisfactorily implemented due to the small number of alphorn players (cf. p. 67).

Based on the reports, it can be assumed that more than two alphorn players attended the festival of 1808, but the exact number at the alphorn competition cannot be determined. In the festival report, Wagner names Hieronimus Jost from Eggiwyl, who was distinguished as the best alphorn player. This has misled some authors to assume that only one player had entered in the competition of 1808 (cf. Bachmann-Geiser 1999: 44, Gallati/Wyss 2005: 47).[19] Wagner, however, refers in a footnote to another participant: "Both in alphorn playing and wrestling, the victory actually remained a draw; in alphorn playing was N. Jost, the rival of Hieron. Jost, …" (Wagner 1808: 10). Thus, the participation of at least two alphorn players in the competition is documented. Since in other categories only the winners were named from among the larger group of participants,[20] there may also have been a larger number of alphorn competitors. The presence of additional players who did not take part in the competition may also be assumed (cf. Bachmann-Geiser 1999: 44, Gallati/Wyss 2005: 47). Baumann states that almost a dozen alphorn players were present at the festival of 1808 (Baumann 2000: 169), but that probably not all of them took part in the competition.

The notion that several alphorn players were present is confirmed in the oil painting by Vigée-Lebrun mentioned earlier, in which seven alphorn players can be seen on a hill near the festivities and another man with an alphorn is in the foreground.[21] The extent to which Vigée-Lebrun's depiction of the alphornists and their instruments corresponds to reality is, however, a matter of controversy. The art historian Sandor Kuthy finds the depiction of the alphorns unrealistic: he notes that the "choir of alphorns lacks more precise knowledge of this musical instrument and its use," since the bells are clumsily bent upwards and the alphorns depicted are too short (Kuthy 1976: 166). The Swiss theologian Markus Jenny (1924–2001) disagrees: he suspects a realistic depiction of the alphorns, since at that time they were "obviously much shorter than today's" and were "usually played in a more or less horizontal position" (Jenny 1977: 83). The numerous pictorial sources and descriptions of alphorns in the first half of the 19th century suggest that the instruments were actually shorter than the alphorns in use today (cf. p. 156).

In contrast to the Unspunnenfest of 1805, no collection of Swiss Kuhreihen and folk songs was published on the occasion of the festival in 1808. It can be

19 "…among the candidates for the competitions in Swiss wrestling, stone throwing, shooting, egg searching, singing and alphorn playing, only one player, Hieronymus Jost from Eggiwil, had registered" (Bachmann-Geiser 1999: 40). "Only one player, Hieronymus Jost from Eggiwil, had registered for the second festival. Here, too, various alphorn players played on the fringes of the festival, but did not take part in the competition" (Gallati/Wyss 2005: 47).

20 Wagner names twelve stone throwers and eighteen pairs of wrestlers (Wagner 1808:7).

21 Gottfried Keller Foundation, Kunstmuseum Bern, GKS483, https://kdb.e-pics.ethz.ch/late login.jspx?recordsWithCatalogName=KdB:5565#1643164380529_0, 25 April 2022.

assumed that in addition to the song sheets that Wagner distributed, the collection of 1805 was used (cf. Wagner, quoted from Gallati/Wyss 2005: 43). The term "yodel" is not mentioned in the sources used in connection with the second Unspunnenfest. However, Wagner (1808: 9) uses the terms "singers," "Kühreyhen," "songs" and "folk songs" in his festival report.

A description of the singing at the second Unspunnenfest is related to the arrival of the procession at the meadow of Unspunnen on the morning of 17 August 1808:

> When this beautiful procession arrived at the festival arena, approximately around ten o'clock… resounding jubilation (Jubel) of unseen singers from the nearby forested hilltops welcomed those arriving. The moment and the sight were delightful, and at the same time as if taken from a magical world. (Wagner 1808: 5)

Wagner's description allows an interpretation of the jubilation (Jubel) as either yodeling or cheering: "While the song of jubilation (Jubelgesang) resounded from the heights, the procession that had arrived into the midst of the festival arena moved into the places designated for it" (Wagner 1808: 5). Both the expression "song of jubilation" and its longer duration speak for a different vocal expression than is commonly referred to today as jubilation. The winners of the second Unspunnenfest in the singing category were "Magdalena Ritschardt von Aarmühli, Magdalena von Almen from Lauterbrunnen, and Verena Gfeller von Landiswyl (with her two small children)" (Wagner 1808: 11). Which songs these winners performed can no longer be determined. Johannes Kehrli, the winner of the singing category at the festival of 1805, is not mentioned in Wagner's report of 1808, but according to Zürcher (2006: n.p.) he performed with a girls' choir.

Summary

The evaluations of the reports as well as the pictorial representations of scenes of the Unspunnenfest 1808 do not provide a clear indication of the number of alphorn players present at that time; there may have been more than at the first festival of 1805, some researchers suspect about a dozen. The opinion that only one alphorn player took part in the 1808 competition is incorrect. No concrete information is known about the alphorn music performed. The two alphorn players Ulrich Joss and Ulrich Frutiger, who took part in the competition of 1805, are not mentioned in connection with the festival of 1808.

The reports do not use the term "yodeling"; mentioned are "Kühreyhen," "Gesänge," "Volkslieder" (Wagner 1808: 9), "schallender Jubel" (resounding jubilation), "Jubelgesänge" (songs of jubilation) (Wagner 1808: 5), "Jauchzen" (cheering) (Wagner 1808: 8) or "Schweizerlieder" (Wartensee, quoted from Gallati/Wyss 2005: 145). It may also be assumed that register-changing singing was present (cf. p. 93). In the scene describing the competition day, Wagner mentions an alternating sound among the alphorns, which mixes with the singing and cheering of the crowd (Wagner 1808: 9). Wagner's formulation suggests that this was an early form of polyphonic alphorn music. As intended at the first festival,

the local surroundings were used for the positioning of the choirs and alphorn groups in order to benefit from the resulting echo.

The effects of the Unspunnenfests are important in various respects for the further development of Swiss customs in general and for the development of the alphorn and yodeling in particular. Competitive alphorn playing and competitive singing served an important role at Unspunnen in 1805 and 1808. These and other program items of the first Unspunnenfests can still be recognized today in the yodeling festivals organized by the Federal Yodeling Association.

Encouraged by the two Unspunnenfests, the initiators took measures to promote the alphorn and singing in the countryside, as in their view they were threatened with extinction. The following sections explain how the alphorn was promoted and how singing was promoted in the form of song collections (cf. p. 85).

Alphorn courses and polyphonic alphorn playing after Unspunnen

The goal of the initiators of the Unspunnenfests, to promote and spread alphorn playing and the singing of folk songs, was only partially achieved. Various patrons also complained after the second festival about the disappearance of the alphorn (cf. Geiser 1976: 6). Wyss wrote in his *Reise in das Berner Oberland* (Travels to the Bernese Oberland) in 1817: "How much I would have wished that in the loneliness of this rock-surrounded waste the alphorn had sounded towards us! But the dry reasoning of these new times has almost eradicated this from the older custom" (Wyss 1817: 455). Three years earlier, König noted a similar grievance:

> Of the alphorn one hears and beholds almost nothing more. One of the main purposes of the folk festival arranged at Unspunnen was precisely to reawaken this true alpine music; but alas, it resulted in no real success. This may also be a reason that such a festival will perhaps not be celebrated again so soon, as many a year has passed since the last one. (König 1814: 62)

In a letter to the Bernese authorities, König makes *Proposals for the furthering of the alphorn and the revival of singing in the countryside*, which led to the first alphorn courses, probably in the 1820s, in Grindelwald (Gysi 1925: 56, Bachmann-Geiser 1999: 44, Baumann 2000: 167). König explains the "gradual dying out" of the alphorn through an "increasingly growing apathy of the Alpine inhabitants," the "lack of good instruments" and the "decline of customs since the revolution" (König, quoted according to Baumann 1976: 252) and proposes the following measures to promote alphorn playing:

> The first necessity is therefore the procurement of alphorns which are to be made available without charge to the apprentices. There is an alphorn manufacturer located near Walkringen. Then those who will become alphorn teachers shall themselves be instructed in how to play the instrument. The most appropriate solution for this would be that Mr. Huber of Hofwyl, who is at present diligently studying the alphorn, would wish to take over this instruction. If some good teachers thereby emerge, as

> is not to be doubted, they shall open small schools in convenient locations in the countryside, where both the instruction and the instruments will be offered free of charge. (König, quoted from Baumann 1976: 252)

The undated original document is in the Burgerbibliothek Bern in the Mülinen estate and is assigned to the year 1808 (Mss.Mül.577[9]). Various authors therefore place it in direct connection with the second Unspunnenfest and see it as a reaction to the too sparse appearance of alphorn players (Baumann 1976: 215, Gallati/Wyss 1993: 33). Baumann (2000: 167) gives an exact date of the letter as 17 July 1808.[22] Bachmann-Geiser (1999: 44), on the other hand, describes the letter as "undated" and places it "around 1820."[23] Since König refers in this letter to Mr. "Huber of Hofwyl" as his preferred candidate for an alphorn teacher, and thus means the composer Ferdinand Fürchtegott Huber (1791–1863), a dating of the letter around 1820 seems likely, because Huber held a position as a teacher in Hofwil from 1817 to 1824 (Kammermann/Wey/Ammann 2016: 12).

Huber, who is now mainly known as the composer of the folk song *Luegit vo Berg u Tal*, received musical training in Stuttgart and had worked there as an orchestral trumpeter before returning to Switzerland in 1816. From 1817 Huber worked as a music teacher in the educational institutes of the pedagogue and agronomist Emmanuel Fellenberg (1771–1844) in Hofwil, where he became acquainted with the alphorn:

> …August was our holiday month, and none of them saw me at home anymore, but on the mountains, in the Bernese Oberland, where I roamed about, enjoyed the beautiful nature, noted down the songs and yodels of the shepherds and herdsmen, and each time returned to Hofwyl with rich booty. I was also particularly interested in the alphorn, which I had the opportunity to hear several times on my wanderings. Since it had a mouthpiece similar to the trumpet, I had acquired satisfactory skill and embouchure when I first rehearsed this instrument, so that I could soon procure my own and learn to employ it for occasional entertainment. (Huber 1863: 13)

As a trained trumpeter, Huber was able to quickly acquire skills in alphorn playing. During his time in Hofwil (1817–1824) he received an invitation from the "then governing Mr. Landammann Mülinen," in which Mülinen submitted to him that he wished to have "half a dozen" new alphorns made, and requested that Huber "spend his holiday month of August" to go to Grindelwald, "to select six young people there" and to teach them how to play alphorn (Huber 1863: 13). Mülinen had six alphorns delivered to Grindelwald at the end of July, so that the two-week course could begin in August. The "most capable singers" from the area were requested to an audition with Huber, and the best of them were invited to the alphorn course (Huber 1863: 14).

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22 How exactly Baumann's dating comes about is unclear. Based on his citation, he also seems to refer to the Burgerbibliothek Bern.

23 In their 2005 edition, Gallati/Wyss revise their 1993 opinion and support a date of around 1820 (2005:47).

Huber reports on his instruction: "Everyone was looking forward to learning to play the alphorn. In a time of 14 days I had brought them so far that they could play one-, two- and three-part pieces, stationed on different hills, with a rhythmic and clear sound" (Huber 1863: 14). Huber refers here to the polyphonic playing of the alphorn and to the special positioning of the instruments on "different hills," as it also occurs in the descriptions of the Unspunnenfests (cf. pp. 66 and 73).

Helpful information about Huber's alphorn course appeared forty years later in an article by Szadrowsky on the alphorn (1868: 302). Huber and Szadrowsky knew each other and together had "friendly conversations about mountain music" (Szadrowsky-Burckhardt 1966: 80):

> Ferd. Huber, probably as the *first*, made successful attempts to tune several alphorns to one note. He had three horns of different formats made, a smaller, a medium-sized and an alphorn of the usual size, tuned them himself with much effort to the tone of F, and completely achieved the desired goal, namely to play alphorn melodies in yodeler style in three voices. (Szadrowsky 1868: 302, emphasis original)

Szadrowsky writes in relation to the repertoire: "Unfortunately, these three-part yodels have been lost as 'flying pages.' Although Huber promised me to write down some of these fleeting alphorn melodies from memory, his sudden death left my request unfulfilled" (Szadrowsky 1868: 302). Szadrowsky's statement that "three-part yodels" were played on alphorns refers to an explicit use of the same music for yodeling and alphorn playing. Since the notations are lost, no further statements can be made about this music.

Likewise, the year of this first alphorn course cannot be conclusively determined. The only source comes from Szadrowsky (1868: 302), who mentions the year 1826.[24] Although this information has been adopted by several authors (cf. Klier 1956: 25, Bachmann-Geiser 1999: 48 and Gallati/Wyss 2005: 47), the implementation of the course seems more plausible a few years earlier.[25] Huber left Hofwil in 1824 and worked in St. Gallen from then on. With regard to the alphorn course in Grindelwald, various publications refer to a colored etching entitled *Les Musiciens des Alpes Helvétiennes* (the musicians of the Helvetian alps), which would depict Huber's alphorn lessons in the great outdoors.[26] Research

24 In addition, Szadrowsky (1868: 302) states that this course was continued the following year, which cannot be documented.

25 Nef supports this assumption: "The years that Szadrowsky gives in relation to Huber are usually wrong. Huber probably communicated it to him only from memory" (Nef 1898:16). In addition, Nef explicitly points out that Huber began his new teaching profession in St. Gallen in the spring of 1824 and "not in 1826, as one might conclude from his autobiography" (Nef 1898: 20). The alphorn course, according to Huber's memoirs, took place during his Hofwil holiday month in August (Nef 1898: 8). If dated around 1826, it would not fall into the years of his work there. It is therefore likely that the course will need to be dated two to nine years earlier.

26 Cf. Heinitz 1929: 64, Cherbuliez 1932: 344, Klier 1956: 25 and Bachmann-Geiser 1999: 48. The etching shows three young men and an elderly gentleman. All are depicted with an alphorn. The elderly gentleman instructs one of the young men.

on the date of origin of this picture does also not clarify the dating of the course, as contradictory information exists here as well.[27]

Szadrowsky's instrument descriptions give indications that music was played with alphorns of different lengths. However, his statement that alphorns of three different formats were tuned "to the tone of F" leaves a lot of room for interpretation. If Szadrowsky's description is to be understood as meaning that all three instruments of different lengths were tuned to F, they could have been alphorns of 3.6 meters in length (fundamental F_1), half that length at 1.8 meters (fundamental *F*) or another half length at 0.9 meters (fundamental *f*). Sommer assumes half the length: the lowest tuned instrument would measure 1.8 meters and the shortest horn would have half that length or 0.9 meters (fundamental *f*) (Sommer 2013: 102).[28] Since an even shorter horn of 0.45 meters would be musically very limited, Sommer suspects that the middle horn with a length of 1.2 meters was tuned to the fundamental *c*, the dominant (Sommer 2013: 102). Due to displacement of the tonal systems, this would result in a significantly larger number of available tones, which, however, would also lead to dissonances when played simultaneously.[29] Ultimately, only assumptions remain about how polyphonic alphorn playing may have sounded in Huber's course.

The first polyphonic notation that was clearly interpreted by alphorns dates several years before Huber's course and refers to a performance in Basel. On

27 The etching is dated contradictorily. Bachmann-Geiser (1999: 48) writes that the etching is based on a lost oil painting by Johann Georg Volmar (1770–1831) and is located in the Prints and Drawings section of the British Museum in London. The British Museum names Jacques Henri Juillerat (1777–1860) as the creator and Christian von Mechel (1737–1817) as the publisher in Basel and dates the etching at 1800 to 1810 (British Museum, Inv. No. 1958, 0712,1514). A date around 1800 can also be found in Wüthrich (1959: 90). The National Museum Zurich also has an imprint and dates it to 1795 (LM-65558). Christian von Mechel ran a renowned art trading and publishing company in Basel. He had to dissolve it in 1806 and moved to Berlin, where he died in 1817. The landscape painter Jacques Henri Juillerat, who had worked for Christian von Mechel, left Basel after the giving up of the business between 1809 and 1810 and went to Courrendlin (Amweg 1937: 326). A dating of the depiction around 1800 seems credible in view of the liquidation of the Basel art dealership and the departure of the two artists. If this early dating is correct, the picture cannot represent the alphorn lessons in Grindelwald, as Huber first came to Hofwil in 1817 and was there introduced to the alphorn.

28 Sommer (2013: 102) refers to a length specification given by Szadrowsky (1868: 286).

29 Another possibility for determining the tuning of the alphorns is in comparison with preserved alphorns from this period: In the Bern historical museum there are two alphorns (BHM Inv. 33715 and BHM Inv. 33716) from Walkringen (Kt. Bern), which are dated around 1825. They come from the *Family Archive of Mülinen*, and it is assumed that the two exhibits are two of the six alphorns that were played during the first alphorn course in Grindelwald (Bachmann-Geiser 2001: 236). The one alphorn (BHM Inv. 33715) measures 237 cm in length and, according to the museum, is tuned to the fundamental tone of C# (Bachmann-Geiser 2001: 236). The other alphorn (BHM Inv. 33716) is about 0.5 meters shorter at 194 cm. According to the museum, the fundamental tone of this alphorn could not be determined, but it is likely to move around the tone E due to the length of the instrument (cf. Sommer 2013: 12). Instead of a separate mouthpiece, both instruments have a carved cone shape with embouchure hole at the upper end (Bachmann-Geiser 2001: 235). The interplay of these tunings leads to a large number of dissonances, which speaks against this interpretation.

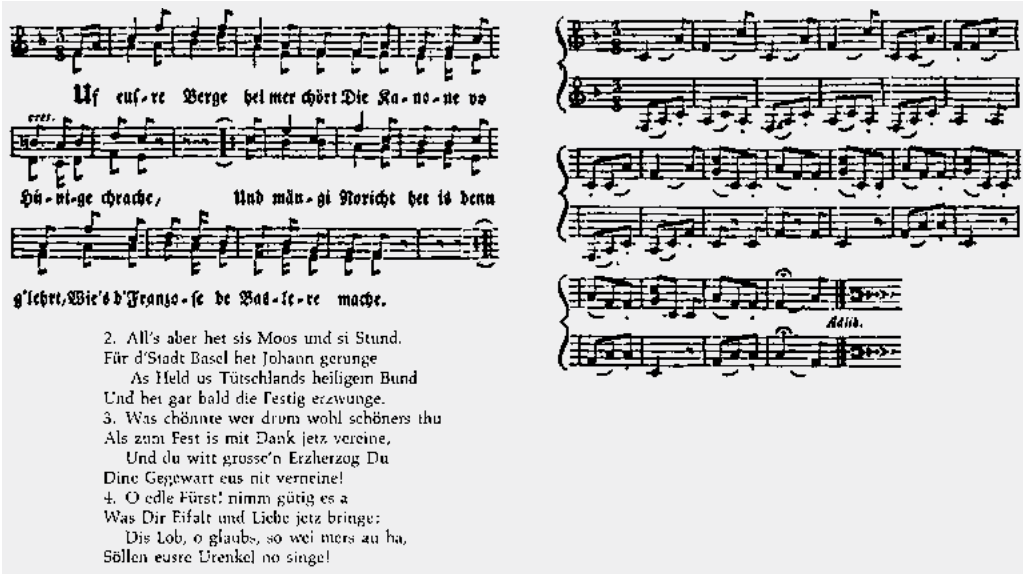

Fig. 11: Song *Uf eusre Berge* (left, Suppan 1982: 96) with an alphorn interlude (right, Suppan 1982: 97), performed at the Archduke Johann Festival in Basel in 1815.

4 September 1815, the people of Basel showed gratitude to the Habsburg Archduke Johann (1782–1859) with a feast after the Habsburg troops had helped the Confederates to conquer the French-occupied border fortress of Hüningen (Suppan 1982: 97, Bachmann-Geiser 1999: 109). In addition to other musical offerings and productions, the song *Uf eusre Berge* by J. Kunze,[30] accompanied by two alphorns, was performed at this festival (Suppan 1982: 96).[31] The festival report contains both the song notation and a two- and sometimes three-part notated alphorn interlude (Suppan 1982: 97).[32] The song and the alphorn interlude, to which rural couples performed "old and still common" dances (Suppan 1982: 97), are in F major (Fig. 11).

The melody of the song *Uf eusre Berge* cannot be played completely on the alphorn. The alphorns were certainly used in the interlude and may have also accompanied the song verses with bass tones. The interlude is built entirely on the natural tone series and can be played with a 3.6 meter long alphorn in F. The

30 The composer could not be conclusively identified. Duthaler (1964: 32) suspects that J. Kunze is a Basel music teacher named Johann Kunze.

31 Since the notation is three-part in some places, a performance by three alphorns is also an option.

32 Suppan's reference is in connection to the notation on a report entitled: "Detailed description of the festival, which was held in honor of Sr. Kaiserl. Königl. Highness of Archduke Johann von Oestreich, by order of the high government of the Canton of Basel, and celebrated on 4. September 1815. Basel, printed by Wilhelm Haas" (Suppan 1982: 91).

notated tones lie between the 4th and 12th natural tones and can be played with a 3.6 meter long alphorn in F. The natural tones 7 and 11, which audibly deviate from the equal tempered scale, do not occur.[33] The top voice of the alphorn interlude could also be played on an alphorn half as long (1.8 meters). The notated tones would be between the 3rd and 6th natural tone and the tones of the first voice would thus be easier to reach than on an alphorn twice as long.[34] For the middle voice, only an alphorn of 3.6 meters in length is suitable because of the tone g^1. As with Huber, the alphorns in Basel have the fundamental tone F and may have been of different lengths. Further connections between this performance and Huber's alphorn course are not known. Even this comparison with the polyphonic performance of alphorns in Basel does not lead us to fully ascertain the polyphony in alphorn music at that time. Interesting hints on polyphony, however, can be found in a study on the Kuhreihen by Tarenne, which appeared two years before the Archduke Johann Festival.

Tarenne's collection of Kuhreihen, *Recherches sur les Ranz des Vaches* (Research on the Ranz des Vaches), contains the *Ranz des Vaches des Alpes de Gruyères* with an accompaniment. This consists of two voices, usually in intervals of a fifth or an octave, and thus differs greatly from the piano or guitar accompaniments of the later German-Swiss Kuhreihen Collections (cf. pp. 97–100) (Fig. 12).

The song melody is accompanied by two voices that function partly as a bordun and partly as functional bass. The accompanying voices are conspicuously based on the natural tone series (exception: note *B* in bar 11), so the song melody of this Ranz des Vaches could have been accompanied by two alphorns, which would be comparable in terms of range to the two instruments used at the Basel Archduke Johann Festival. Sommer (2013: 103) suspects that Tarenne did not compose the accompaniment, but transcribed it after listening to a performance. Since Tarenne does not provide any information on the implementation of the accompaniment and does not specify any instruments in the notation, all the interpretations mentioned remain possible.

The accompaniment of the Kuhreihen melody in Tarenne (1813: 63) with its long held notes on the harmonic steps I and V is comparable to the way in which natural yodeling and yodel songs are usually accompanied in Switzerland today, while in Austria and Bavaria other forms of polyphony, based on parallel thirds and sixths, take precedence. This raises the question of whether the accompaniment of the yodel in Switzerland is related to polyphonic alphorn playing, for both in the polyphonic accompaniment of alphorn melodies and in the accompaniment of the yodels, the bordun-like bass plays a role. In polyphonic alphorn playing,

33 The absence of these ekmelic natural tones may indicate that they did not fit the rest of the song or contradicted the musical aesthetics of the time.

34 On an alphorn of length 3.6 m (fundamental tone F_1), the notes of the first voice to be played lie between the 6th and 12th natural tone. These are also playable, but need a somewhat greater playing skill. If the player has too little accuracy, when attempting to play the 12th natural tone (g^2) one can instead easily produce the neighboring 11th natural tone (the alphorn-fa).

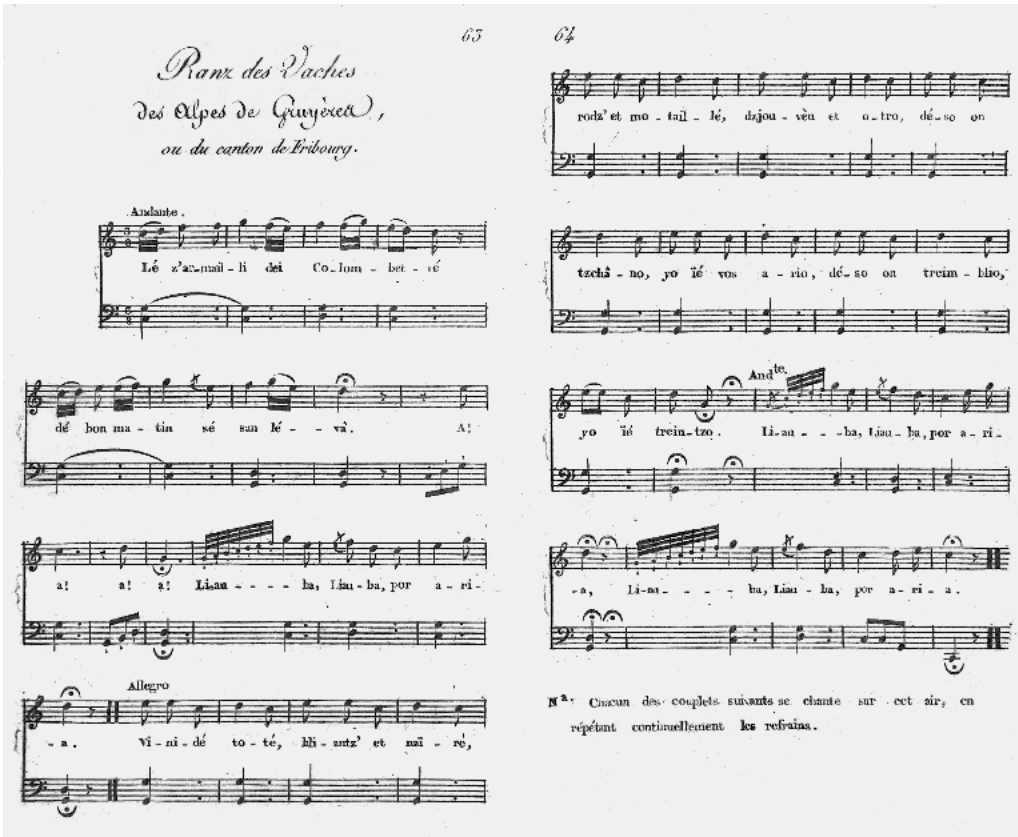

Fig. 12: *Ranz des Vaches des Alpes de Gruyères* with two-part accompaniment (Tarenne 1813: 63).

the bass line usually consists of the often long-held notes *c* and *g*; in yodeling there are bordun accompaniments in the form of of Senntumschellen (a set of three bells) or Talerschwingen (Swiss coin-rolling). However, there is no clear indication that these stand in connection with the alphorn.

Summary

From the first two decades of the 19th century there is evidence that points to polyphonic alphorn playing. At the Unspunnenfests in 1805 and 1808 alternating sound could be heard and the alphorn players positioned themselves in different locations. However, nothing definite can be said about the specific nature of the polyphony. A polyphonic notation in the *Kuhreihen Collection* of Tarenne, which could either be written for the alphorn or inspired by alphorn music, is based on the natural tone series and contains long bordun passages. The first concrete evidence of a polyphonic piece for alphorns can be found in the documents of the Archduke Johann Festival of 1815 in Basel.

During his time in Hofwil (1817–1824), Huber was commissioned to hold the first documented alphorn course in Switzerland. He used three-part pieces, but their scores are lost. In addition, he states that after a short time his students were able to play "one-, two- and three-part pieces" (Huber 1863: 14). Huber's report that the students had played alphorn "on different hills, with a rhythmic and clear sound" (Huber 1863: 14) agrees in part with the descriptions of the Unspunnenfests. In view of the rhythmic playing, however, it seems unlikely that the alphorn players stood on different hills at the same time, but perhaps rather moved from hill to hill. In any case, this positioning of the alphorns deliberately exploited the effect caused by the far-reaching sounds of these long natural trumpets. In any case, there is a hint of a connection between alphorn music and yodeling in the record that Huber had "three-part yodels" played on the alphorn and had only selected singers for his alphorn course (Szadrowsky 1868: 302).

In summary, three types of polyphony on the alphorn can be assumed for the early 19th century: First, alphorn playing took place as alternating sound of differently positioned musicians. Second, several instruments of the same tuning were used in playing together. The third variant is a polyphony on horns of different lengths and tunings, as seems possible in Huber's alphorn courses and in the case of the interlude of the alphorns at the Archduke Johann Festival of 1815.[35]

The structures of the accompanying voices in the few concrete references are based on functional bass and bordun; they would thus represent a parallel to the current form of some natural yodels. Due to the ambiguity of the sources cited here, no tangible evidence can be formulated that this polyphony developed from the singing of the Kuhreihen or vice versa.

35 The writer Hermann Alexander Berlepsch (1814–1883) made an observation on different tunings and alternating sounds in the 1860s: He describes a constellation of alphorn players that he saw in 1861 in the Bernese Oberland near Kandersteg: "The interesting thing was that the responding alphorn was exactly one whole tone lower in tuning than the calling one. This response, returned with a completely different tone character, had a striking effect" (Berlepsch 1861: 359).

Chapter 5: Alphorn and yodel music in collections of Kuhreihen and folk songs 1805–1840

The Unspunnenfests at the beginning of the 19th century are regarded throughout Europe as unique folk cultural events of that era, yet the collections of Kuhreihen and folk songs created within the framework of these festivals played an even more important role in the development of folk music in Switzerland and in its recognition abroad. The first of a total of four Kuhreihen and folk song collections (hereinafter: *Kuhreihen Collections*) appeared in 1805 as part of the first Unspunnenfest (Wagner 1805b) at a time when folk song collections appeared throughout the whole German-speaking world.

In Germany, the Romanticists Achim von Arnim (1781–1831) and Clemens Brentano (1778–1842) collected folk song texts dating from the Middle Ages to the 18th century in order to make them accessible for German studies and research of German poetry. They published these songs in three volumes under the name *Des Knaben Wunderhorn* (The Boy's Magic Horn) (Brentano/von Arnim 1806–1819). A motivation deeply rooted in folklore studies formed the basis for the collecting activities of Johann Gottfried Herder (1744–1803). His best-known collection of folk songs appeared posthumously in 1807 under the name *Stimmen der Völker in Liedern* (Voices of the Peoples in Songs) (Herder 1807). Through his smaller collection, which he published in two parts during his lifetime under the title *Volkslieder*, he spread the term "Volkslied" (Herder 1778/1779).[1] The founder and general secretary of the Gesellschaft der Musikfreunde in Vienna, Joseph Sonnleithner (1766–1835), was an avid collector of folk songs to save them from supposed decay and oblivion. In 1819, he issued an appeal supported by various offices to the people of the Austrian hereditary lands of the Habsburg monarchy to send in transcripts of folk songs and yodels (Kotek 1960: 179, Haid 2004: 650). At present, the resulting collection has only been partially published and evaluated.[2]

The first of the four editions of the *Kuhreihen Collections* was created as musical accompaniment for the Unspunnenfest of 1805 (Höpfner [ed.] 1805b: 508). Since it contained only a small number of songs, it cannot be classified in the series of the above-mentioned German and Austrian collections. This collecting activity of the Swiss initiators of the first edition of 1805 was not primarily driven by scientific interest or fear of loss, but rather the aim was to spread the songs and Kuhreihen among the "Volk" and thereby have an influence on folk song practice.

1 Here, the term "folk song" ("Volkslied") is employed exclusively in relation to its use in historical sources and depends on the respective context.

2 Insights into the Tyrolean and Vorarlberg parts of this collection can be expected from the current dissertation project of Peter Oberosler (University of Innsbruck).

In Switzerland, the *Kuhreihen Collection* of 1805 was not the first collection of songs directed toward the populace; almost forty years earlier the collection *Schweizerlieder* (1767) by Johann Caspar Lavater (1741–1801) had been published. Lavater and other members of the Helvetic Society of Schinznach did not collect folk songs or Kuhreihen, but wrote the songs themselves in order to intervene in folk art through them and "restore or reproduce domestic and bourgeois virtues among the Confederates" (Lavater 1768: VII).

The motives of the collectors, editors and publishers of the *Kuhreihen Collection* of 1805 were also rooted in a "refinement" of folk art. With the dissemination of folk songs, they had at their disposal a means with which they could have a formative influence on the populace. To this end, they reshaped the songs musically and in terms of content in such a way that the songs corresponded to their bourgeois ideas of beneficial and valuable folk-cultural practices. Wagner described his intervention in the first *Kuhreihen Collection* in 1805 as follows:

> Since the printed Küher-Reihen and Küher-Lieder found in the Liederbüchlein (song books) of the Liederkrämer (song merchants) are apparently degenerated and distorted from their original text, – often so much so – that neither meaning nor versification nor rhyme remains; thus in this new collection the endeavor was – as best as the author was able – to restore the sense as well as the versification and rhyme of the words, but without violating the simple rural sense and spirit of the songs. (Wagner 1805b: Preface)

To which "original text" this "restoration" referred and whether by means of this "improvement process" in addition to the text also the music was changed, the author leaves open. The intention to leave the songs and Kuhreihen with their unique characteristics, but still to bring them into a musically more conventional form with instructive content, continued throughout all four editions.

In the preface to the second edition, the pastor and publisher Gottlieb Jakob Kuhn (1812: II) complained about the disreputable contents of the folk songs, which were also often falsely sung and frequently supplied with High German expressions. Especially in the song *Der Chilter* (Kuhn 1812: 23), Kuhn wanted to suppress many "sittenlose Sprüchlein" (immoral little sayings) (Kuhn 1812: VI) by printing his own version. As with the previous edition (Wagner 1805b), the editor intended to intervene in order to enforce his ideas of "morally pure" vocal texts.

In a letter from 1816 published by Staehelin (1975: 2), sent by the publisher Johann Jakob Burgdorfer (ca. 1770–1844) in reply to the Lucerne-born composer Franz Xaver Schnyder von Wartensee (1786–1868), it can be seen that the music itself was also "improved." The publisher asked the composers to re-examine the musical notes of the song collection to correct errors of the "harmonic rule" and to "…revise so that, if possible, all of them can be played with the accompaniment of the clavier without neglecting anything of the national particularity and character of the melody…" (Burgdorfer, quoted from Staehelin 1975: 2).

In addition to deliberate changes of the texts and musical form by the publishers and editors of the collections, the songs were "squeezed" into the five-line notation system and divided into measure bars. To what extent these notated songs correspond in their musical statement to those that were sung by the populace at that time can no longer be reconstructed today. This situation is disadvantageous to the present research, since it is not possible to determine how much the intervals sung at that time deviate from the notated ones and how freely the rhythm was structured.

Despite these concerns, the music-historical significance of the *Kuhreihen Collections* should not be underestimated, for they are among the oldest and most important folk song collections in Switzerland. With conscientious consideration of the motives of the persons involved, the subjectivity of the notated music and the accompanying texts, music-historically relevant indications can be read from them, so that an informative picture of the Kuhreihen and yodeling at the beginning of the 19th century can emerge from the analysis.

The socio-political background of the first Unspunnenfests and the fact that the festivals offered the populace an opportunity to present their cultural peculiarities have already been discussed (cf. p. 65). The editors of the *Kuhreihen Collections* were recruited from the circle of initiators and friends of the Unspunnenfests. The first collection (1805) was published by Wagner, the second (1812) by Kuhn, the third (1818) by Wyss in collaboration with Schnyder von Wartensee and Huber, and the fourth collection (1826) by Wyss with Huber's support. Several Swiss folk song collections build on the foundation of the four editions of the *Kuhreihen Collections* (cf. e.g. Knop 1838, Kühne 1908).[3]

1805: Natural tone series as basis for folk songs

In 1805, in preparation for the first Unspunnenfest, the first edition of the *Kuhreihen Collections* was published under the title: *Acht Schweizer-Kühreihen mit Musik und Text*, edited by Wagner (1805b). These eight Kuhreihen and songs appear in all later editions on the first pages and probably belonged to the common folk song repertoire in the Bernese Oberland at that time. It was already mentioned that people probably did not sing these songs strictly according to their notated form. However, the scores made it possible for the bourgeois visitors to sing along with the participating herdswomen and herdsmen.

3 At the beginning of the 19th century, literary and musical arrangements of the Kuhreihen were already in fashion. The first currently known publication of a Kuhreihen with piano accompaniment can be found in Weidmann ([ed.] 1794: 269) as "Kühreigen, which is a Swiss song for clavier with flute accompaniment. Königsberg, by F. Nicolovius." According to Bohn ([ed.] 1795: 535), this is an adaptation of the Kuhreihen handed down by Stolberg (1794) and Nägeli ([1800]). In 1797 Zschokke presented an Alpine song with a two-part accompaniment (Zschokke 1797: Appendix).

This first edition includes six Kuhreihen, a song and a Küher-Lied. Some copies of this first edition also contain an appendix with the French-language Kuhreihen *Ran de Vaches des Ormonts* as well as the Kuhreihen melodies of Rousseau and Zwinger (cf. pp. 55 and 50). The Kuhreihen melody of Rousseau appeared with a French text, but bears no title (Wagner 1805b: 3 [Appendix]). Zwinger's Kuhreihen is the only piece in the entire collection that has no text and is erroneously entitled *Ran de Vache de Dictionnaire de Rousseau* (Wagner 1805b: 4 [Appendix]).

Of the eight vocal pieces in the first edition (without appendix), six bear a title that is related to the Bernese Oberland (*Kühreihen der Oberhasler*, *Kühreihen der Siebenthaler*, *Kühreihen der Siebenthaler andere Melodie*, *Kühreihen der Emmethaler*, *Lied der Emmethaler*, *Küherlied der Emmethaler*), one is related to Entlebuch in the canton of Lucerne (*Kühreihen der Entlibucher*) and one to the more distant Swiss area, the Appenzell (*Kühreihen der Appenzeller*). In the preface to the second edition (Kuhn 1812: V), the Appenzell region is given as the place of origin of the *Kühreihen der Oberhasler*, but since it was known and popular in the Bernese Oberland, this Kuhreihen received its new name. The dominance of the Bernese Oberland in the selections can be explained by the political motivation of the editors (cf. p. 65).

These songs, which were published for a single voice in the first edition, do not contain any actual yodeling parts. Only the *Kühreihen der Appenzeller* contains a place where perhaps register-changing singing was present. This old Kuhreihen is based on the manuscript of Brogerin (1730) and was already presented in chapter 3. A series of similar melodic motifs lasting over 15 bars (one motif per bar), which are to be sung melismatically via the word "Loba," allow the interpretation that yodeling occurred there. If in the following analysis of this first *Kuhreihen Collection* it turns out that the melodies were based on the natural tone series, this would be an argument that a musical transfer of the tonal system of the alphorn to singing could have taken place at that time.

In the *Kühreihen der Oberhasler*, the first two lines can be reproduced on the alphorn. The melodic range of a fifth corresponds to the 8th to 12th natural tones of the alphorn. The fourth scale degree, which appears as both c^2 and $c\#^2$, would then stand for the alphorn-fa and the character of the melody would differ depending on the interpretation. The second part (lines 3 and 4) is based on a diatonicism that cannot be played on the alphorn without adjustments.

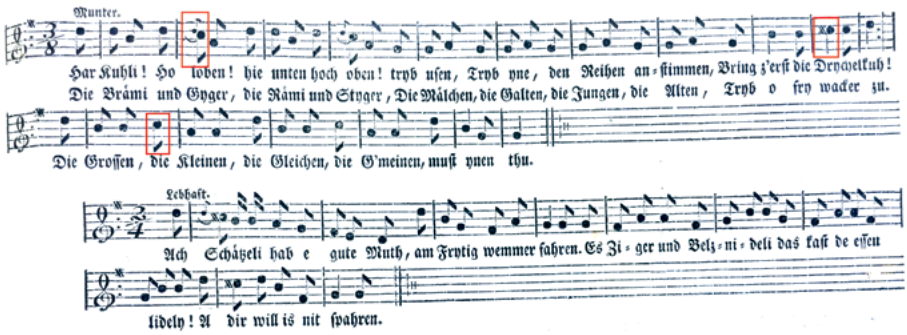

Fig. 13: *Kühreihen der Oberhasler* (Wagner 1805b: 1).

The melody of the *Kühreihen of the Siebenthaler* consists almost entirely of the notes of the natural tone series. It comprises an octave (6th to 12th natural tone). A chromatic leading-tone ($f\#^1$) that resolves to the tonic (g^1) in bar 31 ("Anni ins Bett"), however, reveals a diatonic foundation. In order to play the melody on the alphorn, this tone would have to be replaced by d^1 (6th natural tone) or a lowered f^1 (7th natural tone). The notes c^2 and $c\#^2$ would again have to be interpreted as the alphorn-fa.

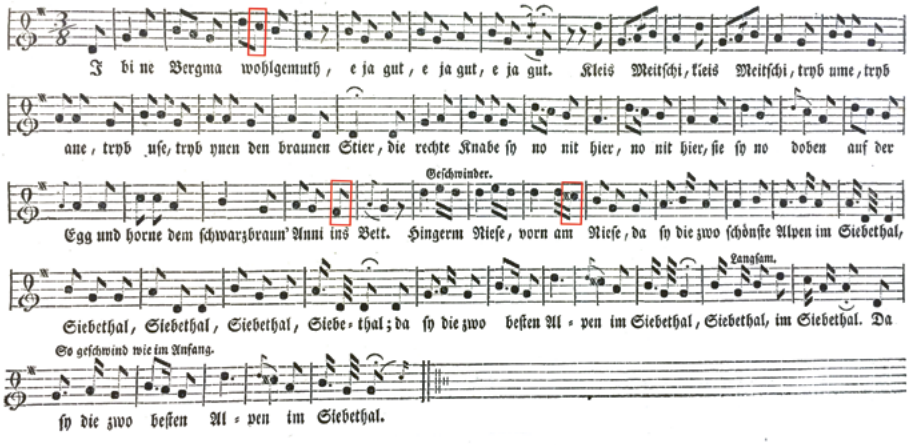

Fig. 14: With the exception of $f\#^1$, the *Kühreihen der Siebenthaler* (Wagner 1805b: 7) contains only notes of the natural tone series.

The second version of the *Kühreihen der Siebenthaler*, indicated as "andere Melodie" (another melody) (Wagner 1805b: 8), builds on the natural tone series. The scope of the melody is larger than in the previous version of the *Kühreihen der Siebenthaler* and encompasses an undecime (5th to 13th natural tone). As in the Kuhreihen already discussed, the fourth scale degree consists of the notes c^2 and $c\#^2$.

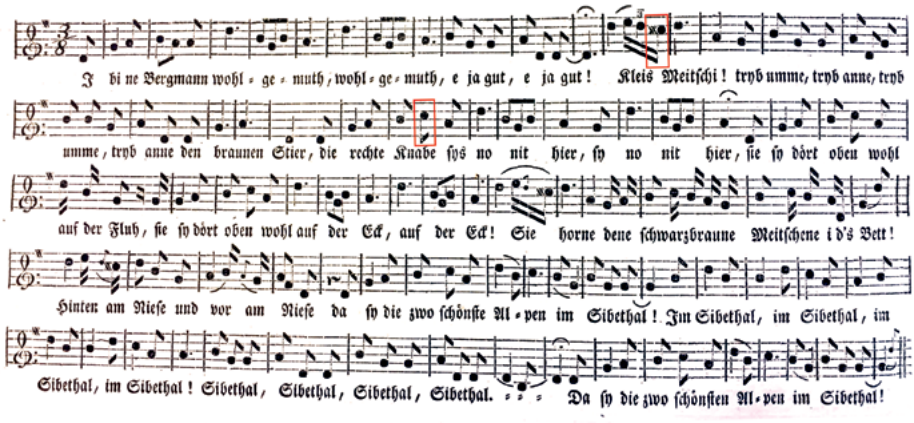

Fig. 15: *Kühreihen der Siebenthaler. Andere Melodie* (Wagner 1805b: 8). This version is based entirely on the natural tone series.

The motifs in bars 12–13 ("Kleis Meitschi!") (little maiden) and 41–42 ("Sie horne") (they toot a horn) would be quite demanding on the alphorn and may have been taken over from Rousseau's Kuhreihen (1768: Appendix). The text "Sie horne dene schwarzbraune Meitschene i d's Bett!"[4] can be understood as an allusion to alphorn playing.

The melody of the following *Kühreihen der Emmethaler* has a diatonic form, but if the $f\#^1$ is neglected, it can be reproduced on the alphorn with the natural tones 6 to 12. The notes c^2 and $c\#^2$ then correspond again to the alphorn-fa. The lyrics include a possible reference to the alphorn. In the fourth stanza (not shown here), sung by "Meitschi," it says: "My schatz cha gar gut hornen, Er cha die Reyhli [Kuhreihen] alli gar wohl; Er hornt mer alli Morgen, O wenn i ga melche soll"[5] (Wagner 1805b: 9).

4 Replete with double entendres. Approximately: "They play/blow/toot the dark brown 'maidens' in bed!" whereby a "dark brown maiden" is figurative for an alphorn, a metaphor employed over 200 years later by the Pepe Lienhard Band in the song "Swiss lady" (= the alphorn) in the 1977 Eurovision Song Contest.

5 Approximately: "My sweetheart can play the alphorn really well. He can even play all the Kuhreihen. He plays his horn for me every morning, also when I'm supposed to go milk (the cows)."

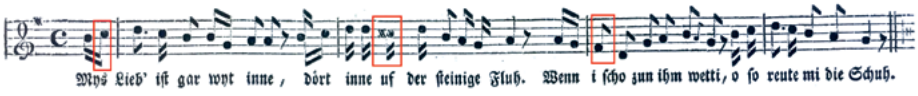

Fig. 16: *Kühreihen der Emmethaler* (Wagner 1805b: 9).

Although not a Kuhreihen according to the title, the melody of the *Lied der Emmethaler* shows parallels to the Kuhreihen of Kappeler (cf. p. 53). The melody contains various chromatic tone sequences and is therefore not based on the natural tone series. On the basis of this song, the change of voice register is demonstrated in the *Kuhreihen Collection* of 1812 (cf. p. 93).

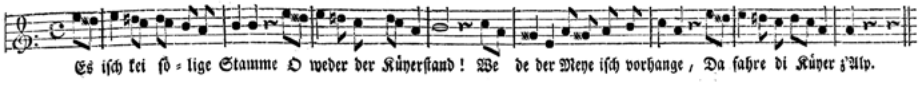

Fig. 17: *Lied der Emmethaler* (Wagner 1805b: 11).

The *Küherlied der Emmethaler*, which according to the title is also not a Kuhreihen, could hardly be played on an alphorn of that time. The range of notes, relative to the natural tone series, extends from the 8th (notated g^{1}) to the 13th (notated e^{2}) natural tone. The melody is therefore scarcely playable for an alphorn of about two meters in length; moreover the 11th and 13th natural tones are not marked with accidentals in this case. In contrast to the Kuhreihen in this collection, this melody shows a typical song form with a repeated first part.

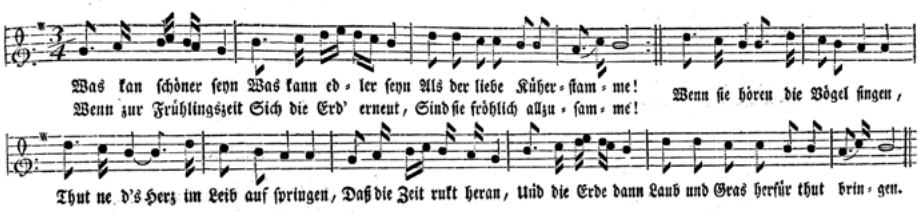

Fig. 18: *Küherlied der Emmethaler* (Wagner 1805b: 13).

The following melody of the *Kühreihen der Entlibucher* (Wagner 1805b: 15) contains individual motifs that can be perceived as "alphorn typical," but is clearly diatonic as a result of the (major) third (b^{1}) of the fifth degree triad (bars 1–3 as well as 6 and 8).[6]

6 The song enjoys great fame to this day through the cover version in a melodically newer version of Dodo Hug (http://y2u.be/8xpnPQM-T4w, 29 June 2022).

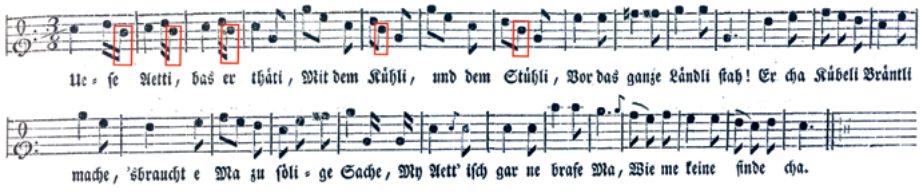

Fig. 19: *Kühreihen der Entlibucher* (Wagner 1805b: 15).

A few examples of the *Kuhreihen Collection* from 1805 are supplemented by an appendix with three French-language Kuhreihen. The appendix begins with the melody *Ran de Vaches des Ormonts* (Wagner 1805b: 1 [Appendix]), which can be played completely on the alphorn and is still a favorite among alphorn players today. This is the earliest known publication of the Kuhreihen ("Lioba, lioba") made famous by the Fête des Vignerons (Winegrowers' Festival). In 1819, this Ranz des Vaches was sung for the first time as part of the festivities in Vevey (Aguet 2005: 583).

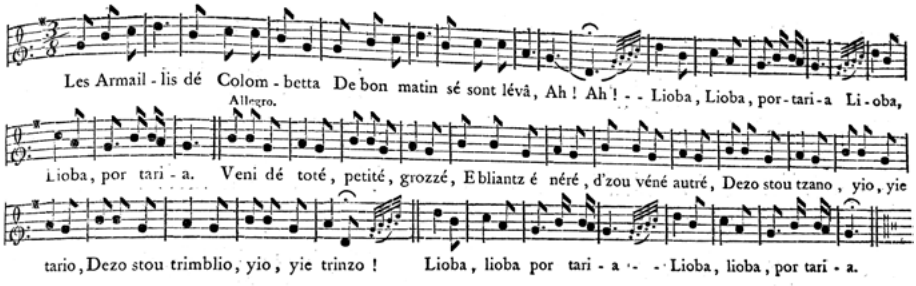

Fig. 20: *Ran de Vaches des Ormonts* (Wagner 1805b: 1 [Appendix]).

The fourth tone degree (c^2) is not altered in this notation and is therefore not marked as alphorn-fa. Characteristic of the notation of the *Ran de Vaches des Ormonts* are the quick ornamental notes as anacrusis (pickup) to the famous Lioba-motif. The meaning of the word "Lioba" has not been definitively clarified; possibly it stands for "cow" as an early patois[7] term.

In addition to the *Kuhreihen der Appenzeller* discussed earlier (Wagner 1805b: 17), a few examples of the collection also contain two other previously known melodies (cf. p. 88). Rousseau's Kuhreihen melody (1768, cf. p. 55) is reprinted in the appendix without title and with an underlying French text ("Quand reverai je…") (Wagner 1805b: 3 [Appendix]). The last melody found in the appendix is the *Cantilena Helvetica* of Zwinger (Zwinger 1710, cf. p. 50), confusingly listed

7 In Switzerland, patois refers to a French dialect that used to be spoken in Western Switzerland.

under the title *Ran de Vaches du Dictionnaire de Rousseau* (Wagner 1805b: 4 [Appendix]). These three melodies are based on the natural tone series, but they are technically demanding.

Summary

The preface to the first edition makes no reference to the interpretation or other musical peculiarities of the Kuhreihen or to the way in which the music transcriptions are to be understood. There are also no indications as to whether the pieces were sung in a register-changing manner or whether the fourth scale degree should be specially intoned. Of the eleven Kuhreihen in this collection (with appendix), seven can be played on the alphorn without any changes, while four can only be played with modification of the melody. Whether these Kuhreihen developed from alphorn melodies cannot be determined on the basis of this first edition. It seems possible that some melodies go back to alphorn melodies, but were heavily revised by the authors in the course of "refinement." The success of the first *Kuhreihen Collection* was so great that seven years later, in 1812, a second expanded collection appeared. According to Wagner, at the second festival of 1808 the Kuhreihen that appeared at the first festival were sung: "Everywhere the old Kühreyhen of the Oberhasler and the Siebenthal rang out, now Kuhn's joyous songs, now folk songs of the Emmethaler or the Entlebuch" (Wagner 1808: 9).

1812: Documentation for register-changing singing

The second edition with the title *Sammlung von Schweizer-Kühreihen und alten Volksliedern, nach ihren bekannten Melodien in Musik gesetzt. Zweyte, verbesserte und vermehrte Ausgabe* (Collection of Swiss Kuhreihen and old folk songs, set to music according to their well-known melodies. Second, improved and augmented edition) contains fifteen new songs in addition to the eight Kuhreihen of the first edition. Kuhn, the editor of this edition, contributed the songs *Chilter and Hochzyter*.

Although the title of the second edition mentions an improvement, only very few pieces show small changes. The *Kühreihen der Entlebucher* (Kuhn 1812: 15) received two additional bars and the *Kühreihen der Appenzeller* (Kuhn 1812: 17) is no longer set in 12/8, but in 2/4 time. Eleven of the fifteen new songs were provided with piano accompaniment on two staves, with bass accompaniment in the left hand and an accompanying melody in the right hand. Two other new pieces have a chordal accompaniment to the vocals and in places an additional singing voice in parallel thirds. While the first collection consists primarily of the song categories "Kuhreihen" and "Küherlieder," the second edition of 1812 also includes other song categories, which are summarized as "old folk songs" in the title. The region of the Bernese Oberland no longer dominates as the place of origin of the music pieces. In the preface, Kuhn quotes a comment by the phi-

lologist Friedrich Meisner (1765–1825)[8] on the interpretation of the Kuhreihen, which is particularly important for the present research (notation examples in the quotation are from the original):

> In addition, the Kuhreihen performance has something very special that characterizes it, namely an extraordinary voice break from the so-called chest tones to the throat or head tones, in which our alpine singers have an incredible skill. Those who do not know how to replicate this cannot sing a Kuhreihen without effacing its character. Passages such as the following in the Kuhreihen of the Siebenthaler
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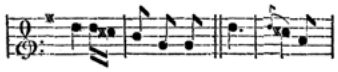
> 
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> or in the song of the Emmenthaler
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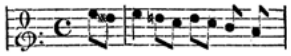
> 
>
> and especially those as in the Kuhreihen of the Appenzeller
>
> 
>
> should indicate this break of the voice. It is easy to see that a Kuhreihen should therefore only be sung by those voices that are practiced in it, for it is very difficult to express this with a clavier or any other instrument. (Meisner, quoted from Kuhn 1812: III)

Meisner explains here for the first time the typical feature of yodeling – the change of vocal register. His examples are already included in the first edition of 1805, so it can be assumed that singing in such a manner was practiced at the time. Meisner's somewhat imprecise formulation "passages such as the following" (Meisner, quoted from Kuhn 1812: III) does not make it apparent at which tone a register change is to take place. The current norm is contradicted by the fact that mostly seconds and thirds are notated in the melodic sections referred to, not large intervals as typically occurs when changing registers in a yodel. In an anonymous review in the same year, an attempt is made to explain this oddity. It is complained that the break of the voice is described, "but the nature of the same…is not there indicated" (Rochlitz [ed.] 1812: 627). Instead, individual notes should have been raised by one octave in order to clearly mark the register change. The thesis that the notations of the Kuhreihen should be transposed in certain places by whole octaves is surprising and rests only on this one anonymous statement, but it would better explain the register change. The idea of this notation is illustrated as follows in Fig. 21.

8 Kuhn, together with Wyss and Meisner, founded the folklore almanac *Alpenrosen* in 1811.

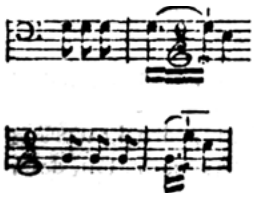


Fig. 21: Breaking of the voice according to an anonymous review of the *Kuhreihen Collection* of 1812 (two excerpts from Rochlitz [ed.] 1812: 627).

The passages presented in Meisner's preface contain raised fourth scale degrees, which can be understood as a reference to the alphorn, since the quoted review also mentions a relationship between the Kuhreihen and the alphorn:

> [The Kuhreihen is] set for its own peculiar instrument, the large, quite limited and somewhat unwieldly alphorn – indeed, the melody is dictated to a certain extent by it, as well as by the pitch, the number, and other peculiar characteristics of its tones. (Rochlitz [ed.] 1812: 625)

The anonymous critique further points out that the break from the chest voice to the head voice is to be traced back to the alphorn: "…in which the alpine singers, probably first prompted by the break of the lower notes of their instrument into the higher octaves, possess an incredible skill" (Rochlitz [ed.] 1812: 627). According to this review, the change of register can thus be traced back to alphorn music, although the editors of the *Kuhreihen Collections* do not refer to the instrument either in the first or in the second edition.

A further indication that the Kuhreihen was sung in a register-changing manner is provided by Burgdorfer, who emphasizes that due to the change of register the Kuhreihen cannot adequately be played on the piano: "…on the other hand, others said that it could not be done at all, especially in some Kuhreihen because of the breaks in the singing, which would then lose something of their originality or character" (Burgdorfer, quoted from Staehelin 1975: 2). If the Kuhreihen is distinguished by a change of register, this supports the assumption that it is the singing style which is later called "yodeling." At the beginning of the 20th century, Gysi replied that this was very likely the case in earlier times, but could no longer be observed:

> The Kuhreihen probably also had its yodeling falsetto ornamentation before, but today it is sung exclusively in the chest register. The meter of its melody has something uniform about it, the effect of which is strengthened by frequent repetition of individual motifs or phrases. (Gysi 1926: 291)

Summary

In contrast to the first edition, the second edition of the *Kuhreihen Collection* of 1812 contains references to a yodel-like singing style of Kuhreihen. Kuhn, who was responsible for this edition, was a folk song collector and poet and had the musical understanding to put the peculiarities of the Kuhreihen into words. In an anony-

mous review (Rochlitz [ed.] 1812: 627) an inspiration of the Kuhreihen melodies and the change of register by the alphorn is indicated, but in the second edition of the *Kuhreihen Collection* itself the alphorn is not mentioned. It was not until the third edition of 1818 that the connection between the Kuhreihen and the alphorn was discussed. In the meantime, knowledge of the Kuhreihen reached Paris, where in 1813 a study appeared on it which also takes the alphorn into consideration.

1813: George Tarenne's research on the alphorn and Kuhreihen

According to his own account, Tarenne decided to research the Kuhreihen after a trip to Switzerland in 1810 when he had listened to a herdswoman sing the Kuhreihen (Tarenne 1813: 11). The book *Recherches sur les Ranz des Vaches* (Research on the Ranz des Vaches) contains the greater part of the Kuhreihen notations already discussed (cf. p. 49) as well as detailed information on the texts and their content. In addition, the *Ranz des Vaches de Jorat* was published for the first time in a larger print run. The most important source on the Kuhreihen before 1800, Viotti's letter (cf. p. 56), is reproduced in full by Tarenne. The previously discussed polyphonic version of the *Ranz des Vaches de Gruyère* (Tarenne 1813: 63, cf. p. 83) also appeared in this work.

Tarenne (1813: 8) reports on the spread of the Kuhreihen throughout Switzerland: "…il existe peut-être, dans la Suisse, plus de cinquante *Ranz des vaches*, tous avec un caractère rustique plus ou moins remarquable, à raison des moeurs, du génie et du degré de civilisation des montagnards qui les chantent."[9] Tarenne (1813: 25) writes about the alphorn: "Quoique cet instrument [the Alphorn] soit plus en usage dans quelques cantons que dans d'autres, les pasteurs s'en servent par-tout en Suisse; il remplace, pour ainsi dire, le cornet de nos bouviers, en France."[10]

The close connection between the Kuhreihen and the alphorn mentioned here may have led later editors of Swiss folk songs to include the instrument more prominently in their treatises, as is the case in the preface to the *Kuhreihen Collection* of 1818.

9 "…there are perhaps more than 50 Kuhreihen in Switzerland, all with a rustic character, more or less remarkable in terms of the customs, spirit and degree of civilization of the mountain inhabitants who sing them."

10 "Although this instrument [the alphorn] is used more in some cantons than in others, herdsmen all over Switzerland use it; it replaces, so to speak, the horn of our cattle herders in France."

1818: Alphorn-fa in singing and "yodeling on the alphorn"

The person in charge of the third edition of 1818, Johann Rudolf Wyss, entrusted the musical arrangement to the locally known composers Huber and Schnyder von Wartensee (Wyss 1818: 8). This edition is entitled *Sammlung von Schweizer-Kühreihen und Volkslieder. Recueil der Ranz de Vaches et Chansons Nationales de la Suisse*[11] (Wyss 1818) and contains a total of 57 pieces of music, of which 27 are taken from the previous edition (1812) and another 30 pieces were added. The title shows that this edition has been expanded for a French-speaking audience; accordingly additional Kuhreihen appear in French: three versions of the *Ranz des Vaches des Ormonds*, a *Ranz des Vaches* with "modern text"[12] and two versions from the Gruyère Alps with an old and new text. A version of the *Ranz des Vaches des Ormonts* (Wyss 1818: 111) reproduces the melody of Viotti with the text of the famous western Switzerland Kuhreihen ("Les armaillis de Colombettes…"). The other variously titled melodies from Ormont and Gruyère are slightly modified versions of the melody which is popular today especially in western Switzerland and is sung at the Fêtes des Vignerons. The stronger focus on the French-speaking part of Switzerland in this edition may be related to the Fête des Vignerons held in 1819 and inspired by Tarenne's publication of 1813.

The 1818 edition contains not only French but also High German translations of Swiss German dialect words and is therefore also aimed at a German-speaking audience outside Switzerland. Yodeling is already known throughout Europe at this time through the national singers of Tyrol (cf. p. 125), and the Kuhreihen with their musical peculiarities formed a welcome extension for the salon music of the bourgeoisie. The publication was also to be attractive for piano or guitar as a result of the notated accompaniments (Burgdorfer, quoted from Staehelin 1975: 4). In this third edition there are many songs with yodel parts (melodies underlaid exclusively with meaningless syllables), which are considered the first yodel songs in Switzerland.[13]

In the preface to this edition, Wyss has his musical advisor Huber present his own observations. Huber points out for the first time the use of the alphorn-fa in singing. Wyss paraphrases the following statement by Huber in his preface (Wyss 1818: XV, notated examples in the quotation from the original):

> The size of the instrument [alphorn] can be equated with that of a trumpet [trumpet around 1818: natural trumpet, about 2 meters long]. As with this and with the waldhorn, [French horn] the upper F is not a proper F, and not a proper F#, – too high

11 German and French titles mean: "*Collection of Swiss Kuhreihen and Folk Songs. Collection of Ranz de Vaches and National Songs of Switzerland.*"

12 "avec texte moderne" (Wyss 1818: 117).

13 The four yodel songs are: No. 33 *Kühreihen zum Aufzug auf die Alp im Frühling / Der Ustig wott cho* (Wyss 1818: 79), No. 34 *Küher-Leben* (Wyss 1818: 82), No. 36 *Hänsi's Liebes-Antrag* (Wyss 1818: 88) and No. 39 *Appenzeller-Lied* (Wyss 1818: 97). In addition, the collection contains three songs with short yodel sequences.

for the first, too low for the second, – and so it may well be that in most Kuhreihen in places like these where notes indicated with + should actually be F,

Fig. 22: Notation by Wyss (1818: XVI) of a "yodeled" melody with alphorn-fa designated by +.

instead of an F, one hears an F#, which seems to have been transferred from the alphorn to singing. However, this irregular tone, this more F# than F, is a pleasant tone for the alpine herdsman, and furthermore, with this instrument at least, does not sound unpleasant to the ear of the musician, while from a waldhorn [French horn] this tone would be quite offensive to him. If the instrument were to be improved to transform the F# into a natural F, however, this would not be welcomed by the Alpine herdsman, which I also heard from the mouth of a cowherd, who made this clear to me: that when on his alphorn he has yodeled for a while, now quietly, now wildly, and concludes with the tone to which I refer, he would still always find it softer and more pleasing on its release. So even the cowherd feels the F# as a softening, something like this:

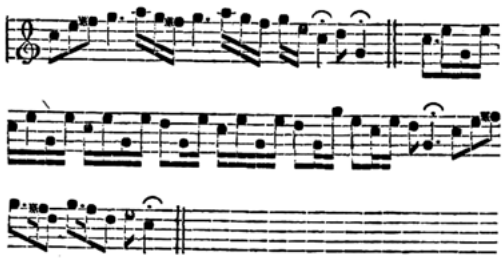


Fig. 23: Notation by Wyss (1818: XVI) of a "yodeled" melody with alphorn-fa not designated by +.[14]

The alphorn-fa must therefore have been playable on a contemporary alphorn the length of a natural trumpet of that time; it is designated in Figure 22 by +. The fact that not all notes *f#* in Figure 22 are designated in this way can mean that a distinction has been made between alphorn-fa and *f#* or that the indications in the notation have been made inconsistently. In the second musical example given by Wyss in Figure 23, the *f#* is not specifically designated by +, but in this context it is probably to be understood as alphorn-fa.

14 The melody depicted contains motifs from Rousseau's *Ranz des Vaches* (1768: Appendix).

Summary
The Kuhreihen become internationally known with this edition and are regarded as an exotic cultural practice of Switzerland. The two people responsible for the music of the edition, Schnyder von Wartensee and Huber, knew how to master the delicate task of presenting the musical peculiarities of the Kuhreihen in such a way that they would be valued and appreciated by an international audience. On the one hand, the peculiarity of the Kuhreihen and folk songs should be preserved and respected, on the other hand, the music should be adapted to the listening tastes of the larger public. This appears to have succeeded; in fact, the success was so great that eight years later another edition of the *Kuhreihen Collections* appeared.

1826: Development of the yodel song

Wyss remained the editor of the fourth edition of 1826, in which he relied solely on Huber for the musical direction, who by this time was regarded as an expert on Swiss folk songs. The fourth edition comprises 76 pieces, including almost all songs from the previous collections as well as 25 new pieces, 14 of them with yodeling parts.[15] All songs are accompanied by piano or guitar. The *Kühreihen der Oberhasler*, which was presented as the first song in all *Kuhreihen Collections* since 1805, received a yodel refrain in the 1826 edition. It is possible that yodeling had already occurred here earlier, but it was not documented until 1826. Perhaps Huber composed such yodel refrains on account of an increasing demand for yodeling, popularized by the Tyrolean salon yodelers (cf. p. 125). The songs of the fourth edition show even more virtuosity than the previous ones and thus fulfilled the wishes of the salon music audience. For some songs, however, the number of verses was reduced, possibly out of consideration that the dialect text is not interesting for an international audience.[16]

The development of alphorn and yodel melodies as salon music can be illustrated by the piece *Kühreihen zum Aufzug auf die Alp* (Wyss 1826a: 21), which already appeared in the third edition of 1818 and was reworked in 1826. This composition by Huber contains both an alphorn melodics and a virtuoso yodel part (Fig. 24).

15 The new yodel songs are: No. 1 *Kühreihen der Oberhasler* (Wyss 1826a: 1), No. 2 *Kühreihen der Oberländer* (Wyss 1826a: 3), No. 10 *Des Kühers Frühlingslied* (Wyss 1826a: 19), No. 13 *Kühreihen zur Abfahrt von der Alp im Herbste* (Wyss 1826a: 28), No. 14 *Geissreihen* (Wyss 1826a: 30), No. 26 *Mein Liebchen* (Wyss 1826a: 48), No. 52 *Des Buben Schützenlied* (Wyss 1826a: 78), No. 53 *D's Schwyzerbuebe Schwyzerlfreud* (Wyss 1826a: 79), No. 55 *Meh dass äbbe!* (Wyss 1826a: 81). Song No. 54 *Was machen* (Wyss 1826a: 80) does not contain a complete yodel part, but still contains passages with yodel syllables.

16 A separate volume of texts with all known verses of the collection also appeared in 1826.

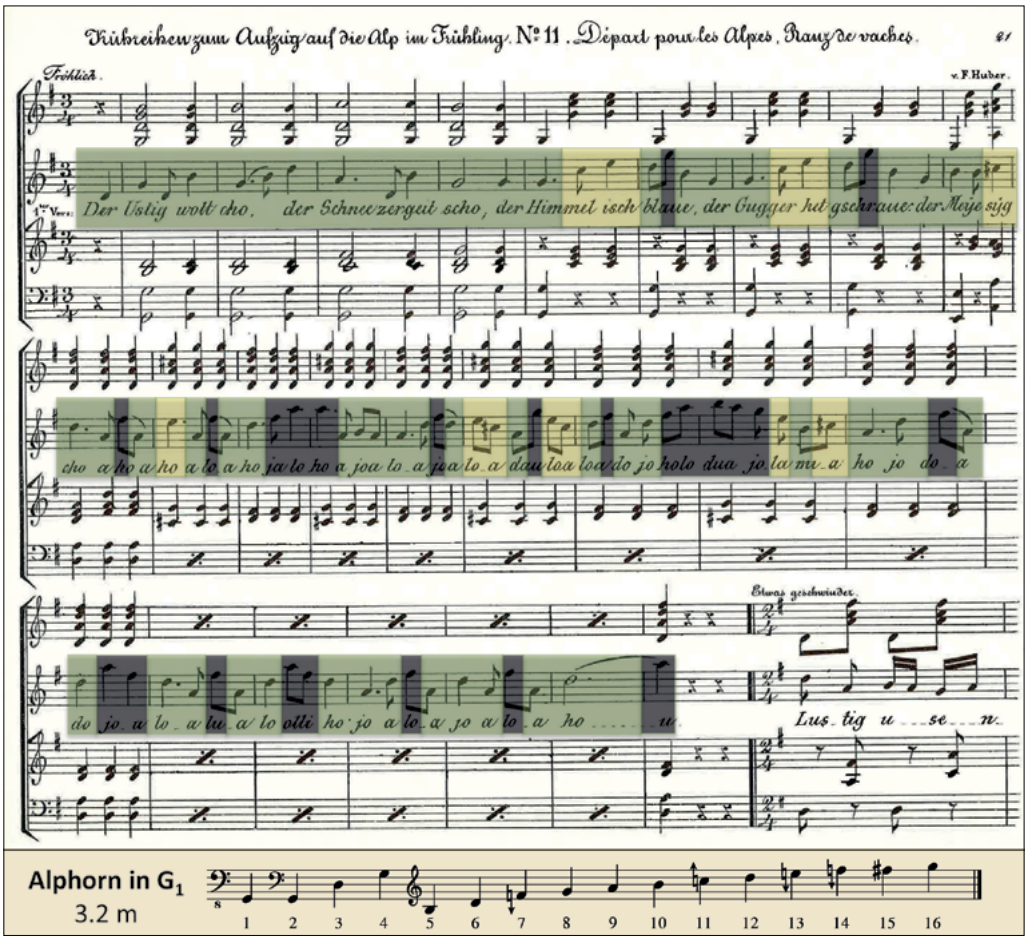


Fig. 24: The first page of *Kühreihen zum Aufzug auf die Alp* (Wyss 1826a: 21, cited according to Simmen/Bachmann-Geiser 1979: 21) accompanied by a natural tone scale corresponding to an alphorn in G. The colored areas are used for comparison with the natural tone scale.

A large section of the piece consists of a typical alphorn melodics and covers the tone range from the 6th to the 12th natural tone (light green background). The ekmelic tones of the alphorn, the 11th and the 13th natural tones, are highlighted in yellow, and the notes outside the usual range of the alphorn are grey. The scale notation of a corresponding alphorn in G is shown for comparison. The beginning of the piece is strongly reminiscent of an alphorn melody and the fourth scale degree is sometimes raised ($c\#^2$), which can be interpreted as a representation of the alphorn-fa (cf. p. 89). Compared to the 1818 edition, the yodel part is almost twice as long and much more virtuosic (cf. Wyss 1818: 79).[17]

17 An audio recording published on CD by the coloratura soprano and yodeler Therese Wirth-

Overview: Rise and fall of the Kuhreihen

The first two editions of the *Kuhreihen Collections* were guided by the basic idea of "returning song and sound from the learned to the people as popularly as possible" (Wyss 1826b: VII),[18] but a clear development away from the single-voice songs in dialect language towards classical polyphonic vocal and instrumental pieces for use in bourgeois salon music was evinced. Those responsible for the collections took the opportunity of publishing their own compositions or arrangements of existing songs.

From the second edition (Kuhn 1812) onwards, the music is supplied with analytical commentary. The preface explains that some songs are sung with a change of register, and in the third edition the alphorn-fa is mentioned as a component of the Kuhreihen. Finally, the third and fourth editions include yodel songs. The connection of the Kuhreihen to the alphorn can be tied to the fact that some melodies are built on the natural tone series. This peculiarity of Swiss Alpine singing is demonstrated from 1818 onwards by accompanying texts as follows: "We conclude these remarks about the Kuhreihen with a few words about their naming, and about the alphorn, on which their melody is played to such great effect by our alpine herdsfolk" (Wyss 1818: XIII). Based on the written comments in the editions of the *Kuhreihen Collections*, it is clear that some Kuhreihen contain yodel parts and that alphorn melodics with the alphorn-fa occurs in them.

About forty years after the publication of the fourth edition of the *Kuhreihen Collection*, Szadrowsky formulates his view that Kuhreihen were never really widespread in Switzerland:

> I therefore dare…to express here publicly that I believe that the well-known Kuhreihen, "the piece of music," can claim *no origin* from the mountains, but rather in a foreign country, especially among the Swiss troops abroad, it was *put together from Swiss national-musical figures*, and first through returning minstrels…found its way to Switzerland. (Szadrowsky 1868: 339, emphasis original)

Szadrowsky also relativizes Wyss's statement that the Kuhreihen was played on the alphorn as follows: "…Wyss's report [is] probably a bit too nebulous; Kuhreihen could only be played on the alphorn if the limits of the acoustic natural tones were not exceeded, or in other words, if the Kuhreihen were sung according to alphorn ways" (Szadrowsky 1868: 329). The analysis of the Kuhreihen (cf. p. 49) shows that some Kuhreihen actually exceed the available tones of the alphorn.

As a further argument, he writes that he in the "high Swiss mountain areas…had nowhere ever heard the melody of a Kuhreihen being played or sung" (Szadrowsky 1868: 335).

It seems that in the middle of the 19th century the Kuhreihen was indeed quite available in composition form in songbooks, though barely sung in the mountains.

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von Känel from 1963 gives an idea of the virtuoso yodeling practice of the early 19th century (Bachmann-Geiser [ed.] 2010: Title No. 23).

18 Wyss refers with this statement to all four *Kuhreihen Collections*.

Apparently, the Kuhreihen was no longer popular at the time Szadrowsky wrote about it. In order to comprehend the "rise" of the Kuhreihen to a fashionable genre of music and its "descent" into oblivion, the shift can be examined more closely by investigating the use of the term. The time frame during which the term "Kuhreihen," including the alternative spellings and French equivalents "Kuhreigen," "Kühreihen," "kue reien," "Ranz de Vaches" or "Ranz des Vaches," was popular and fashionable, can be shown on the basis of the entries of these terms in the largest database of digitized texts, Google Books (Fig. 25).[19]

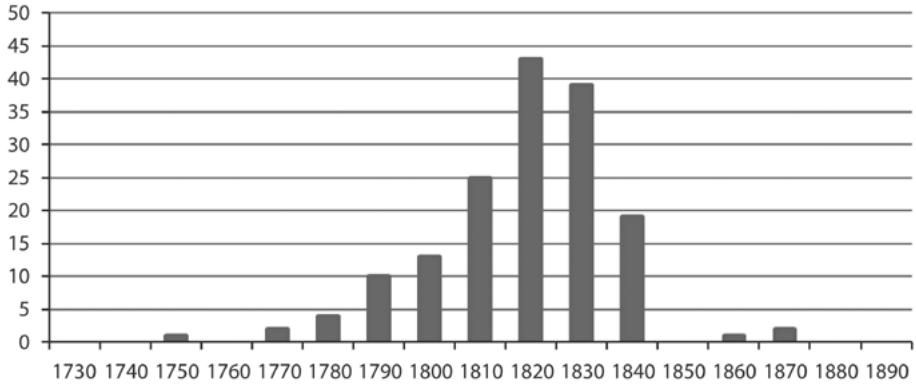

Fig. 25: Number of publications in the years 1730–1899 with the terms "Kuhreihen," "Kühreihen," "Kuhreigen," "kue reien," "Ranz de Vaches" or "Ranz des Vaches" in Google Books (as of October 2016), sorted into publications per decade.

In this graph, the ascending and decreasing tendencies of the use of the terms for Kuhreihen are clearly seen. The term "Kuhreihen" along with its French translation and alternative spellings gained in importance at the end of the 18th century; in the period between 1810 and 1840 they were very popular and then rapidly declined in significance. The peak of Kuhreihen publications was during the 1820s. It is also documented that in addition to the *Kuhreihen Collections* discussed earlier, many other publications appeared that address the Kuhreihen in some way.

Huber in particular knew how to prepare these idiosyncratic forms of music in such a way that the international bourgeoisie began to appreciate them. Since his compositional style connects patterns of alphorn melodics with yodeling also outside the discussed *Kuhreihen Collections*, this will be considered in more detail below. In addition to Huber, Johann Heinrich Tobler (1777–1838) from Appenzell also composed yodel songs at the same time and incorporated the alphorn into his compositions.

19 Optical character recognition (OCR) does not capture all typefaces of historical texts. As a result, for example, Rousseau's publication of the Kuhreihen in the *Dictionnaire de musique* 1768 is not counted.

Alphorn melodics in yodel songs by Huber and Tobler

Ferdinand Fürchtegott Huber's work has already been examined in the context of his alphorn courses (cf. p. 77) and his arrangements of the *Kuhreihen Collections* of 1818 and 1826 (cf. pp. 97 and 99). He composed both demanding pieces for professional singers and easier to perform melodies for children's and amateur choirs. In some of his compositions he was inspired by the singing of the alpine herdsman, which he himself describes in connection with his *Six Five-Part Kuhreihen* (Huber [1845]) dedicated to Mendelssohn-Bartholdy:

> One lovely evening I stood on a neighboring hill when, deep below me, two female voices singing the well-known Kühreihen der Emmenthalers: "What can be lovelier, what can be nobler than the pedigree of the cowherd?" ascended up to me; – barely had this line faded away, when a bright yodeling tenor voice united in its repetition, which wrapped around this most simple melody a lovely wreath of wonderfully matching yodel tones; and this was joined – because this Kuhreihen is well known – with a first and second bass voice, two herdsmen mowing on a hill not far away, so that a most lovely five-part song emerged from this two-voice composition, which of course I wrote down and in such a manner composed a few more; these are the "five-part Kuhreihen and Swiss songs" which I later published here and had the honor of dedicating to Dr. Mendelssohn-Bartholdy… (Huber 1863: 14)

The *Kühreihen der Emmenthaler* mentioned here is already in the *Kuhreihen Collection* of 1805 as a *Küherlied der Emmenthaler* (cf. p. 91). Forty years later, Huber published a five-part choral composition under the same title *Küherlied der Emmenthaler* in the aforementioned *Six Five-Part Kuhreihen* (Huber [1845]: 1). To this end, he composed a yodel chorus and a virtuoso yodeling voice as ornamentation of the song verses. The melody of this upper yodeling voice is partly based on the natural tone series and hints at alphorn music (Huber [1845]: 1).

Further direct connections to alphorn music can be seen in various of his other compositions.[20] The Swiss musician and musicologist Walter Rüsch (1906–1983) describes these connections as "Alpine melodics." Rüsch writes about Huber's music: "What gives Ferdinand Huber's melodies their peculiar magic? It is the ingeniously simple use of alphorn music and its triad motifs in his compositions" (Rüsch 1934: 785).

In addition to this triad melodics, Huber also adopted the natural tone series in some of his compositions. This influence is explicitly evident in the composition *Heerdenreihen*, which appeared independently of the *Kuhreihen Collections*. Huber composed the Jodellied *Heerdenreihen* for a singing voice with piano or guitar accompaniment, presumably between 1817 and 1824 (Huber n.d.).

20 Besides the songs already referred to, *Luegit vo Berg u Tal* and *Kühreihen zum Aufzug auf die Alp*, the songs *Herz, wohi zog es di* and *Meh dass äbbe!* can also be mentioned.

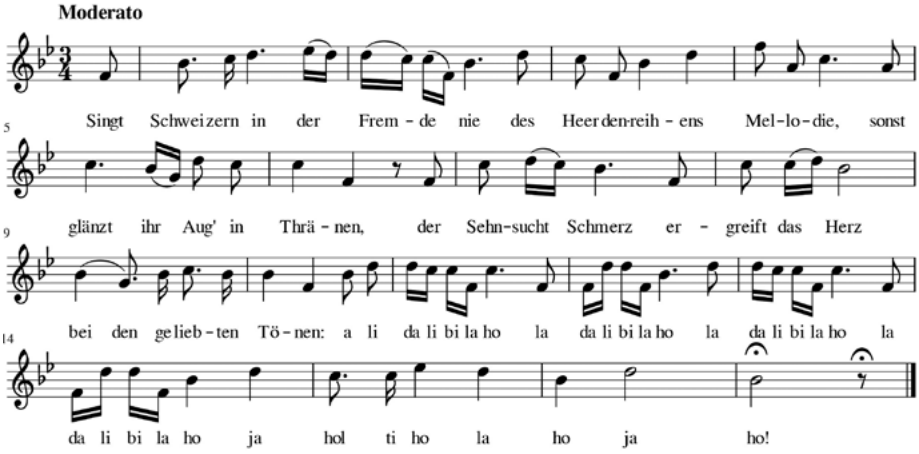

Fig. 26: *Heerdenreihen* by Huber: Singing voice with 1st stanza, as noted in the first edition (transcription of the authors).

The lyrics of the *Heerdenreihen* refer to the effect of the Kuhreihen in triggering homesickness among the Swiss mercenaries abroad. A comparison of the sheet music of this yodel song with the tone scale of an alphorn in B ♭ shows a closeness to alphorn melodics.

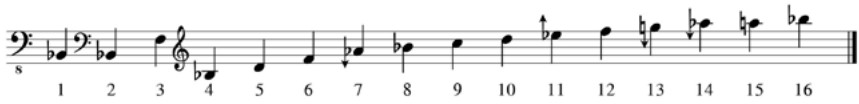

Fig. 27: Scale of an alphorn in B ♭ with a length of 2.7 meters.

The melody is largely based on the tone degrees from the 6th to the 10th natural tones. These tone degrees form 91 percent of the whole melody and are easily playable on the alphorn. The twelfth natural tone, the f^2, appears only once, in bar 4. The 11th natural tone, the alphorn-fa, lies in the natural tone series starting with $B\flat_1$ between $e\flat^2$ and e^2. In the *Heerdenreihen* it is found as $e\flat^2$ in bars 1 and 15. Four of a total of 78 notes cannot be reproduced on the alphorn; they are on unaccented beats and could be replaced by other natural tones when interpreting the melody on the alphorn.[21]

The yodeling part (bars 10–17) can be played on the alphorn without any adjustments. One of the earliest sound recordings of alphorn music, a shellac record from 1933, proves that the *Heerdenreihen* can be played on the alphorn. The alphorn player "B. Hofer" interprets the melody rhythmically free and replaces the four unplayable notes with neighboring natural tones (Hofer 1933). Already

21 These are the two notes a^1 in bar 4 and g^1 in bars 5 and 9.

during Huber's lifetime, the piece was performed in concert as a yodel song, as evidenced by a report on the Swiss Music Festival from 6 to 9 July 1840 in Basel:

> The entire public was enamored with Mad. Stockhausen's excellent performance of the soprano aria from Haydn's "The Seasons" and enraptured by the Swiss song: the Heerdenreihen by F. Huber "Singt Schweizer in der Fremde nie des Heerdenreihens Melodie" (O Swiss, never sing the melody of the Heerdenreihen in a foreign land)… ([The responsible correspondent for Switzerland] 1840: 68)

The *Heerdenreihen* is explicitly reproducible as an alphorn piece and is rendered as such on the instrument about a hundred years after the year of composition. In other cases, only approaches of alphorn melodics are recognizable as stylistic devices in song compositions, for example in the yodel song *Meh dass äbbe* (cf. Wyss 1826a: 81), also known under the title *Wie baas isch mir da obe* (cf. Schmalz/Krenger 1913: 29). The song became famous at the beginning of the 20th century and was provided with new musical settings several times. Especially in the introductory yodeling part of the original, connections to alphorn music are most recognizable. In the song part, these connections are less clear, though still apparent. Various of Huber's compositions contain motifs with certain affinities to alphorn melodics, but they cannot be played completely on the alphorn. Through close analogies, as found in the *Heerdenreihen*, a melody can be assigned to alphorn music, but overall, such pieces are relatively rare in Huber's work.

On the basis of Huber's compositions it can thus be shown how alphorn music and yodeling were combined compositionally. As a promoter of the alphorn (cf. p. 77) and as a composer of yodel songs, Huber has made a decisive contribution to the musical connection between alphorn music and yodeling. In the period that followed, his compositions inspired a number of music makers and were further handed down and reworked in various collections of folk songs (cf. Knop 1838, Kühne 1908, Schmalz/Krenger 1913). In this way they continue to have an effect on today's practice of yodeling. Johann Heinrich Tobler (1777–1838) from Appenzell can be named as another song composer whose work continues to have an effect today.

The composer and local politician from Wolfhalden (Appenzell Ausserrhoden), together with Huber and Schnyder von Wartensee, is one of the first composers to engage the yodel song. From 1792 Tobler worked as a template engraver in Speicher, and from 1798 to 1803 as secretary of the district court of Teufen. From 1819 he was a member of the St. Gallen Singgesellschaft (singing society) "zum Antlitz" and in 1824 became a founding member of the Appenzeller Sängerverein (cantonal choir) (Fuchs 2012: n.p.). Tobler became known in particular as a composer and editor of song collections as well as a publicist and poet. As a musical autodidact, he composed numerous Gesellschaftslieder ('social songs'), some of which he had self-published. His *Ode to God*, published in 1825, based on a poem by Karoline Rudolphi, became the official Ausserrhoder Landsgemeindelied (hymn of the cantonal assembly of Ausserhoden) posthumously in 1877 and is still the best-known composition from his pen (Fuchs 2012: n.p.).

Tobler's settings of texts by Swiss poets contain individual musical citations of the alphorn. The final part of the song *Der Alpenwanderer*, based on a text by Kaspar Schiesser (Tunger 1989: 166), is strongly reminiscent of alphorn music. The lyrics read accordingly: "…where alphorns sound and noble figures emerge, up…into the mountains, up…into the heights" (Tobler 1835: 12). The short, four-part conclusion consists of the following four bars:

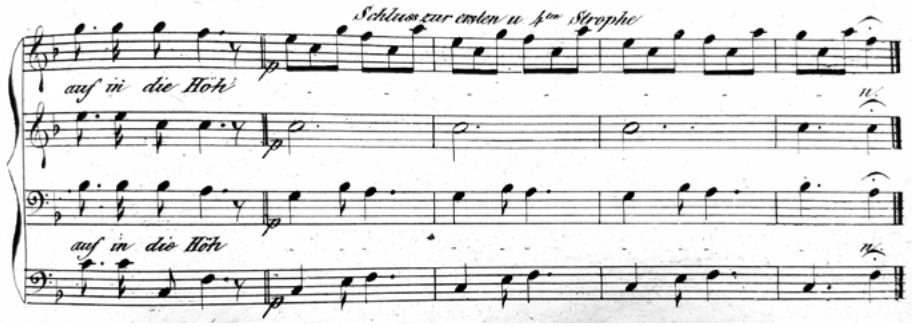

Fig. 28: Conclusion of Tobler's song *Der Alpenwanderer* (Tobler 1835: 15), inspired by alphorn melodics.

The repetitive single-bar motif in the first voice corresponds to a horn signal, which, however, would be difficult to play on an alphorn (in C). Furthermore, the piece demands the ekmelic notes f^2 (natural tone 11) and a^2 (natural tone 13). This suggests that the melody was not intended for alphorn, but is informed by it in terms of tonal aesthetics. The accompaniment consists of a bordun in the second voice (on c^2, 2nd tenor) and short, repetitive call motifs in the third and fourth voices (basses). The notation suggests that the last four bars are yodeled on the syllable "Höhn."

Tobler's *Appenzeller Sennenlied* from 1837 connects the Kuhreihen with the yodel. In this yodel song, Tobler drew on the text of the Appenzell Kuhreihen (*kue reien*, cf. p. 51) and added a yodel part to the melody of the Kuhreihen (on lines 7 and 8 in Fig. 29).

The melody in Tobler's *Appenzeller Sennenlied* sounds different from that of Brogerin's Kuhreihen (1730, cf. p. 51) and can be played to a large extent on the alphorn. The yodel part with a range of an undecime (d^1–g^2) was most likely sung with voice register change and the fourth scale degree ($c\#^2$) is increased by a semitone in the yodel part in the first four bars. About a hundred years later, Sichardt made a sound recording of this song (Sichardt 1936a: 1F) and described it as *Appenzeller Kühreihen* (Sichardt 1939: 170). However, the yodeler, Sophie Brunner, yodeled her own, different yodel part on this recording.

Through Tobler's work, the yodel song became known in eastern Switzerland during the 1830s. In a number of his compositions he incorporated parts of the Appenzell Kuhreihen and thus strengthened the connection between Kuh-

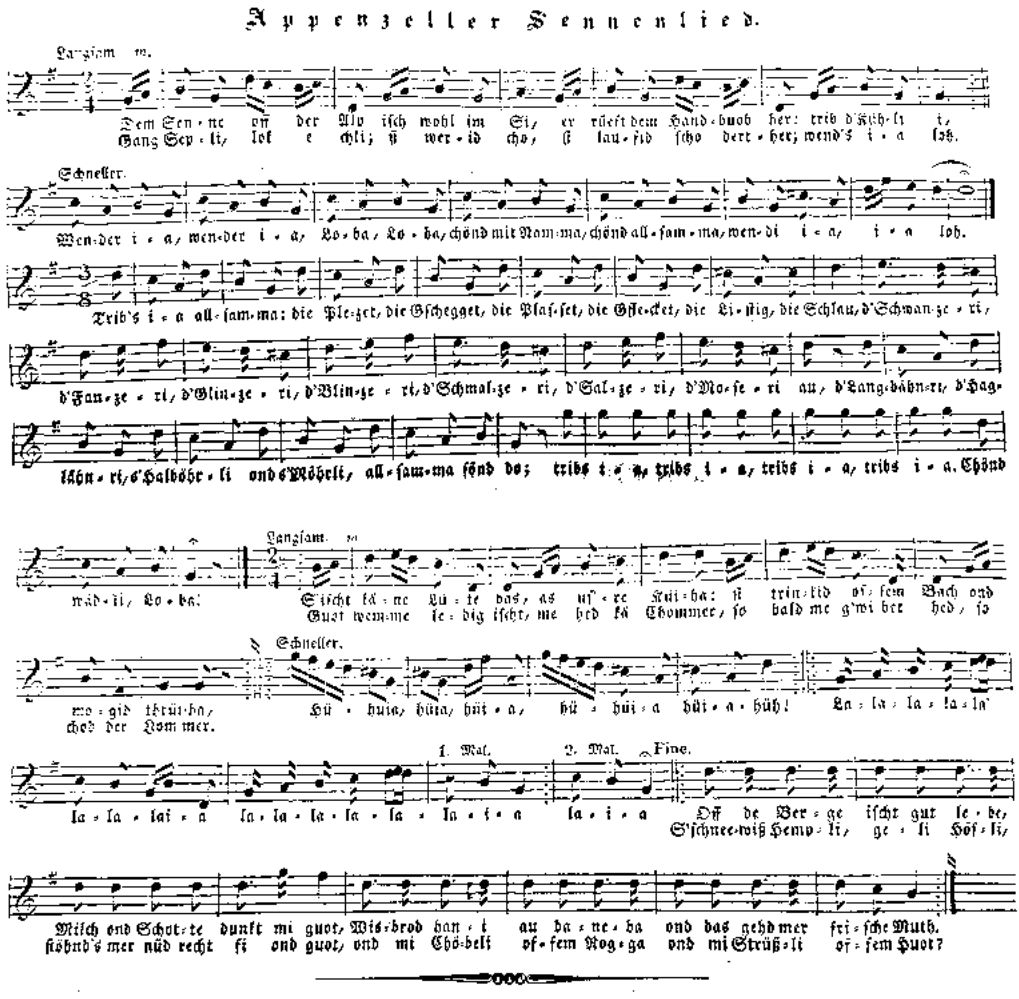

Fig. 29: *Appenzeller Sennenlied* with yodel part on the second page (Tobler 1837: 15–16).

reihen and yodeling. At that time, the alphorn played less of a role in eastern Switzerland than in the Bernese Oberland, where Huber worked from 1817 to 1824; nevertheless, in Tobler's yodel songs there are isolated occurrences of the alphorn in the text, and in one case the final notes are reminiscent of alphorn melodics (cf. Fig. 28).

References to Kuhreihen as the original music that influenced both the alphorn and the yodel show parallels with what we know about the Betruf (prayer call), as there are both functional and musical similarities among these alpine forms of musical expression. The ambiguity of the sources on Kuhreihen (cf. p. 44) also exists in the case of the Betruf, for which in the literature the terms "Alpsegen," "Hirtensegen" and "Sennenspruch" are also used.

Chapter 6: The Betruf as an interface between alphorn music and yodeling

The first literary references to the existence of the Betruf (prayer call)[1] in Switzerland date back to the 18th century (Kappeler 1767: 11); from the late 19th century onwards there is continuous evidence, and since then it has remained true to its primary function as an apotrope.[2] In this regard the Betruf is different from the yodel and the Kuhreihen, according to Baumann (1976: 82):

> Our understanding of the paradigm "yodel" is…informed by references to and cross-connections with the Kuhreihen and the Betruf, since the Betruf – perhaps because it contains a high degree of taboo content – has not undergone a development to folklorism. …Thus, in addition to the primary and secondary functional yodels, we have the Kuhreihen and the Betruf as further illustrative material to shed light on problems of transmission, namely, the *discontinuation of tradition* (Kuhreihen), the *primary functional continuation* of the Betruf as a result of little or no change of living environments in alpine settings, and the possible *refunctionalization of the yodel* as an aesthetic means after the "loss" or abandonment of the primary rural existence. (Baumann 1976: 82, emphasis original)

The ritualized Betruf continues today in the Swiss Alps in the daily life of alpine herdsmen and shepherds in its original function as a means of connection to Christian and metaphysical powers. It consists of a fixed sequence of valley-directed, recitative-like calls by an individual in the evening. The function of calling on supernatural powers as a preventive protective measure for the alp and cattle is also attributed by some folklorists to the alphorn. The Zurich professor of folklore Richard Weiss (1907–1962) wrote in 1945: "The magically perceived spell effect, which is still attributed today by the alpine herdsmen to the far-reaching words of the Alpruf (alpine call), at one time must have also been ascribed to the sound of the alphorn." (Weiss 1945: 223). In the second half of the 19th century, Szadrowsky wrote a description of the sound of the alphorn in which he emphasizes its apotropaic significance (Szadrowsky 1868: 303): "When the mysterious spirits of the echo are awakened to its call and fill the air with their manifold intertwining of sound waves, the alphorn celebrates the triumph of its destiny." The Bernese agricultural professor Felix Anderegg (1836–1911) described at the turn of the century the use of the alphorn for evening prayer: "In some Catholic areas, the alphorn is regularly blown downward from the alp three times in the evening as a sign of the evening prayer. In favorable locations, it can be heard as

1 The word Betruf ("prayer call") is hereinafter left untranslated as it conveys a specific cultural meaning. "Betrufs" is used for the plural.

2 Greek: □*ποτρόπαιος*, "defensive." Apotropaic actions are performed to ward off spirits or demons and to avert mischief.

far as an hour and a half away" (Anderegg 1899: 781). Bukofzer further developed the thesis of the alphorn as an apotrope. In his essay *Magie und Technik der Alpenmusik* (Bukofzer 1936), which in addition to the Betruf also addresses the origin of the Kuhreihen and alphorn music, he described the function of the alphorn in the Alpsegen (alpine blessing) as follows (Bukofzer 1936: 206): "The main instrument for producing magical sound is the alphorn, which is not only detectable in the Central Uplands of Germany…" He explains the magical function of the alphorn through the custom of blowing the alphorn at dusk:

> It is a *rite of passage* that is intended to guarantee the undisturbed rising and setting of the sun. The full tone of the alphorn has a double function: it should not only scare away and banish the evil spirits, but must be sustained and repeated as long as possible until the dangerous hiatus, which separates the first state from the second not yet reached, is bridged by the continuum of the sound. (Bukofzer 1936: 207, emphasis original)

In an article on the alphorn published a short time later, Klier (1937) also linked the alphorn with the Alpsegen. The statements of the articles by Bukofzer and Klier are not related, even though Klier also refers to magic as the original function of alphorn music:

> The mighty alphorn originally served to frighten and repel enemies as well as evil spirits with its far-reverberating tones. …On Swiss alpine pastures, the alphorn was blown at nightfall and the Alpsegen was sung. (Klier 1937: 526)

Klier also mentions a Wurzhorn in Lavant in East Tyrol, which was used instead of church bells and "blown in trouble and distress" (Klier 1937: 527). According to Fritz Frauchiger (1941: 126), the mountain population primarily attributed to the alphorn the power to bridge the dangerous transition from day to night. He points out that the same effect is exhibited when the instrument imitates the call of the Alpsegen. All the authors quoted suspect that the function of the alphorn as an instrument of prayer previously existed in earlier centuries. Already in the pastoral depictions of the 16th century, the German musicologist Walter Salmen (1926–2013) saw the function of the alphorn in warding off dangers. He wrote in his monograph *Musikleben im 16. Jahrhundert:*

> Particular attention was and still is paid to the blowing of alphorns in Switzerland. Here, the alpine herdsmen used this far-reaching reverberating device both as a howling tube to ward off dangers, for example from wild animals, or to obtain the intervention of celestial powers, as well as for the instrumental Betruf in the evening from the alpine mountain huts and pastures down into the valleys, whereby the blessing should reach as far as the sound. (Salmen 1976: 56)

Bremberger and Döll (1984: 67) critically note that witness reports documenting the Betruf on an instrument were not alphorns, but "milk funnels that the foreign observers thought were alphorns."[3] This assumption is supported by an anonymous report in the *Gotthard-Post* (1895: Supplement):

3 In order to increase the reach of the sound, a milk funnel is used, "also called a 'Folle,' through

> … now the Senn (alpine herdsman) was as cheerful as few people are. When it was dark, he climbed the hill and blew into an alphorn, or rather, in a half-singing voice he called into it a Bible passage, the beginning of the Gospel of John, so that it resounded widely into the mountains, and from a far away alp came the same song in response. ([N.N.] 1895: Supplement)

The statement that the Senn sang the Betruf through the alphorn can be explained either that the milk funnel was misunderstood as an alphorn, or that the Senn really sang through the horn to amplify or change the color of his voice for the ritual.[4] Staehelin wrote about the importance of the reach of the Betruf and combined it with its text as well as the effect on the cowherds:

> Even today, the hands of the herdsman held in front of his mouth and the use of the milk funnel when calling the Alpsegen testify to the importance of sound volume. Of course, this is not just coincidence or purely an external embellishment of this custom, but reflects a very important idea of the Alpsegen, namely, that the Alpsegen is effective as far as it penetrates audibly, as far as its sound covers the area of the alp. This explains why the herdsman insists so much on the greatest possible volume when calling the Alpsegen, and especially, as indicated earlier, why the cow invocation to "move step-by-step in God's name" makes sense: this "step-by-step" the herd of cows should take is to bring them within the acoustic range and thus into the protection of the Alpsegen. (Staehelin 1982: 20)

Through the wide propagation of the alphorn sound, a connection to its apotropaic function, and thereby also to the Betruf, which should sound as far as possible, can be established. The Obwalden archivist August Wirz (1914–1984) suspects that the Betruf in the Alps replaces the church bells, and establishes a relationship between alphorn, Betruf and bells. In addition, according to Wirz, the Betruf is "not only called out, but also blown with the shepherd's horn" (Wirz 1943: 156). In this regard, Wirz quotes from the almanac *Alpenrosen* of 1894 concerning an admonition to the municipality of Winterthur: It should have the municipality of Gundetschwil make a needed bell "so that it can cease the hitherto repulsive blowing with the cow horn" (Wirz 1943: 164). The Lucerne Germanist Alfons Müller-Mahrzohl (1922–1997) compares the effect of Betruf, bells and alphorn in Graubünden: "In popular sentiment, the Betruf and the bells had the same effect: their vibrations form…a magical spell circle. It should be added that in some places the alphorn was blown instead of the Betruf" (Müller-Mahrzohl, quoted from Bolli 2005: 73). In areas where the alphorn was blown and the Betruf was sung in the evening, an instrumental performance of the Betruf therefore stands to reason.

In the latest and so far most comprehensive publication on the Betruf, the Appenzell folklorist Anton Josef Wyss describes the possibility of achieving the same magical effect on the alphorn as with the sung Betruf (Wyss 2007: 264). Regardless of whether the alphorn was used as an apotropaic instrument and

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which the sound is extended megaphone-like in order to give the call a greater expansion" (Wyss 2007: 322).

4 Possibly he called into the bell of the alphorn and not into the mouth tube.

whether the Alpsegen was played on it, in some cases these conjectures have had an impact on practice in the 20th century. The Betruf researcher Armin Breu describes 1950 an introduction of the Betruf together with alphorn blowing at the initiative of the Catholic Farmers' Association in Mosnang (St. Gallen):[5]

> In Mosnang…the Betruf and alphorn blowing were solemnly reintroduced in an impressive folk festival. …In a song-framed evening celebration, the pious Betruf and familiar alphorn melodies sounded for the first time over the hills of our community… The President of the Catholic Farmers' Union and Pastor Dudle held three short devotionals that highlighted the meaning and importance of the Alpsegen, the Betruf and alphorn blowing. (StaUR P-224 349-5)

Whether it was a reintroduction in Mosnang, or whether in the canton of St. Gallen in 1950 the Betruf and alphorn sounded together for the first time, remains to be seen. In the aforementioned devotionals by Pastor Dudle and the President of the Farmers' Union, connections between alphorn blowing and the Betruf have also been established in more recent times. The relationship between Kuhreihen, Betruf, yodel and alphorn can be confirmed through music-analytical analogies and borrowings.

Similarities in form and motifs of Betruf and alphorn melodies

Staehelin (1982: 12) formally divides the Betruf into six sections. It begins with the "Scheuchruf" (chase-away call), which is composed of syllables to ward off spirits (for example, "Ho ho ho ho"); this is followed by the "Lobe" call in which, analogous to some Kuhreihen, only the word "Lobe" is called out. Then comes the "Ave Maria call," followed by the "Catalogue of Saints," a list of patron saints, and then the "Animal Catalogue," a list of predators from which protection is sought (Staehelin 1982: 16). According to Staehelin's list, the Betruf ends with free additions, for example from the Gospel of John (Staehelin 1982: 17). Some Betrufs do not contain all of the sections, and their sequence may vary. A parallel to the form of the Kuhreihen after Sommer (2013: 33, cf. p. 62) consists in the correspondence of the Scheuch-Call, Lobe and Ave Maria calls with the invocation section of the Kuhreihen, as well as the correspondence of the saint and animal catalogues with the row-call section.

One of the first records of a Betruf text comes from the Pilatus region and was noted by Kappeler (1767: 11). Table 3 shows the corresponding text sections arranged according to Staehelin's designations (1982: 7).

5 Breu's vital records could not be determined. His research can be found in Breu's estate in the Uri State Archives.

Table 3: Betruf text by Kappeler, classified according to Staehelin's formal categories

Betruf Text	Section
+ Ho-ho-ho-oe-ho-ho-oe-ho-ho.	Scheuch-Call
Ho-Lobe-ho-Lobe, take every step in the name of God Lobe: ho-Lobe	Lobe-Call
take every step in the name of our Blessed Lady Lobe:	
Jesus! Jesus! Jesus Christ,	Ave-Maria-Call
Ave Maria, Ave Maria, Ave Maria.	
O Dear Lord Jesus Christ,	
May God preserve every body, soul, honor, and possession,	
that belongs in the alp.	
May God and the Blessed Lady of our heart prevail;	Catalogue of Saints
May God and the holy Saint Wendel prevail;	
May God and the holy Saint Antoni prevail;	
May God and the holy Saint Loy prevail.	
Ho-Lobe take every step in the name of God Lobe +	Lobe-Call

Sources: Kappeler (1767: 11); Staehelin (1982: 12).

The first two lines of text of this Betruf contain structural references to yodel and Kuhreihen through yodel-like syllables and the word "Lobe." Sommer also sees these structural similarities as a connection between the first bars of the Kuhreihen ("invocation section") and the Betruf (Sommer 2013: 21). In the middle section of the Betruf, saints and in some cases wild animals are enumerated, which corresponds to the enumeration of cow names in Kuhreihen.

Similarities to alphorn and Kuhreihen music can also be found in the Betruf melodies. The usual two- to five-tone ranges of the Betrufs coincide tonally with the possibilities of the alphorn (Wyss 2007: 264). Brăiloïu, however, sees the relationship to alphorn music exclusively in the occurrence of the alphorn-fa in the Betruf: "the Swiss Betruf uses it [Alphorn-fa] in a systematic fashion, but in other respects any instrumental character is missing from this psalmodic recitation" (Brăiloïu 1984: 111).

The analysis of a Betruf from Obwalden (Wyss 2007: 95) is intended to demonstrate the musical relationship to Kuhreihen and alphorn melodics. In order to compare the following notation with the melodics of the alphorn, it must be read a whole tone higher than notated. Transferred to the common notation for the alphorn, the final note would be c^2 and the opening note g^2 (Fig. 30).

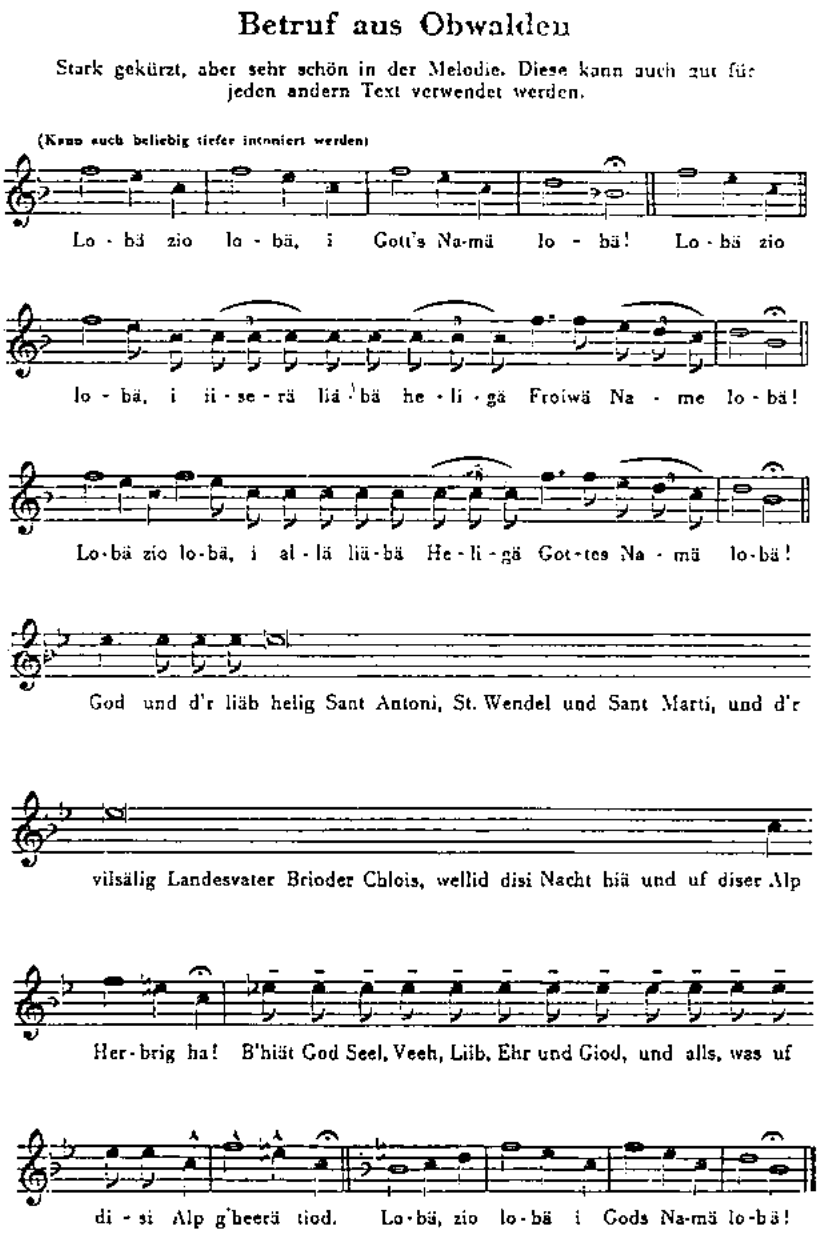

Fig. 30: *Betruf from Obwalden* (Wyss 2007: 95). Wyss received this notation by letter from the Catholic parish of Sarnen in 1993 without further information on its origin (Wyss 2007: 354).

This Betruf from Obwalden consists of a scale of five tone degrees: $b\,b^1$, c^2, d^2, e^2 (or $e\,b^2$ in the second section) and f^2; transferred to the alphorn, this corresponds to the natural tones eight to twelve. The fourth tone degree, on the alphorn the alphorn-fa, is notated both as a perfect fourth ($e\,b^2$) and as an augmented fourth (e^2). As already discussed in connection with the notations of Kuhreihen (cf. p. 88), this could correspond to the alphorn-fa: depending on the tonal context, the tone degree is notated either one halftone higher or one halftone lower. Special displacement signs for the intonation of the natural tone series are not used. This Betruf contains various "Lobe" calls as well as a catalogue of saints in the middle section and thus partly corresponds to the formal classification according to Staehelin (1892: 12). The slow introduction and the livelier middle section are again comparable to the division of the Kuhreihen into invocation and row-call sections (Sommer 2013: 33).

The final motif in the "Lobe" section (hereinafter: Lobe-motif) corresponds to a descending melody that contains the alphorn-fa as a transition note. The same melodic phrase occurs in some traditional Kuhreihen notations. The Lobe-motif appears shortened twice in the introductory invocation of the Betruf from Obwalden (bars 1–2) and then ends in its full form on the fundamental tone (bars 3–4, cf. Fig. 30). The corresponding motif from traditional Kuhreihen serves as a comparison:

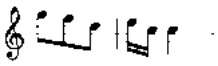

Fig. 31: Motif from Rousseau (1768: Appendix).

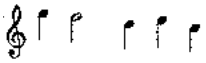

Fig. 32: Motif from Rhaw (1545a: 84).

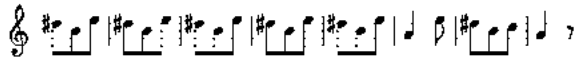

Fig. 33: Sequence from Zwinger (for the sake of readability cited here according to Sommer 2013: 47) with the Lobe-motif in the last three bars.

Other comparable notations of Betrufs from Obwalden can be found in Schering (1901: 669) and Gassmann (1936: 74). The analysis of all these notations shows that Betrufs and Kuhreihen have formal and motivic similarities; according to Schering (1901: 671), the difference lies only in the fact that the text of the Kuhreihen conveys secular, and the text of the Betruf religious content.

Natural tone series in the Betruf-yodel

The above analyses of the Betrufs of Pilatus (cf. p. 113) and of Obwalden (cf. p. 114) show unmistakable analogies to the Kuhreihen. Even if the Betruf in these text and music notations might not require any register changes, a connection to some natural yodel melodies can be demonstrated. In his book *Der Naturjodel in der Schweiz,* the teacher and composer Heinrich Leuthold chooses as an example of the yodel category "Singjodel" a *Betruf-yodel* (Leuthold 1981: 65):

> A typical yodel of this kind is the melody from the Unterwaldner[6] mountains known as a "Betruf-yodel." Note the name "Betruf," but do not confuse the melody with a real Betruf… The Betruf-yodel melody was occasionally blown on a horn, while at the same time the Senn (alpine herdsman) along with the Betruf also called down the blessing on the alp. (Leuthold 1981: 66)

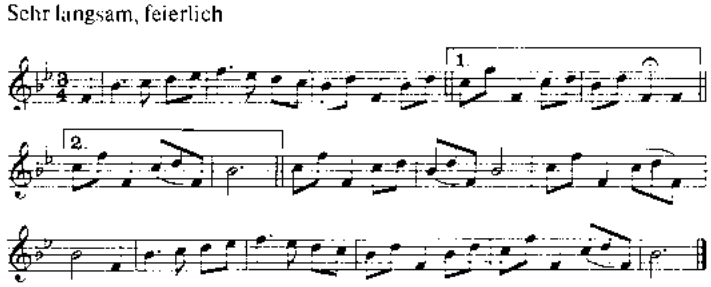

Fig. 34: *Betruf-yodel* from Unterwalden (Leuthold 1981: 66).

The melody of the *Betruf-yodel* is based entirely on the natural tone series. The melody uses the tone degrees between the sixth and the twelfth natural tones and can be played on the alphorn without much difficulty. Sommer (2013: 111) has transposed this yodel into the common notation for alphorn.

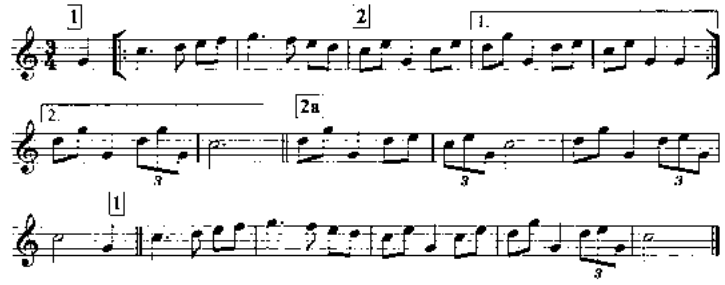

Fig. 35: *Betruf-yodel* from Unterwalden, set for alphorn by Sommer (2013: 111).

6 Unterwalden: Region that combines the cantons of Obwalden and Nidwalden.

The exclusive use of the natural tone series in this yodel, understood as an imitation of a Betruf, suggests the adoption of an alphorn melody. Thus, in a few bars, the *Betruf-yodel* unites yodeling, Betruf and alphorn music.

Like the *Betruf-yodel*, the three-part *Bätruef-Juiz*[7] by yodeler Anni Wallimann, which is often sung in Unterwalden today, contains in Part B, bars 2, 7 and 8 the Lobe-motif known from the Betruf (Fig. 36).[8]

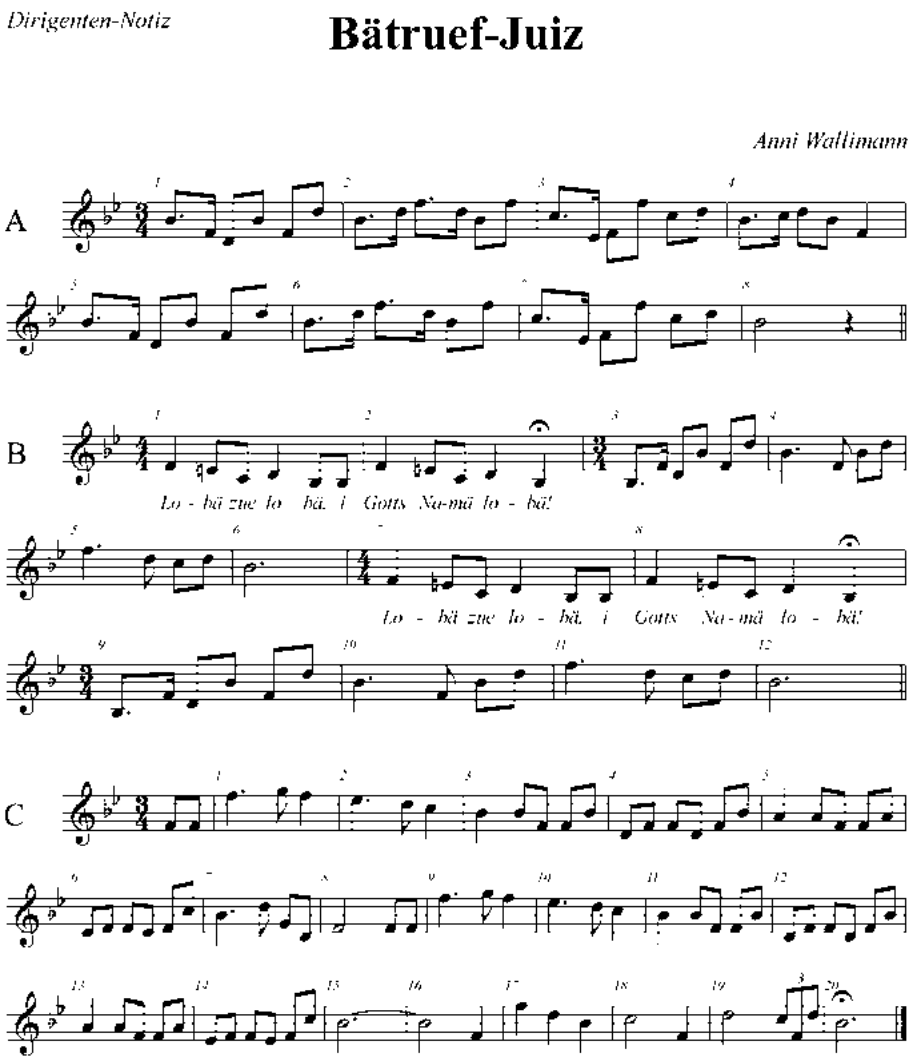

Fig. 36: *Bätruef-Juiz* by Anni Wallimann, notated by Edi Gasser.

7 *Bätruef-Juiz* is dialect for Betruf-Jodel (Betruf-yodel).
8 Notation courtesy of Edi Gasser.

Part A of the *Bätruef-Juiz* builds almost entirely on the natural tone series (exception: note e^{1}) and could be reproduced on the alphorn (range: 5th to 12th natural tone). Part B consists of the typical Betruf melody with the Lobe-motif (cf. p. 115. Transferred to the alphorn, the low tones of the "Lobe" calls would have to be transposed one octave higher. The yodel parts between the "Lobe" calls in Part B consist of large intervals, which can also be played unchanged on the alphorn. Part C, on the other hand, is not initially reminiscent of alphorn music; only in the last six bars does the melody return to the typical alphorn and Betruf melodics.

The collection *Switzerland Archives of Folk Music* by Brăiloïu (2009) contains a piece called *Alpsegen* (alp blessing) performed as a solo on an alphorn. Brăiloïu wrote about the piece which was recorded in the 1940s:

> Our improvisation, whose solemnity is characteristic of the instrument, carries a title that may give rise to a misunderstanding: «alp blessing». The latter term generally refers to the *Betruf*, i. e. the evening prayer recited by catholic cowherds. The present piece could have had the meaning of an evening prayer, played on an alphorn. As exemplified by our recording, the melody thus produced is always of slow movement. (Brăiloïu 2009: 47, emphasis original)

Brăiloïu explains that the title of the recording refers to the Betruf, which is usually recited vocally, and goes on to explain that the present piece, played on the alphorn, probably served the function of a vocal Alpsegen as an evening prayer (Fig. 37).

The tempo and the note lengths are rough guidelines for this metrically very freely performed melody. The breathing signs are understood as breath pauses, in which the echo on the recording can clearly be heard. The piece was therefore recorded in a place with a pronounced echo, for example near a rock face. The replayed echo at the end of the Alpsegen is particularly expressed by the differentiated dynamics, which stand in contrast to the continuous high volume of the Betruf. The Lobe-motif, which is typical of many Betrufs, does not appear in this Alpsegen.

Summary

The Betruf is part of the musical tradition of the Swiss mountain regions and is still practiced today in parallel with alphorn music, yodeling and Kuhreihen. On the basis of various sources, it can be documented that the Betruf was blown on the alphorn in addition to its vocal performance, which explains the tonal and motivic analogies of Betruf, Kuhreihen and alphorn melodics (cf. pp. 113 and 116). The hypothesis that the original function of the alphorn lies in the Betruf cannot be proven, although the reintroduction of the Alpsegen on the alphorn in various areas of Switzerland supports it. Today, the Betruf is also called out in the context of folk musical alphorn and yodel performances, as happened at the Federal Yodeling Festival 2017 in Brig.

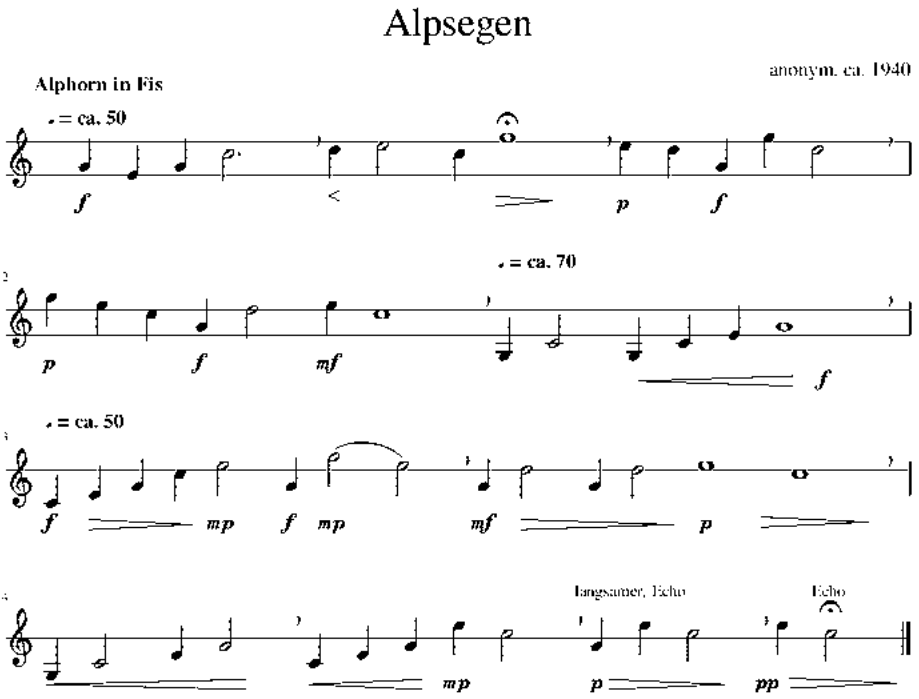

Fig. 37: *Alpsegen* from the collection of Brăiloïu (2009) (Transcription of the authors).

Chapter 7: Considerations for and against a musical connection between alphorn and yodel

While private associations and individuals strove to revive "folk singing" and alphorn playing at the beginning of the 19th century, certain economic and social changes influenced cultural development of music in the Alpine region. Among these changes, the emergence and spread of choral music, the rapidly increasing number of tourists and the general interest in Tyrolean stage yodelers had a particular impact on the yodeling and alphorn culture in Switzerland.

In the early 19th century, when the Swiss Kuhreihen found their way into the music salons of Europe, the first singing clubs and amateur choirs were formed in Switzerland, Austria and Germany. The composer and music teacher Hans Georg Nägeli (1773–1836) is regarded as a pioneering figure in Switzerland. Nägeli learned from Lavater, sympathized with the ideologies of the Helvetic Society and admired Pestalozzi's pedagogical efforts to educate the "Volk" through and with music. In Zurich he initiated the first non-church singing school in 1805 and was one of the co-founders of the Swiss Music Society in Lucerne in 1808 (Puskás 2009, ed.). Among his followers was Schnyder von Wartensee, who was jointly responsible for the third edition of the *Kuhreihen Collections* (cf. p. 97).

The Swiss musicologist Karl Nef (1873–1935) described Nägeli's sociopolitical stance as elitist: "As a convinced rationalist, he [Nägeli] sensed only rubbish in what the people themselves pursued as art and believed that only from above, from the educated classes, salvation could come" (Nef, cited after Zulauf 1972: 55). Moreover, the folk song researcher Max Zulauf (1898–1980) added: "The Swiss folk song and its descendant the "Schweizerlied," play no role for him [Nägeli]. Its lyrics had to be pious, patriotic and, above all, worthy. There was little poetry in it, but more morality" (Zulauf 1972: 55). The rejection of the art of the "Volk" described by Nef and the references of Zulauf to Nägeli's intentions to improve the moral focus of the "Volk" already suggest that Nägeli only partially based his four-part song creations on well-known folk songs.

Nägeli was supported in his music pedagogical work by the Wettingen music pedagogue Michael Traugott Pfeiffer (1771–1849); together they created the multi-volume *Gesangbildungslehre nach Pestalozzischen Grundsätzen* (Vocal Music Education Theory According to Pestalozzian Principles) (Nägeli/Pfeiffer 1810/1821/1832, cf. Ehrismann 2006: n.p.). The majority of the songs of amateur choirs, both in Switzerland and Austria,[1] initially existed from well-known folk

1 In Austria, members of music clubs joined together to form male choirs, and students felt ideologically connected when they sang their songs in the ensemble. The first choir association of the student body in Graz was formed in 1814. At the beginning of the 19th century, mainly members of the citizenry and students organized themselves in choirs, and in the second half

song melodies, which were rewritten according to classical rules of tonality, partly received new texts and were later entirely recomposed. In Switzerland in the middle of the 19th century, in addition to folk songs, yodels for choirs were arranged for several voices. Szadrowsky described the development of singing in the Bernese Oberland and in the Appenzell region:

> The polyphony of the songs is the product of art music. How such a song, created only through composition, came into the mountains is easy to explain: folk tunes were set in four or five voices, then taught to individuals from among the people, who then imparted them to the mountain dwellers. With the special preference for singing, it can also be understood that four-part or polyphonic singing in general could be preserved so pure through tradition. In the Bernese Oberland, and especially in Appenzell, we have often heard polyphonic songs with yodels, whose chords and individual voices were not impaired by any discordant note. Also interesting for us in the Appenzellerland (Innerrhoden) was a three-part song with yodel, sung by female voices with surprising certainty. (Szadrowsky 1864: 513)

Local peculiarities of the songs such as agogics or the possible use of the natural tone series fell victim to this transformation of folk songs into a four-part score.[2] For along with the choral movement there also came the organization of large singing festivals which required a standardization of singing for the full choir composed of many individual choirs. The written German language assumed greater importance in Switzerland, as various local dialects sounded incomprehensible in the full choir (Zulauf 1972: 55). Folk songs became a matter for the association, and new choral songs focused less on the everyday life of the people than on supporting a moralistic and patriotic mind set.

These changes can also be clearly seen in Austria. Some Austrian folk music researchers vehemently rejected this four-part polyphony, but they could not hold back its development. The Austrian musicologist Walter Kolneder (1910–1994) quotes a speech by the teacher and folk song researcher Viktor Zack (1854–1939) from 1895, which appeared in the song book *Heiderich und Peterstamm* (Kolneder 1981: 89):

> At this point, I would like to take the opportunity to say a word against the exclusive editing of the "folk songs for four male voices." There is often – and not only among laymen – the erroneous view that all folk songs can be forced into the universal four-part harmony: indeed – they have to be; but for one thing many of them are

and towards the end of the century, choirs were also formed among the working class, for example in 1878 the Arbeiter-Sängerbund (Workers-Singers Association) of Vienna.

2 Samuel Beetschen noted that this shift permanently changed the original form of the Swiss folk song: "With the formation of the singing clubs, however, singing was centralized and the Volkslied in the family was partially deprived of its powers. In a false view, which partly also emanated from the leaders of the singing clubs, the old, original folk song was underestimated and disregarded, which is why the latter is heard much less in recent times than earlier and has mostly disappeared from the domain of family life, and is present only where the influence of modern singing could not yet take root" (Beetschen 1880: 40).

> too variable in their melody and thus, in their four-fold polyphonic armor, they lose the delicacy of their form, their fragrant loveliness, as well as their capriciousness.

The advent of choral music in the 19th century brought polyphony to folk and yodel songs, promoted the equally tempered tone system and required strict adherence to meter and rhythm. Parallel to the choral movement, music education also encouraged the musical unification of folk and yodel songs. Older song forms and interpretations were probably preserved in familial settings, but were not supported by these educational measures. These developments tend to speak against a musical connection between the alphorn and the yodel. Nevertheless, at the same time both music practices were discovered by the increasing number of arriving tourists and acquired new functions.

Alphorn and yodel are marketed for tourism

The small distribution of the alphorn and the yodel in the period after the supportive measures surrounding the Unspunnenfests (cf. p. 65) must have left a "stale aftertaste" for the bourgeois organizers. Not only was no large-scale distribution of the instrument achieved, the alphorn was even converted into a "begging instrument."

The advent of tourism in Switzerland was accompanied by the opening up of the Alps. The expansion of the railway, the creation of a road network over the Alpine passes, and the construction of hotels in the mountain areas simplified the travel of foreign guests. In the 19th century, in addition to German and French visitors, the youth of the English nobility in particular were enthusiastic about the Swiss mountains. The travel reports published in English, as well as the prevailing opinion at the time that the high mountain climate offered a remedy for the diseases emerging in the industrial cities, motivated a large number of tourists to visit Switzerland. Tourist resorts included various villages and easily accessible mountains. In the 1860s, Szadrowsky named a good dozen such locations and sites where the alphorn was played for tourists:[3]

> In the Bernese Oberland there are about 12 to 14 stations for alphorn players, including the Staubbach; above the village of Wengen, opposite Mettenberg; up at the Reichenbach Falls; up on the Alpbigel [today Alpiglen], opposite the Eiger, on the way to Wengen-Scheidegg, outside of Grindelwald; on the road to Grindelwald, directly on the banks of the Lütschine River; between the Rosenlaui Valley and Scheidegg; at the top of the Faulhorn, at the foot of the summit; on the Heimwehfluh near Interlaken etc. (Szadrowsky 1868: 313)

Due to their orientation as a tourist attraction, the alphorn players in the Bernese Oberland were given the name "Lohnbläser" (players for a wage).[4] They played

3 For a treatment of tourism in Switzerland in connection with the alphorn, the chapter "Tourism, Switzerland and the Alphorn Phenomenon" by Vignau (2013: 191) can be consulted.

4 This information comes from Wilhelm Michel from Lauterbrunnen (personal communication, 4 October 2017).

on quite beautifully wrapped alphorns, which also were meant to have a visual effect on the tourists. Szadrowsky calls these instruments, which in addition to the beautiful wrapping also had a large and impressive bell, "showpieces for tourists" (Szadrowsky 1868: 286).[5] The visual impression is said to have often been more impressive than the quality of the alphorn music (Szadrowsky 1868: 304), and this lack of quality of alphorn playing led to negative coverage in travel guides (Heim 1881a: 99).

Although the Englishwoman Jemima Morrell (1832–1909) liked the alphorn playing at the Staubbach in Lauterbrunnen, she found the intrusiveness of the alphorn players on the way to the Rigi and in the Bernese Oberland disturbing (Knecht 2014: 145). The writer Hermann Alexander von Berlepsch (1814–1883) gives advice on how to deal with these harassments in his 1866 travel guide *Neuestes Reisehandbuch für die Schweiz* (Newest Travel Guide for Switzerland).

> The begging, which used to bother the traveler especially on the tour from Meiringen via Grindelwald to Lauterbrunnen, has decreased considerably. Right at the start of the tour, one figures about 1 Fr. in copper and small coins for the alphorn players, scrambling boys, girls offering alpine roses, echo cannoneers and similar industrialists, and not let the humor be spoiled. (Berlepsch 1866: 443)

However, as tourism continued to increase in the course of the 19th century, the parish office of Grindelwald, the authorities and the tourist guide association felt compelled to pronounce bans against begging (Knecht 2014: 146). The ban, printed in the local newspaper *Echo von Grindelwald* in 1901, contains seven points, including the directive: "Loud singing and bad alphorn tooting are prohibited" (*Echo von Grindelwald*, quoted from Knecht 2014: 146). Begging with the alphorn in the middle of the 19th century was not limited to the Bernese Oberland; also in Central Switzerland the intrusiveness of alphorn players was observed. Szadrowsky wrote that the alphorn could also be found in Unterwalden "for the most part only in the hands of 'begging' shepherds" and that "this phenomenon…unfortunately is just as annoying for the tourists as it is discrediting to the characteristic shepherd's instrument" (Szadrowsky 1868: 288).

The author Mark Twain (1835–1910) also experienced the intrusiveness of beggars on Mount Rigi in 1878 and describes it in his humorous short story from 1880. Twain's report shows that in addition to alphorn playing, yodeling was also performed to beg money from the tourists. During his hike, Twain was so happy about the first yodeler, a sixteen-year-old shepherd, that he gave him a franc to continue yodeling (Twain 1981:10). Twain described the continuation of the hike on Rigi as follows:

> After about fifteen minutes we came across another shepherd boy who was jodling, and gave him half a franc to keep it up. He also jodeled us out of sight. After that, we found a jodler every ten minutes; we gave the first one eight cents, the second

5 Vignau believes that tourism has even contributed to the development of the current form of the instrument (Vignau 2013: 191).

> one six cents, the third one four cents, the fourth one a penny, contributed nothing to Nos. 5, 6, and 7, and during the remainder of the day hired the rest of the jodlers, at a franc apiece, not to jodel any more. There is somewhat too much of this jodling in the Alps. (Twain 1981: 11)

Both alphorn playing and singing became tourist attractions in the 19th century. Yodeling and yodel songs were very likely part of the common singing repertoire, since the visitors likely wished to hear local songs. This could have led to joint performances of sung or yodeled Kuhreihen and alphorn music, but there is no evidence of this. In order to answer the question of a musical connection between the alphorn and yodeling, no further results from the tourist sector at this time can be provided. Nevertheless, important developments took place for the form and international reputation of alphorn music and yodeling. Particularly influential were groups of singers from Tyrol.

In order to escape the poverty of the mountain areas in the late 18th century, some Tyroleans decided to travel through Europe to sell handmade local products. These Tyrolean groups performed songs of their homeland as musical samples and later joined forces to form full-time singing groups (Hupfauf 2016: 75). The German poet of the Enlightenment Gottfried August Bürger (1747–1794) claims to have heard a group of singers from Tyrol in Göttingen in 1777, but he does not describe the type of singing (Salmen 2004: 800). By 1809 at the latest, yodeling must have appeared in the program of these groups of singers, because the German composer, court conductor and writer Johann Friedrich Reichardt (1752–1814) reports on yodeling at a performance of the Tyroleans in northern Germany:

> At supper we had a very own, very pleasant music by five male singing voices, who sang a lot of Tyrolean songs and waltzes in a very special way in a choir. Many usually hold only the full chord and one sings the melody in falsetto in the high contralto quite pleasantly, with a very unique rendering; half pushed and half pulled together. (Reichardt, quoted from Salmen 2004: 800)

Reichardt probably did not yet know the term yodeling, since, as mentioned earlier, the term is first used in 1796 in literary contexts in Vienna and Salzburg (cf. p. 22). The performances of the Tyrolean groups of singers were probably a kind of "stage yodel" in which the manner of execution took into account the demands of the audience. The poet Heinrich Heine (1797–1856), who attended such a show in London in 1827, expresses his displeasure with the nature of this commercialization of folk culture:

> When last summer [1827] in the shining concert halls of London's fashionable world I saw these Tyrolean singers, dressed in their native folk costume, take the stage and from there listened to those songs that are yodeled so naively and piously in the Tyrolean Alps and also sound so sweetly deep into the North German heart – everything in my soul contorted into bitter displeasure, the pleasing smile of noble lips stung me like snakes, it was as if I saw the chastity of the German word insulted in the most raw way, and the sweetest mysteries of the German psyche profaned in front of foreign mobs. (Heine, quoted from Salmen 2004: 807)

Johann Wolfgang von Goethe (1749–1832) was also critical of these staged yodel performances. On 30 October 1828, he wrote in a letter to the German composer Friedrich Zelter (1758–1832): "The Tyroleans are here again, I want to have those ditties sung to me, although I find that popular yodeling bearable only outdoors or in large rooms" (Goethe, quoted from Salmen 204: 809). In order for the yodel from Austria to become part of a successful stage performance, its melodic structure, its polyphony, metrics and rhythm were adapted to the demands of the audience.

One of the best-known Tyrolean singing groups, which performed throughout Europe in the first half of the 19th century and even in the USA in the 1830s, consisted of members of the Zillertal Rainer family, who became known as the "Rainer siblings." The composer Ignaz Moscheles (1794–1870) recorded some songs from their repertoire and published them in three volumes in 1827, 1828 and 1829. The pianist Moscheles enjoyed close contact with Ludwig van Beethoven, Felix Mendelssohn Bartholdy and Frédéric Chopin and was one of the most influential personalities of musical life in London (Hust 2004: 517). The fact that this famous musician wrote down and published folk songs and yodels demonstrates the great interest in alpine folk music in England as well as the important role of the Tyrolean singer groups in the dissemination and promotion of yodeling in Europe.

Moscheles published a total of 36 songs by the Rainer siblings, some of which are provided with a yodel part. Since the earliest edition of Moscheles appeared in 1827, one year after the last edition of the *Kuhreihen Collections*, it is not surprising that the two publications have formal parallels in design and treatment, nor that entire songs from the 1818 or 1826 edition of the *Kuhreihen Collections* are contained in Moscheles' publication. These include the two Swiss songs *Der Schweizerbue* (the Swiss boy) (Moscheles 1827: 10) and *Schweizer Heimweh* (Swiss homesickness) (Moscheles 1828: 32).[6] Especially with the song *Der Schweizerbue*, the Rainer siblings achieved an "immense popularity" in the 1820s (Hupfauf 2016: 88). Conversely, the edition of the *Kuhreihen Collections* of 1818 contains the original Tyrolean melody entitled *Küher-Leben* and the beginning of the song "Uf de Berge-n-isch gut lebe" (On the mountains it's good to live) which, as Wyss reported, "is also often sung by us, and to which a patriotic text may be desired by many" (Wyss 1818: IX). The Tyrolean melody was therefore accompanied by a text newly written by Kuhn in Swiss German dialect.

The answer to the question of whether the adoption of yodel songs from Tyrol displaced alphorn melodics from the Swiss yodel requires clarification as to whether certain Tyrolean yodels are not also based on alphorn melodics, since yodeling and alphorn playing were also cultivated by the same social groups in Tyrol and other areas of Austria.

6 In 1841, the repertoire of the Rainer siblings is also said to have included a Ranz des Vaches (Hupfauf 2016: 177).

Natural trumpets in Austria, the Wurzhorn and the yodeled Wurzhorn melodies

The natural trumpets of Austria show such strong organological differences that it is difficult to find an umbrella term for their various names; conversely, different natural trumpet forms sometimes bear the same name (Klier 1956: 17). Some of these instrument forms show similarities to the alphorn of Switzerland, others to the Swiss Büchel and still others show very different forms.[7]

The name "Waldhorn" often appears in reference to the natural trumpet in Austria and also designates comparable instruments in the Allgäu (in Germany). "Waldhorn" can stand not only for a straight instrument, but also for a snail-shaped natural trumpet. The snail-shaped, three-meter-long 16th century instrument from Ambras Castle (cf. p. 48) "has a cup-shaped mouthpiece made of tin, while the younger instruments in most cases only have a corresponding depression in the end of the tube" (Klier 1956: 19).

According to Klier (1956: 19), "Flatsche" also refers to a natural trumpet in Austria and Bavaria. The name "Flatsche" refers to the strip of birch bark from which the instrument was originally made (Klier 1956: 19). Nef formally compares the Flatsche with the Swiss "Stockbüchel," from which it differs, however, by its shorter form (Nef 1907: 24). The wound Flatsche in the hands of folk music researcher Josef Pommer (1845–1918) in a photograph from 1917 measures about one meter (Klier 1956: 15). For physical reasons, it must be assumed that this short Flatsche was primarily used for signaling (Klier 1956: 19).

In the 1940s, the German musicologist Alfred Quellmalz (1899–1979) documented the "Strebtuter" in South Tyrol, an approximately 1.2 meter long, straight natural trumpet (Nussbaumer 2001: 195). A film recording of Quellmalz shows a Strebtuter player sending signals from a mountain into the valley (Ramsauer 2017). The Schleicherhorn, which the Tyrolean musicologist Manfred Schneider was able to document in Telfs at the end of the 19th century (Schneider 1978: 84),[8] has a shape similar to the Strebtuter.[9] In addition to the names mentioned for natural trumpets in Austria, the name "Wurzhorn" is mainly used there, yet here as well neither the lengths nor the shapes of the instruments called by this term are uniform. The Wurzhorn bears this name "because it is made from the wood of weathered pine, wrapped with roots"[10] (Klier 1937: 527). In the 18th century, the Wurzhorn could be found in the upper Enns Valley, in the Hochschwab area, in the Salzkammergut, in Lower Austria and in the area of Ternitz (Kotek 1960:

7 The following explanations can be found in an overview at Ammann (2016: 14).
8 The original picture can be found in the photo collection of the Institute of Musicology of the University of Innsbruck.
9 In addition, the Strebtuter has a formal affinity with the Graubünden Tiba, which can be explained by the geographical proximity of Graubünden to South Tyrol.
10 The word "Wurzel" means "root."

184) and was still played in the 1870s in the "Ramsau near Schladming at the foot of the Dachstein" (Kotek 1960: 183).

Klier (1937: 532) suspects that in the 19th century in the Eastern Alps the curved shape of the Wurzhorn[11] was far more in use than the straight form, which is supported by the much larger number of trumpet-like curved forms in Austrian museums. Such instruments can be found in the folklore museums of Vienna, Graz, Leoben, Eisenerz, Linz, Hallstatt, Salzburg, Innsbruck and Klagenfurt.

As early as 1810, Archduke Johann (cf. p. 81) associated the Wurzhorn with "Ludeln," an Austrian type of yodeling. The Archduke came in the summer of 1810 from Hallstatt in Upper Austria via Krippenbrunn to the Gjaidalm and there met two dairywomen from the Styrian Ramsau near Schladming. He wrote about this in his diary:

> In the Gjaid I had the dairywoman describe the whole business. In the evening, violinists and pipers were there, and from Schladming came farmers with their alphorns (Wurzhorns). They are made like trombones, wrapped with larch wood and bast and give a pure, pleasant, but at the same time sad tone. The playing of the Schwegel [fife] and the horn, and the ludeln (yodeling) of the dairywomen, who can do it excellently, is in a mountain setting, where it reverberates everywhere, unique in its kind. (Johann von Österreich, quoted from Lumpe 1995: 20, expressions in round brackets according to Lumpe)

Johann von Österreich's formulation leaves open the question of whether the music of the dairywomen accompanied that of the Wurzhorn players. Based on various indications, it can be assumed that there was a musical connection between the Wurzhorn and yodeling. In the Dachstein area, a group of style-related yodels are known under the generic name "Wurzhorners." The name alone refers to a connection between this kind of yodeling and the Wurzhorn.

The musicologist Gerlinde Haid (1943–2012) compared the musical form of yodeled Wurzhorners with the music of the instrument of the same name and came to the conclusion that the special harmonic structure of the Wurzhorners, which is limited to a tonic-dominant change, with its timbre and the typical crossing of parts that occur in both the sung and instrumental versions, are clear indications that the Wurzhorners were originally also played on the wind instrument of the same name (Haid 2006: 60).

A clear statement which underlines the musical connection between the Wurzhorn (instrument) and the Wurzhorners (yodels), can be found in the three-part yodel in Pommer's collection *444 Jodler u. Juchezer aus Steiermark und dem ostmärkischen Alpengebiet* (444 Yodels and Juchezers from Styria and the east Styrian Alpine Region) with Number 100 from Schladming. Pommer wrote: "From the forties of the 19th century. Played on Wurzhorns by the sons of the old farmer in

11 Klier sees this as a transformation of the straight alphorn shape into the more comfortable bent one, which is called "Büchel" in Switzerland and "Wurzhorn" in Austria (Klier 1937: 527).

Schladming. One of the two brothers emigrated to the Caucasus, the other died" (Pommer 1942: 104). This yodel is entitled *Der lång' Wuschzhorner* (Fig. 38).

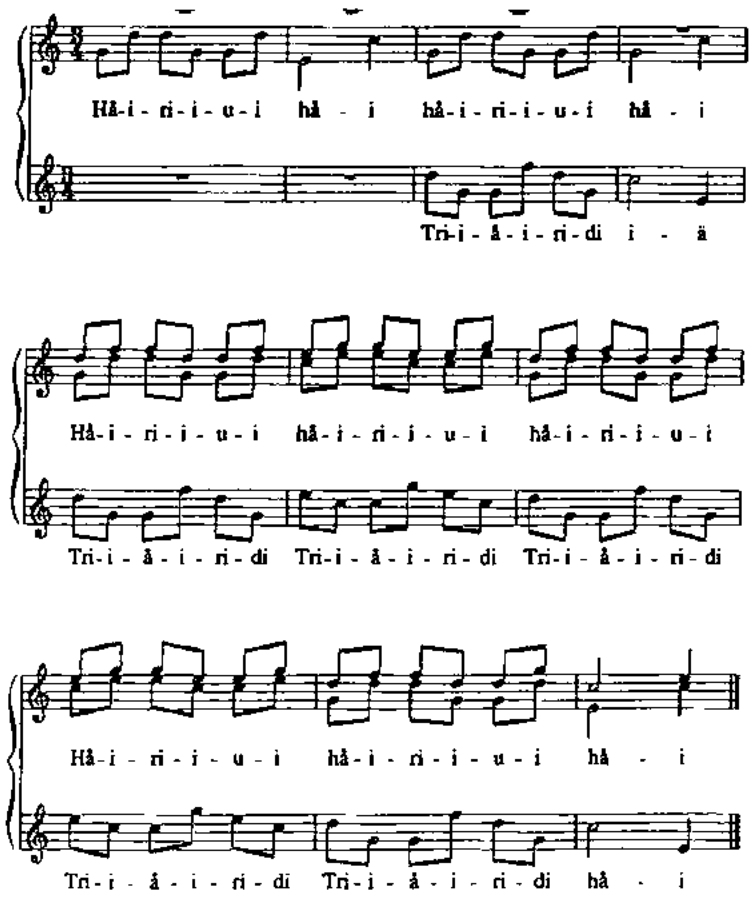

Fig. 38: *Der lång' Wuschzhorner* (Pommer, cited after Deutsch 1995: 371).

Der lång' Wuschzhorner contains only the tone degrees that can be reproduced on the Wurzhorn and range from the 5th to the 12th tone of the natural tone series. However, due to the many large intervals that occur especially at the voice crossings, the three melodic parts are challenging to play on a natural trumpet. The Austrian musicologist Walter Deutsch writes about this yodel: "The melody, limited to a few notes of the overtone series, lives on in some yodels that are referred to as 'Wurzhorners'" (Deutsch 1995: 371).

At the beginning of the 20th century, the Wurzhorn fell into oblivion (Lumpe 1995: 21, Haager 1936: 11), but since the 1970s interested people have concerned themselves with the revival of the Wurzhorn (Lumpe 1995: 21), and thus a musical union of Wurzhorner yodels and the natural tone instrument is once again made possible (Klier 1960: 125, Lumpe 1995: 19).[12]

Summary

The Tyrolean or Styrian singing groups did not play natural trumpets during their stage performances, and Moscheles' songbooks do not contain any Wurzhorners. The groups of singers who performed in Switzerland in the 19th century and in the first half of the 20th century thus did not contribute to the connection of alphorn music and yodeling. However, the stage yodeling pieces presented were popular at the time and were partly taken over by Swiss yodeling groups.

A transfer of the musical peculiarities of the Wurzhorn (instrument) to the Wurzhorners (yodels) is evidenced by musical notations and written sources. It did not extend to other Austrian yodeling forms, although the alphorn-fa appeared in early notations of Tyrolean yodels (Kolneder 1981:23). In today's Tyrolean yodels there are generally no ekmelic intervals.

Promoting the alphorn and yodeling in the second half of the 19th century

Europe's first wave of enthusiasm for yodeling, Kuhreihen and the alphorn (cf. pp. 101 and 123) subsided in the middle of the 19th century. Szadrowsky reports a decline of the alphorn in the period from 1826 to 1866: "F. Huber knew to tell that he had encountered *many alphorn players* in Unterwalden around 1826; accordingly, the alphorn would have *almost* disappeared in the local mountain areas over a period of 40 years…" (Szadrowsky 1868: 288, emphasis original). Szadrowsky specifically noted that in the "otherwise so active national-music scene in Appenzell of both Rhodes [Ausserrhoden (Outer-Rhodes) and Innerrhoden (Inner-Rhodes)], he nowhere" found an alphorn (Szadrowsky 1868: 313). He complained that the younger generation in the mountain regions preferred to play the accordion rather than the alphorn (Szadrowsky 1868: 284) and that the instrument was not widespread in Bavaria[13] and Tyrol[14] (Szadrowsky 1868: 288). In Switzerland, the distribution of

12 Since the 1950s, new instruments have also been introduced in the Allgäu and manufactured according to the shape of the Swiss alphorn (Böhringer 2015: 102). In the investigated sources on early natural trumpet music in the Allgäu, no evidence of a musical relationship between the Allgäu yodels and natural trumpet music can be documented.

13 "…so our [Swiss] alphorn, in terms of shape, size, material and tone color rather strangely stands alone, since the alphorns I got to know in the Bavarian highlands (last in 1856) were short, with wide tubes, quite nicely wrapped in birch bark, with dark, almost hoarse tones" (Szadrowsky 1868: 297).

14 "With regard to Tyrol, I have turned to communications with Dr. Anton Y. Ruthner, chairman

the alphorn in the middle of the 19th century was limited "to individual mountain areas" (Szadrowsky 1868: 311). In addition to the decline of the alphorn, Szadrowsky also recognized a lack of interest in yodeling:

> In individual mountain regions, even in entire mountain cantons, such as Graubünden and Ticino, it is silence everywhere in the Alps, and the hiker can spend days there in the high mountain regions, unable to hear even one Juchzer [dialect for yodel], no, not even a spontaneous yodel arising from a heart's desire for song. The fact that the inhabitants there generally do not feel like doing this is the burning question. (Szadrowsky 1869: 635)

With the lamented decline of the alphorn and yodeling, interest in Kuhreihen was also lost (cf. p. 101). This circumstance is described in 1891 in the magazine *Helvetia*:

> However, the use of the alphorn is not very widespread in Switzerland. Only in particular valleys has it been preserved. In the past, however, when the Kuhreihen was still generally sung, the alphorn was a widely-cultivated instrument, with which one also accompanied the Aelplergesang [alpine herdsmen song]. (Weber 1891: 182)

In order to counter this decline of the alphorn and yodeling in the second half of the 19th century, as previously attempted at the beginning of the 19th century, alpine festivals were organized, in which alphorns were played and yodeling was performed. Since then, these alpine festivals constitute meeting places for alphorn players and yodelers, where opportunities are present for mutual musical influence.

After the Unspunnenfests of 1805 and 1808, as well as smaller annual alpine festivals, for example on the Wengernalp or the Scheidegg (König 1814: 36),[15] more alpine festivals and alphorn courses took place in the second half of the 19th century, in which several alphorn players participated, such as in Siebnen 1869, in Schwyz (n.d.), on the Stoos (n.d.), in the Wägital 1876, in Muotathal 1880/81, in Weisstannen 1882/83, in Zurich 1889/94 or in Basel 1898 (Heim 1881b: 107, Szadrowsky 1869: 635, Stuker [ed.] 1960: 143, Bachmann-Geiser 1999: 73). For

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of the Austrian Alpine Club in Vienna, and J. Weilenmann in St. Gallen, two miners who have traveled a lot in Tyrol. The latter never discovered an alphorn on his extensive tours, and the former has kindly inquired of members of the Austrian Alpine Club, as he himself has never seen an alphorn in the Eastern Alps" (Szadrowsky 1868: 297).

15 König (1814: 36) writes in his publication *Reise in die Alpen* (Journey to the Alps) that "on the Scheideck…usually the first Sunday in August, a village [alpine festival] is held; on the Wengen-Alp [Wengernalp] this happens the Sunday before." With regard to the festival on the Scheideck, he speaks of Swiss-wrestling, stone-throwing, target shooting (at the inn of Grindelwald) and playing the shalmei [shawm] (King 1814: 37). Whether yodeling took place at this festival remains open. König writes only: "But as soon as the shalmei sounds, everyone jumps up and cheerfully goes about singing and cheering about in swirling circles…" (King 1814:37). On the mood at the alpine festival, König notes: "I have always found this festival far more interesting than the organized festivals at Unspunnen, where the informal and the casual is missing, which, according to my opinion, is supposed to be the quintessence of such popular amusements. On the Scheideck, on the other hand, everyone sings, cheers, dances, kisses and swings about when and how they want; and thus people enjoy the freedom to be their truly happy selves" (King 1814:37).

the festivals in Siebnen in 1869 and Wägital in 1876 as well as the course in Weisstannen in 1882/83 there are illuminating reports.

In 1869, the first documented alphorn competition after the Unspunnen festivals of 1805 and 1808 took place at the alpine festival in Siebnen (Canton Schwyz), where various yodel performances could also be heard. The number of participants in the competition was apparently greater than at the festivals held some 60 years earlier; Heim (1881b: 107) writes that "15–20 alpine herdsmen competed in playing [the alphorn]," while Szadrowsky mentions "about eight alphorn players" as well as "eleven individual yodelers, an Appenzell woman yodeler [and] two Appenzell women-yodeler choirs." This number is "quite gratifying and shows an interest only to be praised for the fostering of this national-musical facet of the mountain peoples" (Szadrowsky 1869: 635).

Szadrowsky comments on the alphorn playing and yodeling at the Siebnen alpine festival in an article in the Swiss weekly *Sonntagspost*. On the one hand, he praises the high skill level of the participants in yodeling[16] and alphorn playing,[17] but on the other hand, he is dismayed by the quality of the alphorns and the choice of alphorn music performed as well as by the foreign influence on the yodel. Regarding the instruments, Szadrowsky assumes the idea that alphorns should have a straight form of about 1.8 meters:[18]

> If I now add a few words about the alphorn playing, right at the outset I must with regret report that an actual alphorn – that large, just over 5 feet long horn made from a fir tree and wrapped in bark, as it is often found in the Bernese and Valais Alps and occasionally in the Grisons Oberland – was not to be seen anywhere in the area. (Szadrowsky 1869: 636)

Szadrowsky's further descriptions of the musical instruments make it clear that in Siebnen the curved shape of the alphorn, the Büchel, was preferably played. He does not seem to have appreciated this alphorn form as a "replica in wood of the old, long trumpet with an attached curved bell" (Szadrowsky 1869: 636) and regrets "that the Swiss alpine musicians do not turn to the actual alphorn of large format, with which they can achieve more in every respect than with the current instrument, which is not quite trumpet and utterly no alphorn at all." Szadrowsky's descriptions of the music he heard suggest that these are shorter Büchels than is customary today, since he attributes the limited tonal range of the melodies to the instrument and not to the proficiency of the players.

> Just as the instrument appeared artificial, so also the melodies that were played on it. With a few echoes of old alphorn melodies, they did not rise above post horn fanfares.

16 "The yodelers in Siebnen showed themselves…to be overall very skillful singers in yodeling and for the most part achieved an exceptional level of proficiency" (Szadrowsky 1869: 635).

17 "As with yodeling, so-called alphorn blowing demonstrated astounding proficiency, in which some individuals rose to a surprising mastery" (Szadrowsky 1869: 636).

18 In his general description of the alphorn Szadrowsky gives a length of 5 feet and 8 inches or 1.76 meters (Szadrowsky 1869:286). His statement contrasts with that of Heim, who for the second half of the 19th century indicates a length of 10 feet for the alphorn in the Bernese Oberland and Valais (Heim 1881a: 99).

> Only a single wind player (we heard him called Mr. Hauptmann Vogel von Glarus) brought a simple, beautiful, characteristic melody that does not hint at the post horn – a melody worthy to stand alongside the alphorn melodies from the Valais and the Bernese Oberland that were shared in the club book. (Szadrowsky 1869: 636)

Szadrowsky refers here to five alphorn melodies in his article *Die Musik und die tonerzeugenden Instrumente der Alpenbewohner* (The Music and the Tone-Producing Instruments of the Alpine Inhabitants), which show neither similarities to yodeling nor to the use of alphorn-fa (Szadrowsky 1868: 305).[19] With regard to the yodeling melodies performed, he laments the Tyrolean influence, which "threatens to destroy root and branch of the original Swiss-national form of the yodel" (Szadrowsky 1869: 635).

> With the exception of the yodel performances of the Appenzell women, who presented their original and uniquely own form of yodeling, aimed moreover only at a virtuosity of performance beyond reproach, all other yodel melodies bore, more or less, the texture of the Tyrol yodel, some to absolute perfect imitation. (Szadrowsky 1869: 635)

Szadrowsky notes that in imitating the Tyrolean style, "the softness and warm intimacy of the performance" is lost and that the Swiss yodel's "claim to originality" as well as its own characteristic "passion for freedom" disappears (1869: 635). He regrets not being able to show this on the basis of musical examples, for which the *Sonntagspost* is "not suitable," but pleads that the two "performance styles…remain strictly separate; what the one enhances the other can kill" (1869: 635). According to Szadrowsky, the originality of the two yodeling types would be lost by mixing the two styles.[20] Szadrowsky discusses the Tyrolean style in a biased manner:

> They [The Swiss yodelers] have a yodel, albeit somewhat harsher on the whole, yet fresher, cheekier and more original, which as a piece in and of itself is far more interesting than the most beautiful and artificially flamboyant Tyrol yodel… (Szadrowsky 1869: 636)

Formal criteria are at the forefront of his critique, while the virtuosity of yodeling seems to form a secondary criterion. Although Szadrowsky complains about the "wandering Tyrol yodel virtuosos, how they present themselves in the inns" (Szadrowsky 1869: 636), he is not disturbed by the virtuosity of the yodel performance from Appenzell:

> The women yodelers from Appenzell adhered to the original Appenzell yodel without spoiling it with borrowed motifs. If the solo yodeler has also touched the utmost limit with her rich, clarinet-like yodeling motifs, this is not to be criticized, because it happened on the ground of great virtuosity in yodeling. Above all, the choir of

19 The aforementioned melody of the alphorn player Hauptmann Vogel from Glarus has not yet been found.

20 "As could be observed in Siebnen, a few bars of a Tyrol Ländler melody forced themselves into the yodel, followed by partly Tyrol yodel motifs, partly fragments of Swiss yodeling style. So a mixture, a strange composition of three different forms, which partly do not belong to each other at all, partly do not fit together. The Swiss yodel knows no song form, least of all that of a slow Ländler song. This is quite Tyrolean-national. Now this Ländler song motif is imported into the Swiss yodel, but sung at a fast, moving tempo" (Szadrowsky 1869: 635).

> Appenzell yodeling women offered much of interest, especially the well-known "Appenzeller Kuhreihen," which was sung with surprising precision and rewarded with abundant applause. (Szadrowsky 1869: 636)

It is possible that the choir of the Appenzell yodeling women performed the well-known *Appenzeller Sennenlied* by Tobler (cf. p. 107) at this festival in Siebnen, which contains parts of the Kuhreihen of Brogerin from 1730 (cf. p. 51). Szadrowsky does not point to a direct musical connection between the alphorn and yodeling. A relationship exists in the type of performance by way of competition events at alpine festivals, where both yodeling and alphorn playing are ranked. Szadrowsky was convinced that a regular implementation of such alpine festivals, with competitive performances and more valuable awards for the winners, would provide an incentive to engage more intensively with the yodel and the alphorn (Szadrowsky 1869: 636).

The composer Ernst Heim describes similar scenes when he visited an annual Sennenkilbi[21] in the Wägital (canton of Schwyz) in September 1876, where the alpine herdsmen met for competition after the morning mass to challenge each other in "yodeling and alphorn playing contests" (Heim 1881b: 107). As the reason for the participation of only six competitive players, Heim cites the bad weather which did not allow for the Glarus and Muotatal players to travel over the snowy mountains (Heim 1881b: 107). In the *Schweizerischen Musikzeitung* (Swiss Music Newspaper) in 1881, Heim published "some alphorn melodies… as they can still be heard today [1881] in Switzerland" (1881a: 100), including three melodies which he transcribed in the Wägital in 1876. These are probably alphorn tunes that were performed at the Sennenkilbi (Fig. 39).

The three notations show both the alphorn-fa (11th natural tone) and the $b\flat^{1}$ (7th natural tone). Heim's remark that the alphorn-fa sounded more like an *f* on some horns shows how different the intonation of the intervals could have been for the instruments of that time (cf. Fig. 39, Commentary on Melody No. 5).

Heim noticed the poor quality of the horns at this festival and he arranged for the Uto (Zurich) section[22]of the Swiss Alpine Club (SAC) to approve a loan of 300 francs to have eight alphorns manufactured by Alois Marti in Hergiswil (Heim 1881b: 107). On 24 February 1880, Heim loaned the instruments to the Muotathal alpine herdsmen Augustin Föhn, Jacob Betschart, Franz Domini Imhof, Domini Suter, Franz Anton Gwerder, Alois Suter, Melchior Bettschart and Franz Imhof (Heim 1883: 229), whereby the trumpeter and brass music conductor Betschard[23] took over the "office of instructor" (Heim 1881b: 108, Heim 1883: 230). Fifteen

21 "Sennenkilbi" (also: "Sennenchilbi") in Switzerland refers to alpine herdsmen and shepherd festivals with music and dancing, usually on the alp.

22 The Swiss Alpine Club (Schweizer Alpen-Club), abbreviated in English and German as SAC, was founded in 1863 and is the largest mountaineering club in Switzerland. It consists of many individual "sections" or what are often called "local chapters" of clubs in the U.S.

23 The spelling of the surname varies, Heim writes either "Bettschart" (Heim 1881b: 108) or "Melchior Betschard" (Heim 1883: 229).

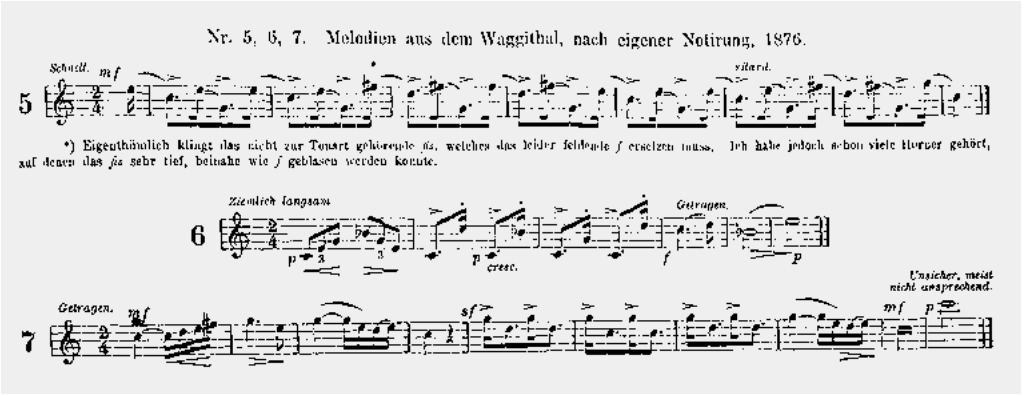

Fig. 39: *Melodies from the Wäggithal* which Heim transcribed himself in 1876 (Heim 1881a: 101).

months later, on 5 June 1881, the Uto section held a competition in Muotathal, where "city dwellers and the people of the countryside…many in number" had gathered (Heim 1881b: 108). Seven contenders lined up after lunch in front of a beech forest and competed in alphorn playing.

Bachmann-Geiser published a privately owned scoring table for this alphorn competition (1999: 57, cf. Fig. 40). The names of the competitors are listed vertically on the left side of the table, the evaluation criteria are listed horizontally in the following categories: "Quality of the tone," "Purity," "Expression," "Technical skill" and "Richness of melody."[24] Although the jury was not named, Heim (1881b: 108) mentioned that the "referees" involved some members of the Uto section and an alphorn player of advanced age from Glarus.[25]

Each competitor performed three melodies (Heim 1881b: 108), which facilitated a separate evaluation of each alphorn tune owing to the tripartite division of the evaluation criteria.[26] Heim describes the process of the alphorn competition as follows:

> After everyone had played three times and at the end a successful attempt of playing the 7 horns together, after a short deliberation the referees opened their decision,

24 Heim names only seven players who competed in the contest. However, eight alphorns were financed by the Uto section, and also the scoring table (cf. Fig. 40) shows eight names. With the exception of Joseph Suter, who appeared to replace Alois Suter, the aforementioned competitors correspond to the eight alpine herdsmen to whom Marti's alphorns were loaned on 24 February 1880.

25 The old alphorn player from Glarus could be the already mentioned "Hrn. Hauptmann Vogel," who already appeared as a competitor at the alpine festival in Siebnen in 1869 and was honorably commended (cf. p. 133).

26 It would also be possible that the tripartite division for the assessment was carried out by three different judges.

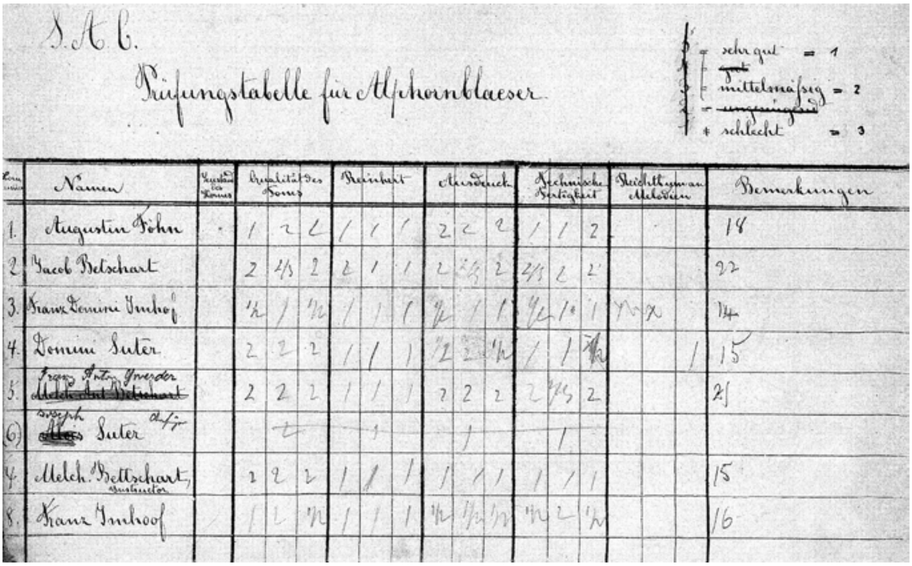

Fig. 40: Scoring table of the alphorn playing competition in Muotathal from 5 June 1881 (Bachmann-Geiser 1999: 57).

> wherein was recorded that all 7 players from the Uto section would be given the horn they played as a reward for their competent performances. (Heim 1881b: 108)

The fact that at the end of the competition a successful joint playing of seven alphorns was presented is astonishing, since the alphorn was used almost exclusively as a solo instrument at that time. It can be assumed that Marti used the same templates and measurements for the production of the alphorns, which would allow for them to be played together.[27] A first professionalization[28] of instrument making is emerging here, but it remains unclear whether in Muotathal the Büchel was played exclusively. In addition to the alphorns, each participant received a certificate with a detailed critique, which was formulated for Franz Imhof as follows:

> Imhof has a full, soft tone and knows how to play a lot of yodels. His melodies, and especially the way he plays them, are really alphorn-like. The undersigned hope that he will continue his play diligently and seek opportunity to teach and encourage others. (Heim 1881b: 108)

27 An image with alphorns, fabricated by Marti, can be found at Heim (1881a: 99).

28 On professionalization, Heim writes: “In 1873 I visited an alphorn carver in Studen, in the upper Sihlthal, who played well himself and had sold various horns to alpine herdsmen in the Muotathal and Wäggithal. Horns are also fabricated in Schwyz and Glarus. The best horns, built with the utmost care and expertise, are made by the above-mentioned carpenter Marti in Hergiswil” (Heim 1881b: 107).

This criticism contains two relevant formulations: On the one hand, Imhof was able to play a large number of "yodels" on the alphorn; on the other hand, he is said to have played his melodies "alphorn-like" (Heim 1881b: 108). This proves that yodel melodies were played on the alphorn or the Büchel, but the question remains unanswered as to what is meant by "alphorn-like."

The desire of the Uto section of the SAC that alphorn playing would spread as a result of the competition in Muotathal (1881) and the free distribution of the instruments seemed to have been fulfilled, since Heim wrote in 1883: "Reports which I have since received directly and indirectly from Muottathal state that alphorn playing has become established there and also other alpine herdsmen have acquired horns at their own expense from Marti in Hergiswyl and Vogel in Glarus" (Heim 1883: 229). Heim mentions that a yodeling competition took place at this festival; whether this was evaluated with a scoring table as well as the alphorn playing remains open. Inspired by the success in Muotathal, the Uto section of S.A.C intended to broaden the area for the revitalization projects of the alphorn. In December 1881, Heim visited the Weisstannental (Canton of St. Gallen), where he directly met with fifteen men who wanted to learn to play the alphorn. With the support of the future alphorn teacher Joseph Schneider, Heim selected eight candidates (Heim 1883: 230). Marti completed eight instruments in May of the following year, and Heim brought them to Weisstannen to hand them over to the alpine herdsmen Josef Schneider, Johann Grünenfelder, Josef Pfiffner, Schneider am Port, Josef Albrecht, Eduard Tschirgi, Johann Bleisch and Anton Tschirgi (Heim 1883: 230).

After seven months, at the end of December 1882, Heim and his wife traveled to the Weisstannental to check on the progress of the alphorn players. He was disappointed, but admitted that there was less time to practice than in Muotathal, because during the summer months the alpine herdsmen on their alps were far away from each other and so busy with their work that there was no time to practice. Heim did ascertain that some progress had been made, "but absolutely insufficient to be able to count on an alphorn playing competition in the Spring" (Heim 1883: 231). Nevertheless, Heim was convinced that an extension of the learning time would bring the same success as in Muotathal (Heim 1883: 231). Unfortunately, there is no information on the further course of the alphorn promotion project in the Weisstannental.

Summary

About 60 years after the first Unspunnen festivals, an alpine festival with various alphorn players and both female and male yodelers took place in Siebnen, a "fine and pleasing number" of participants (Szadrowsky 1869: 635). However, the correspondent Szadrowsky describes their music and instruments as deficient, the quality of alphorn music unacceptable, as only in few cases it rises above "post horn fanfares" and moves in the easier to play, lower register of the alphorn. In

addition, he is bothered by the influence of the Tyrolean yodel (Szadrowsky 1869: 635).

The Sennenkilbi in the Wägital and the competition playing in Muotathal delighted the Uto section, since the initiators achieved the targeted goal of promoting alphorn playing. At these festivals yodeling was also performed along with alphorn playing. Heim conducted another incentive measure in 1881 and 1882 in the Weisstannental, where eight alpine herdsmen received an alphorn to learn to play. According to Heim, the results were modest and insufficient for organizing an alphorn playing competition in the Weisstannental (Heim 1883: 231).

At the alpine festivals, yodelers of both genders came together with alphorn players. Based on the many complete lists of alphorn players by name in these promotional activities, it stands out that the alphorn was apparently played exclusively by men in this setting and at this time. The festivals offered an opportunity for an exchange, but whether this resulted in a transfer of musical elements from one type of music to the other is questionable. Nevertheless, the organization of festivals that combine alphorn playing and yodeling was ground-breaking for the future.

Chapter 8: The connection between alphorn music and yodeling through the Federal Yodeling Association

While the number of active alphorn players and yodelers remained relatively low in Switzerland in the 19th century, it increased continuously in the 20th century. This was due in particular to the Federal Yodeling Association (EJV),[1] which to this day strives to preserve and foster Swiss traditions such as yodeling, alphorn playing and flag-throwing. These efforts of the EJV were and still are decisive for the flourishing of today's yodeling and alphorn landscape in Switzerland. Founded in 1910, the Federal Yodeling Association is made up of five regional sub-associations that counted over 20,000 registered members in 2018 (EJV [ed.] 2018: 21).[2]

Already in the founding period of the EJV, the networking of yodel and alphorn was promoted, in particular through the engagement of the passionate yodeler and creator of yodel songs Oskar Friedrich Schmalz (1881–1960). The lexicon of the Swiss Federal Yodeling Conductors' and Composers' Association (ejdkv.ch) states: "In fact, Oskar Friedrich Schmalz must be described as 'yodel father' in the fullest sense of the word" (ejdkv 2007: n.p.). Together with his brother Franz and the Swiss wrestlers Hans Stucki, Gottlieb Schild and Ernst Bieri, Schmalz founded a yodel quintet, in which he participated in the Unspunnenfest of 1905 (EJV/BKJV [ed.] 1951: 16). Five years later, Schmalz had an experience that moved him to advocate for the yodel song and take steps to counter the neglect of the Swiss folk song. On an excursion to the Napf,[3] Schmalz met Bernese students, whom he asked to sing a song from the homeland. The students thereupon sang "An der Saale hellem Strande, stehen Burgen stolz und kühn" (On the bright shore of the Saale [River] stand fortresses proud and bold) (EJV/BKJV 1951: 19) by the German historian Franz Theodor Kugler (1808–1858). Schmalz was disappointed that the students could not sing songs from their own region.[4]

Schmalz sent an *Einladung zur Gründung einer schweizerischen Jodlervereinigung* (invitation to found a Swiss yodeling association) to like-minded people, which on 8 May 1910 led to "a throng of 64 yodelers" and a few alphorn players who came together to establish the organization and to entrust the newly elected board with the task of "preparing the first bylaws with inclusion of the alphorn

1 Eidgenössischer Jodlerverband, translated here Federal Yodeling Association. Cf. p. 11 at footnote 1.

2 The association was founded in 1910 under the name Schweizerische Jodlervereinigung (Swiss Yodel Organization) and renamed Eidgenössischer Jodlerverband (Federal Yodeling Association) in 1932.

3 A mountain in the region of the Upper Emmental between Bern and Lucerne.

4 The Saale lies in the southern German regions of Franconia (Bavaria) and Thuringia.

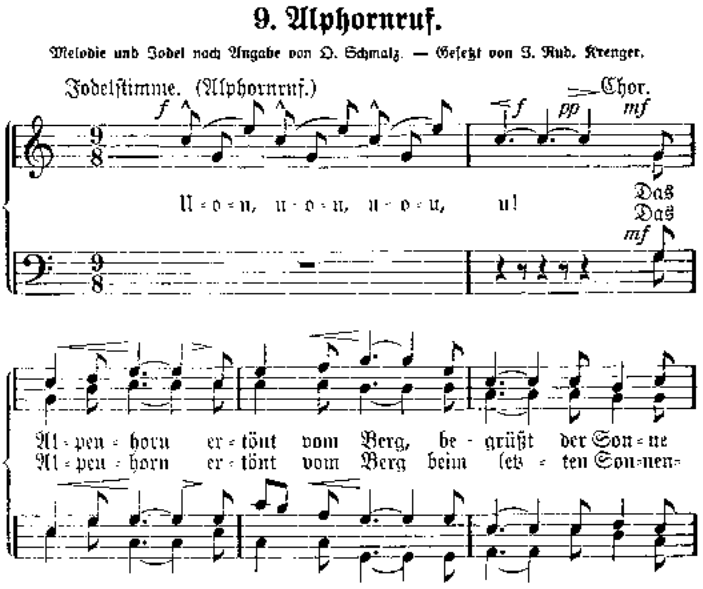

Fig. 41: The first five bars from the yodel song *Alphornruf* (Alphorn Call) (Schmalz/Krenger 1918: 26).

players" (EJV/BKJV 1951: 19). As a goal of the association Schmalz named, among others, the "promotion of our national peculiarities of yodeling in itself and as part of songs, as well as in alphorn playing" (Schmalz/Krenger 1913: 13). For the first time, yodeling and alphorn playing were cultivated in the same association, and the members were able to exchange ideas about their music. For the inclusion of the alphorn players, Schmalz drew on the support of his colleague Krenger, who at the time saw the alphorn in the process of disappearing:

> Unfortunately, there is no denying that in today's world the alphorn is in danger of disappearing in our country. The struggle that began years ago against the deplorable custom of alphorn players begging at busy tourist places and Alpine passes has probably ended successfully almost everywhere today. But, therewith the art of alphorn playing has unfortunately also considerably declined. (Krenger 1921: 5)

In order to support the revival of the alphorn and yodeling in the first half of the 20th century, Schmalz published a total of seven volumes of yodel songs under the title *Bi üs im Bärnerland* (Here in our Bernese Land) between 1913 and 1931. Krenger contributed to several volumes as a composer and also distinguished himself through his publications on the alphorn (Krenger 1921, 1924). The collaboration of the yodel and alphorn experts Schmalz and Krenger suggests an intersection of alphorn and yodel music, which can be illustrated with the composition *Alphornruf* from 1918, to which Schmalz wrote the yodel melodies and Krenger the choral notation (Fig. 41).

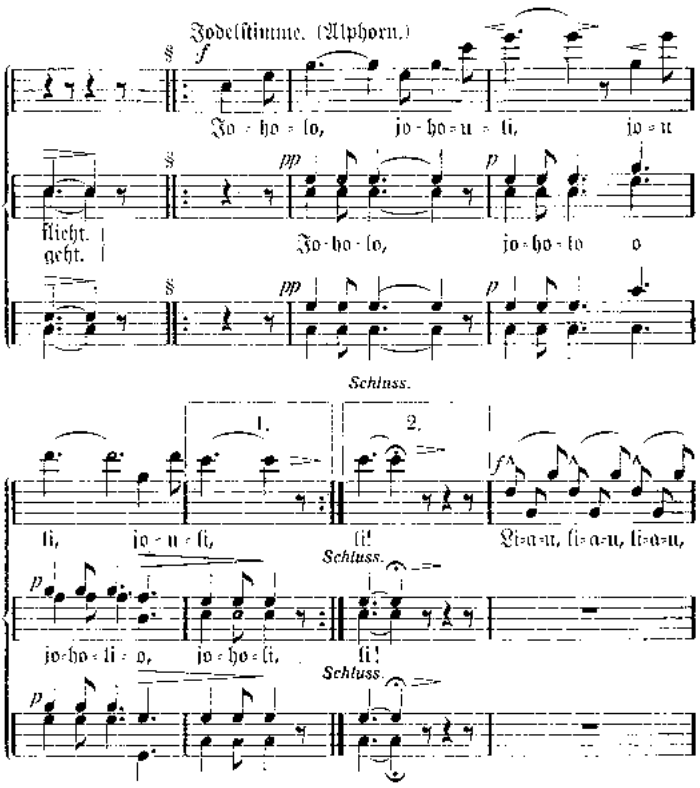

Fig. 42: Yodel from the yodel song *Alphornruf* (Schmalz/Krenger 1918: 28).

The piece begins with a short yodel solo imitating the alphorn, based on triad motifs which, transferred to the alphorn, correspond to the 3rd, 4th, and 5th natural tone (transposed down by an octave) and are performed *legato*. Undoubtedly, an alignment with the sound and phrasing of the alphorn is intended here. The short alphorn call in the yodel voice ends on a long final note with a crescendo and decrescendo and is to be understood as a further parallel to the tonality of the alphorn. The four-part stanza is followed by a yodel with the indication "Yodel voice. (Alphorn.)" (Schmalz/Krenger 1918: 28) (Fig. 42).

Above the four-part choral staves is a high yodel voice, again imitating the alphorn. It could be played completely on the alphorn, since it is based only on the tonal inventory of the scale from the 5th to the 8th natural tone (the notation must be read one octave lower for the alphorn).

Schmalz and Krenger aimed for a combination of alphorn music and yodel, which is expressed in their compositions as well as in their appreciation of Huber's work. Several of Huber's yodel songs were republished or set to new music by Schmalz and Krenger. For example, the yodel song *Meh dass äbbe* that begins with an alphorn tune was published by Schmalz and Krenger in 1913 with a new

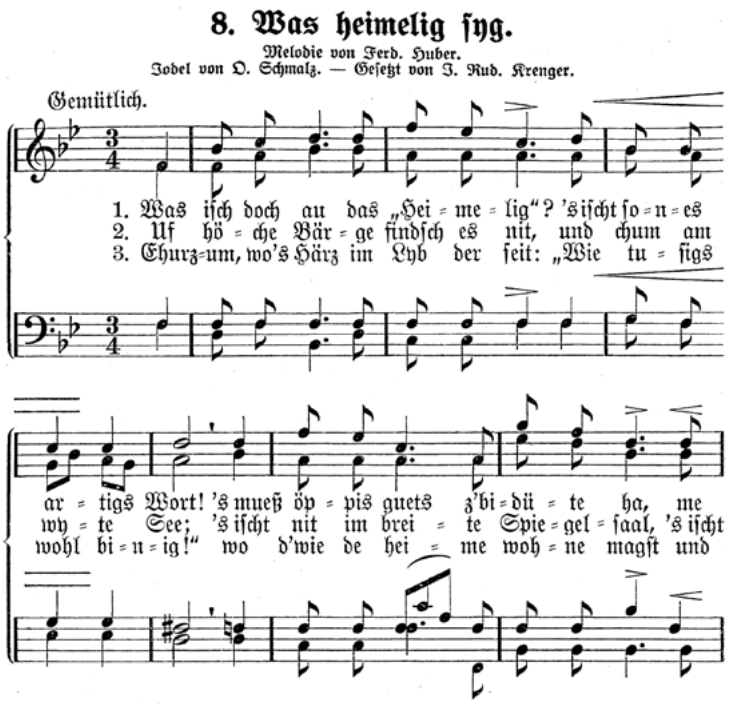

Fig. 43: First six bars of the yodel song *Was heimelig syg* (Schmalz/Krenger 1913: 41).

melody under the title *Wie baas isch mir da obe* (How Well I Am up Here) in the first volume of their folk and yodel song collection *Bi üs im Bärnerland*. In his accompanying text to this collection, Schmalz writes that Huber "was owed many thanks" for "the musical improvements in the last editions" of the *Collections of Swiss Kuhreihen and Folk Songs* (Schmalz/Krenger 1913: 6). In the yodel song *Was heimelig syg* (What Is Homey), which also appeared in 1913 in the first volume of *Bi üs im Bärnerland*, Krenger and Schmalz state that the melody originated with Huber (Fig. 43).

The song composed by Huber appeared in the *Kuhreihen Collections* in 1826 with the same melody (Wyss 1826a: 42). The beginning in the soprano part shows a characteristic alphorn melody, which can be played in the notated form on the instrument (cf. Fig. 43, bars 1–4). Not only their compositions connect Schmalz and Krenger with Huber, but also their activities for the promotion of the alphorn and yodeling show parallels to those of Huber in various aspects. Eleven years after the founding of the EJV, Schmalz worked intensively for the revival of the alphorn in the Emmental and the Bernese Oberland. To this end, together with friends, he founded the first Alphorn Commission of the Emmental (EJV/BKJV [ed.] 1951: 32). Just as Franz Niklaus König had organized a collection of funds

at the beginning of the 19th century to acquire the means for conducting alphorn courses, Schmalz also collected donations for this purpose. The main sponsor Bruno Kaiser (1877–1941) wrote on 21 January 1921:

> The highly esteemed singer and meritorious composer Oskar Schmalz has today informed me of his wish and ambition to save alphorn playing from demise: Since I have absolute confidence in the selfless work of Mr. Schmalz, I hereby hand over Fr. 3000.– (three thousand) to him as the groundwork for the realization of his plan. Half of the amount is to be used for the purchase of alphorns, the other half for conducting training courses. (Kaiser, quoted from EJV/BKJV 1951: 35)

On 8 October 1921, under Krenger's direction, the first alphorn course took place in Trub in the Emmental with twelve young men, to whom the alphorns were distributed free of charge (Krenger 1924: 179). The course was pedagogically successful, "many of the course participants showed rather quickly a commendable proficiency in playing" (Krenger 1924: 180). In the following year, an alphorn course was held again. "In addition to the ten new horns distributed in 1921 came… others for distribution, so that…in the Emmental over twenty instruments were in use" (Krenger 1924: 180). Krenger himself also recognized parallels between his and Huber's efforts to prevent the alphorn from vanishing:

> But it is also known that almost a hundred years ago the same phenomenon came to light, and that at the instigation of a Landamman [chief magistrate] von Müllinen, in 1826 *Ferdinand Huber*, still known today as a song composer and music teacher at the Fellenberg Institute at Hofwil, organized successful attempts to counter this phenomenon. (Krenger 1924: 178, emphasis original)

Furthermore, Krenger found the absence of Huber's practice melodies lamentable and all the "more regrettable, since certainly a number of Huber's melodies would have been worthy of permanent preservation" (Krenger 1924: 178). In 1921, Krenger published a first exercise book for alphorn players with the purpose of "serving as a short guide for budding alphorn players to learn how to play the alphorn" (Krenger 1921: 6). Not only did Krenger for the first time publish alphorn melodies and exercise books for the instrument, the two friends also committed themselves to the development of the yodel song.

The imitation of the alphorn by the human voice, as it occurs with Schmalz and Krenger, set a precedent at the beginning of the 20th century. However, it was not limited to yodel songs, but was also used in other compositions based on a natural tone melody. In his composition *Alphorntön'* (Alphorn Sounds) from 1902, which stands in the key of F major as is typical of alphorn music and yodels, the singing teacher and composer Fritz Schneeberger (1843–1906), for instance, has the first soprano part imitate the tonality of the alphorn (Fig. 44).

The soprano part would be playable on the alphorn in the register between the 6th and the 13th natural tone. Even the lowest part imitates tone degrees of the alphorn, which in the natural tone series would include the range from the 6th to the 12th natural tone, or on an alphorn half as long from the 3rd to 6th natural tone. Similar to the previously discussed compositions by Schmalz and

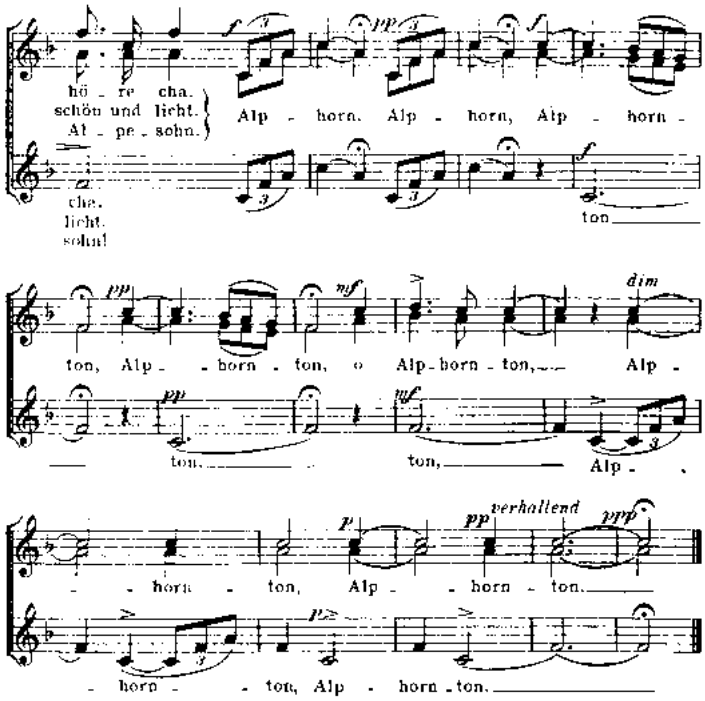

Fig. 44: Refrain of the song *Alphorntön'* (Schneeberger 1902: 3).

Krenger, the sounds of the outdoor wind instrument are imitated and the final note is to be sung "fading away [as an echo]" (Schneeberger 1902: 3).

Summary

The collaboration of the yodel composers and alphorn lovers Schmalz and Krenger confirms the alliance between yodel and alphorn music in the first half of the 20th century: "Since yodeling and alphorn playing have always belonged together, it is not surprising that these two men in particular campaigned for the reintroduction of the alphorn" (Stuker [ed.] 1960: 127). The activities of Schmalz and Krenger concentrated mainly on the Canton of Bern: They focused their song book series *Bi us im Bärnerland* on the Bern region and with their alphorn courses they specifically promoted alphorn playing in the Emmental and Bernese Oberland (Stuker [ed.] 1960: 127). Accordingly, there is no other Swiss "yodel region" with a comparable number of published yodel songs, which in turn has had an impact on the development of the Bernese yodel over the last hundred years. Schmalz and Krenger intended to emphasize the Swiss elements in the folk songs and yodel songs in order to distinguish them from the contemporary popular Tyrolean folk songs with yodel parts. To this end, they wrote their own yodel songs, which in some cases contain sequences with alphorn melodics.

Connection between Alphorn and Yodel with Alfred Leonz Gassmann

Alfred Leonz Gassmann (1876–1962) worked as a primary school teacher in Weggis, studied music in Lucerne, Zurich and Geneva and then worked as a music teacher (Schöb 2005: n.p.). He applied his interests to the yodel and alphorn music. Like Krenger and Schmalz, Gassmann wrote yodel songs and campaigned for the revival of the alphorn. He formulated his attempt to explain the folk song of Switzerland from the landscape (landforms, climate) in his *Tonpsychologie des Schweizer Volksliedes* (Tone Psychology of the Swiss Folk Song) (1936). Here he explains the large intervals in the yodel as a reflection of the Alpine panorama with its steep mountains and valleys (Gassmann 1936: 46, cf. p. 34 "Reflection hypothesis").[5] Gassmann sees in a specific triad motif the "archetype" of yodeling and the "psychological secret of the Swiss natural song" (Gassmann 1936: 15).

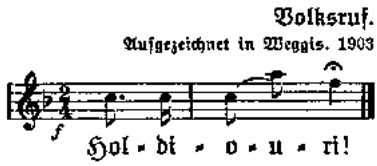

Fig. 45: "Archetype" of the yodel according to Gassmann (1936: 15).

Gassmann explains the emergence of this call motif with the "echo hypothesis" (Haid 2006: 50, Baumann 1976: 99, cf. p. 34), which states that yodeling arose from the echo of the Jauchzer;[6] the echo prolongs the tones of the Jauchzer and thus resounds a triad, which is said to have inspired yodel melodics.

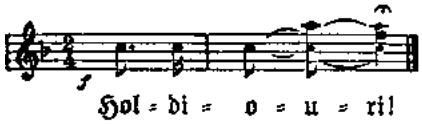

Fig. 46: "Archetype" of the yodel call with notation of the echo sound (Gassmann 1936: 16).

The melody sung here corresponds to that of the yodel call in Figure 45, with Gassmann notating the sounds of the echo with smaller note heads (c^2, a^2). This

5 Gassmann, moreover, followed an eccentric view of the late 19th century. He assumed that the pitches and even the harmonies produced by waterfalls could be determined and that these had passed into the yodel (Gassmann 1936: 9). The hypothesis that the waterfalls constantly rush in C major was put forward by Ernst Heim's brother, the Swiss climatologist Albert Heim (1849–1937) (cf. Heim 1873).

6 A Jauchzer is a loud cry of joy or excitement, a "whoops" or cheer.

"beautiful" sound (six-four chord) is said to have inspired the triad melodics of yodeling. As an example of a variation of this "archetype," Gassmann cites a transcription of a call from the Rigi, which he notated in 1904:

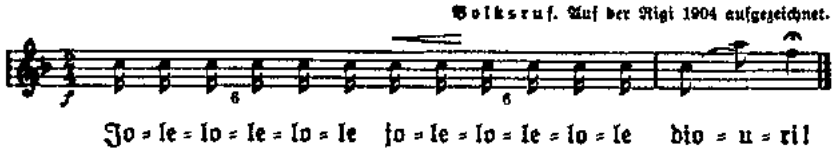

Fig. 47: *Folk call* based on a six-four chord, notated on the Rigi (Gassmann 1936: 16).

Gassmann regards the same motif as a fundamental aesthetic principle for both the alphorn and yodeling. "According to this archetype of the Swiss folk song, we also know a stereotypical phrase of Swiss alphorn melodies" (Gassmann 1936: 16):

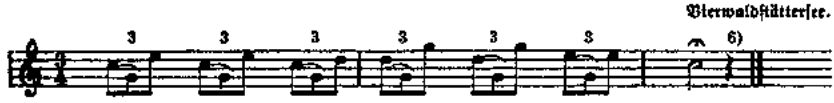

Fig. 48: The "stereotypical phrase of Swiss alphorn melodies" according to Gassmann (1936: 16).

Gassmann was the first to use clearly prescribed echo sections in his alphorn compositions (Sommer 1994: 8). In his 1938 collection of alphorn melodies, *S'Alphornbüechli*, he published traditional melodies and his own compositions, about half of them with echo sections. In some compositions, for example in the *Frutt-Kuhreihen* (Gassmann 1938: 49), he notated such places with the designation "Echo." A further innovation of Gassmann can be seen in the compositions of two- and three-part alphorn pieces that are located in the back of the *Alphornbüechli* (Gassmann 1938: 94). The only older notation for a polyphonic alphorn ensemble is the already mentioned interlude on the occasion of the Archduke Johann Festival in Basel in 1815 (cf. p. 81).

Gassmann's knowledge of alphorn music inspired him to integrate certain melodious forms of alphorn music in his yodel compositions and his transcriptions of orally transmitted yodels. In 1913, Gassmann published the extensive songbook *s' Alphorn. 100 echte Volkslieder, Jodel und Gsätzli* with the title song *s'Alphorn*. After the song verse "Da klingt ein Ton so leise wie Himmelsmelodie; das ist des Alphorns Weise" (There sounds a tone as quiet as a celestial melody; that is the song of the alphorn) (Gassmann 1913: 1), the yodel refrain directly follows:

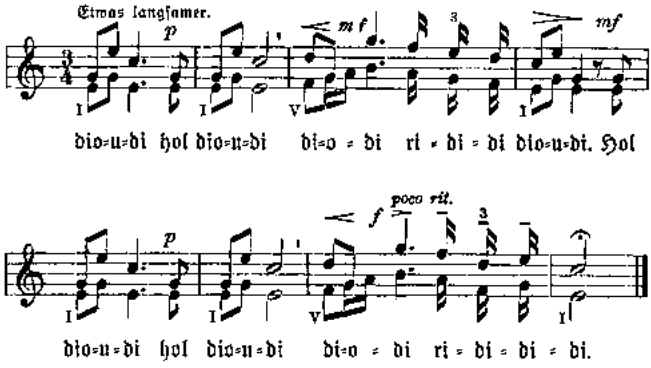

Fig. 49: Yodel in the song *s'Alphorn* by Gassmann (1913: 2).

The melody of this yodel refrain moves in the natural tone series in the usual range of the alphorn, from the 6th to the 12th natural tone, and contains the alphorn-fa (bars 3 and 7). In bars 1, 2, 5 and 6, Gassmann incorporates his "archetype" of the yodel (cf. Fig. 45). At the end, the well-known "Lobe" motif from the Betruf is heard.

In some of his transcriptions of traditional yodels, Gassmann draws special attention to the alphorn-fa, for example in the *Lockruf der Schwyzer Älpler I* (Lure-Call of the Schwyz Alpine Herdsman I) (Gassmann 1961: 183) or in the *Lothebach-Jodel* (Gassmann 1961: 185). In both yodels notated in 1925 in Goldau, he uses a +.

The use of the alphorn-fa in the one-line octave and two-line octave can be understood as an abstraction of this scale degree from its instrumental context. The "flattened Lydian fourth," as Gassmann (1961: Preface) also calls the alphorn-fa, is incorporated in the yodel even if, on account of the intervals, the melody would not be playable on an alphorn (cf. Fig. 50 and 51). The fact that Gassmann notates the alphorn-fa in two different octaves shows his creative handling of this interval. The use of the alphorn-fa as a style-defining melodic element, yet without limiting the melody to the natural tone series, may be taken as meaning that the alphorn-fa has emancipated itself from the context of the natural tone scale and is consciously used as a stylistic device in vocal music (cf. Influence D, p. 172). Gassmann (1961: 309) wrote:

> The Schwyz yodel resonates with the yodel of the Appenzellerland with the preference for the alphorn-fa (the sharpened fourth degree). …The fermatas are held for an exceptionally long time; this along with the many alphorn-fas makes this yodel sound so melancholic and reminds of many Appenzell yodel melodies. (Gassmann 1961: 309

According to Gassmann, the alphorn-fa occurs in the Schwyz and Appenzell yodels, where he understands this interval as part of the Lydian mode and associates it with the alphorn (cf. Influence E, p. 172). With the focus on this type of yodel, Gassmann clearly distanced himself from the style of the Tyrolean

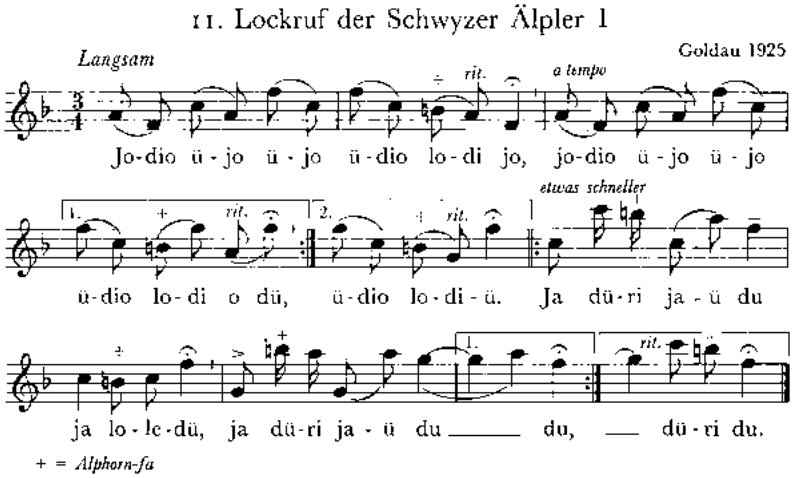

Fig. 50: *Lockruf der Schwyzer Älpler I* (Gassmann 1961: 183).

salon yodel. Instead, he tried to make the melodies simpler and criticized the virtuoso yodeling style of the 19th century. "However, our folk singers could not befriend Huber's highly ornamented melody," Gassmann wrote in reference to the *Geissreihen*, which he published with another melody that was popular at the yodeling festivals (Gassmann 1961: 289).[7]

Summary

Gassmann tried to derive the origin of musical calls from nature. The discovery of the echo and the harmony of successively called tones to the consonant chord is said to have established triad harmonics. He combined this melodics with that of the alphorn and yodel. After Krenger, Gassmann was the next composer to deliver an extensive collection of alphorn pieces (Gassmann 1938), from which people still today enjoy playing. In Gassmann's music book, two- and three-part compositions appear for the first time. As already documented with Huber, Schmalz and Krenger, alphorn melodics was also incorporated into Gassmann's yodel compositions. He explicitly notated the alphorn-fa in some of his yodel transcriptions and at the same time emancipated it by removing it from the natural tone series and embedding it in diatonic yodel melodies.

7 Huber's yodel song *Geissreihen* appeared for the first time in the 1826 *Kuhreihen Collection* of Wyss (1826a: 39).

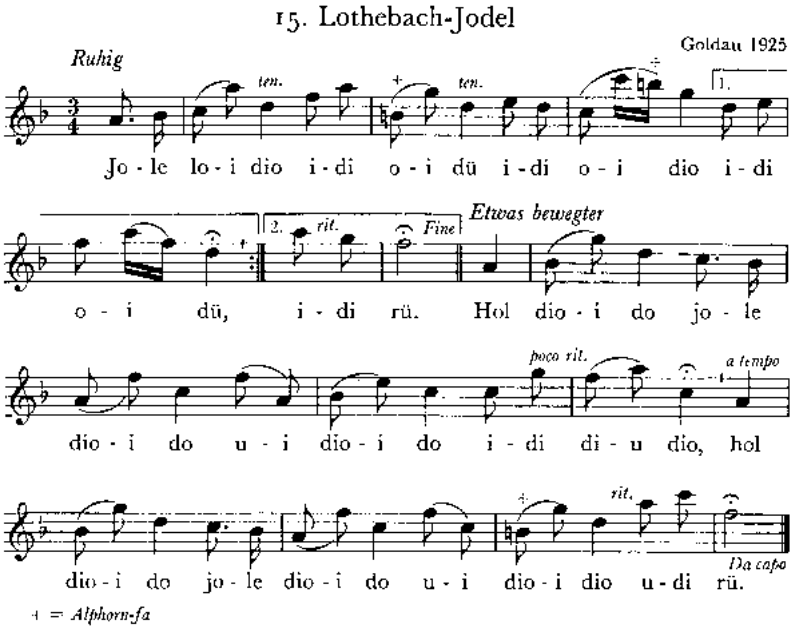

Fig. 51: *Lothebach-Jodel* (Gassmann 1961: 185).

Robert Fellmann and Heinrich Leuthold on the Alphorn-fa in the Yodel

Before and during the Second World War, yodeling and the alphorn in Switzerland were assigned an identity-forming role, and both musical practices were exploited as unique expressions of Swiss folk culture for the "spiritual national defense."[8] It was during this period, in 1943, that the EJV published its first yodeling method. Written by the yodel conductor and composer Robert Fellmann (1885–1964), this *Schulungsgrundlage für Jodlerinnen and Jodler* (Foundational Course for Women and Men Yodelers) (Fellmann 1943) represents a turning point in the development of yodeling in Switzerland. Fellmann connected ideologically to Gassmann's constructions of yodel and landscape, but relativized them in order to highlight his own personal views and ideas. Fellmann's *Schulungsgrundlage* with its practical and pedagogical advice, still valued by yodelers throughout Switzerland, includes the notation of a Toggenburg natural yodel with alphorn-fa.

8 German: "Geistige Landesverteidigung." "Geistig" relates to thought, mind, attitude, psyche and only in these senses "spiritual" as opposed to "geistlich" which is spiritual in a religious sense. The "spiritual national defense" was a political-cultural movement in Switzerland designed to strengthen and protect Swiss values and customs.

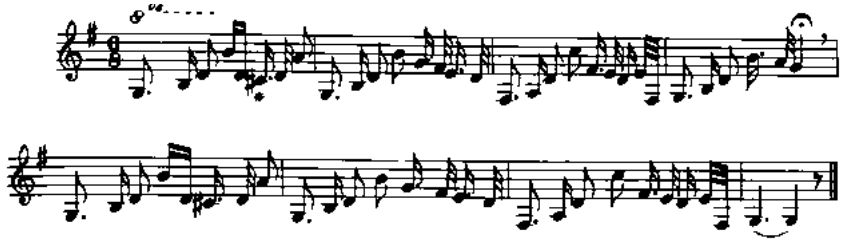

Fig. 52: *Toggeburger yodel*, transcribed by Fellmann (1943: 13).

For this yodel, Fellmann explains the use of the alphorn-fa and its effect on the Swiss population: "Folk melody handed down by night watchman G. Schweizer from Ebnat, transcribed by H. Hunziker. The use of the alphorn-fa in the yodel melody is unfortunately rare today. Aptly incorporated, the tone has an unusually poignant effect on the soul of the Swiss people" (Fellmann 1943: 13). In 1948, five years after his *Schulungsgrundlage*, Fellmann defended the use of the alphorn-fa in yodel as part of a presentation to the Federal Referee Course in Bern, organized by the EJV; there he tried to enlighten the participants about the origin and tonality of alphorn melodies in the yodel. Fellmann explains the use of the alphorn-fa in natural yodel against a music-theoretical background:

> An alphorn tuned in C has only one tone for *f*# and *f*. This peculiarity, which lies in the nature and constitution of the alphorn, has been transferred to singing (yodel). These are the yodels wherein the underlying tonic major triad consistently increases the fourth degree (fa) by half a tone… We meet the alphorn-fa in a melody always in the V^7 chord and always leading downwards. Never upwards! …I bid farewell to this topic with the wish that yodels with the alphorn-fa are again honored and duly acknowledged by the referees. (Fellmann 1948: 28)

Fellmann advocated the use of the alphorn-fa, and his *Schulungsgrundlage* helped the Swiss natural yodel to develop into its present form. It is aimed at learners so as to facilitate their introduction to yodeling. Fellmann's suggestions, however, were understood by many yodelers as rules and thus as formative, which displeased Fellmann (Fellmann 1948: 31). Nevertheless, locally specific peculiarities of the natural yodel were preserved, as they continued to be passed on primarily from "mouth to ear." A generation after Fellmann, the natural yodel expert Heinrich Leuthold was particularly committed to the preservation of regional yodeling styles.

After his training as a teacher and organist, Leuthold concentrated on natural yodeling and gained considerable influence on the general understanding of the natural yodel through his many years as a juror at the EJV (then "referee"). He brought together his great knowledge in 1981 in his book *Der Naturjodel in der Schweiz* (Leuthold 1981), in which he formulated his own views on the origin and use of the alphorn-fa in natural yodel. He postulated the idea that, similar

to the overblowing of the alphorn, the voice also jumps to an overtone when it breaks between registers (Leuthold 1981: 36, cf. p. 33).

Against Leuthold's physiological explanation of the alphorn-fa, however, is the observation that the same yodelers who intonate the fourth degree in most melodies as an equal-tempered pitch, in certain cases incorporate an alphorn-fa into the melody, which leads to a music-aesthetical explanation of the alphorn-fa as a stylistic device. Accordingly, the regional peculiarity, whether yodeling with or without alphorn-fa, is based on an aesthetic musical feeling of the yodelers of the respective regions. Since the regions of Switzerland have different yodeling styles and the relationship to the alphorn varies from region to region, these must be considered in more detail.

Yodel Styles within Switzerland

As early as the 19th century, Szadrowsky distinguished three "basic types" of yodeling: "the Appenzeller Gesang, the Berner Oberländer and the Vaudois Gesang" (Szadrowsky 1864: 512). In this subdivision, Szadrowsky did not list Central Switzerland, an area in which yodeling and alphorn culture is very active today.

In his *Schulungsgrundlage*, Fellmann divided the Swiss yodel melodies according to Gassmann's *Tonpsychologie* (1936) into three regions – melodies of the Central Plateau (Mittelland), the Pre-Alps and the High Alps – but sees this subdivision as only generally valid (Fellmann 1943: 11). In the fourth edition of the *Schulungsgrundlage* of 1962, a detailed appendix by the composer Max Lienert (1906–1964) was published. Lienert distinguished the three yodeling landscapes Toggenburg-Appenzell, Central Switzerland and Bern-Fribourg (Fellmann 1962: 17). The Obwalden natural yodeling expert Edi Gasser follows Lienert's classification and names as regions Eastern Switzerland along with the two Appenzells and Toggenburg, the Bernese Oberland and the Emmental as well as Central Switzerland with Entlebuch and the cantons Schwyz, Obwalden and Nidwalden.[9] Nadja Räss and Franziska Wigger give a nuanced division of the natural yodel regions. They divide the regions of Eastern Switzerland, Central Switzerland and Bern described by Lienert (Fellmann 1962: 17) and Leuthold (1981: 80) into a total of eight areas (Fig. 53).

The boundaries between the yodeling regions mentioned have been partially blurred for several decades, which is shown by the fact that today an Innerrhoder yodel choir can certainly include a Zäuerli from Ausserrhoden in its repertoire, and a Bernese yodel club occasionally enjoys yodeling an Unterwaldner Juiz. In comparison with the regional characteristics of natural yodeling, however, no significant regional styles can be recognized in alphorn music. Although the

9 Edi Gasser, *Gedanken zum Kulturgut "Naturjodel"* (Thoughts on the cultural practice of "Naturjodel") www.giswilerjodler.ch/gedanken%20zum%20naturjuiz.htm, 23 July 2022.

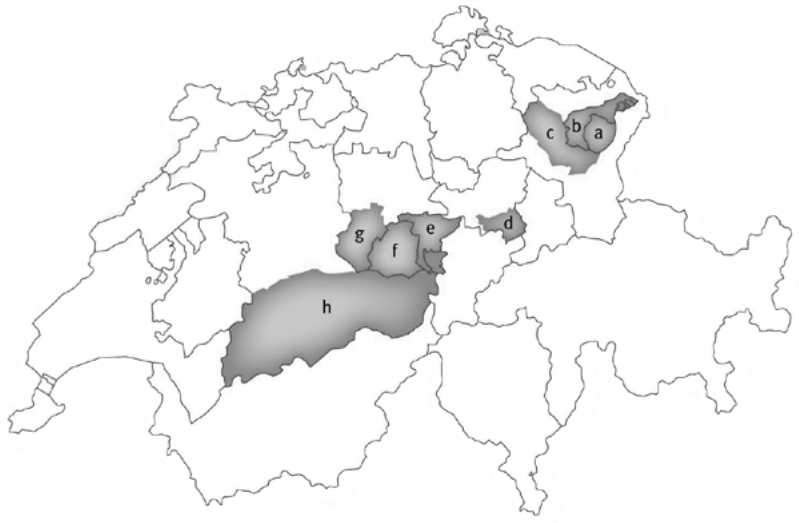

Fig. 53: Division of Swiss natural yodeling regions according to Räss and Wigger (2010: 29): (a) Appenzell Innerrhoden, (b) Appenzell Ausserrhoden, (c) Toggenburg, (d) Muotatal, (e) Nidwalden, (f) Obwalden, (g) Entlebuch, (h) Berner Oberland.

same alphorn melody can be differently interpreted locally, for example a little more quickly than elsewhere, there are no regionally specific characteristics in the tonal system or in the metric-rhythmic treatment.

In the last 200 years, the Bern region has published the most yodel songs in Switzerland. This intensive transcription activity has favored the use of equal-tempered intervals and the observance of metric-rhythmic structures. According to Leuthold's colleague Hansadolf Waefler (1908–1996), the disappearance of the alphorn-fa in the Bernese natural yodel in particular counts as one of the clear indications of the loss of originality. According to Waefler, the yodels of the Frutig- and Saanenland do not show any clear influences of the alphorn: "Even today, the typical tone sequences which are characteristic of alphorn melodies are extremely rare in the yodel inventory of both Alpine valleys, and the characteristic 'alphorn-fa' is nowhere to be found in the notated traditions" (Waefler, quoted from Leuthold 1981: 109). Leuthold was especially familiar with the yodeling landscape of Central Switzerland and characterized it on the basis of several special features, for example in terms of metrics, rhythm and harmony. Regarding the alphorn-fa he adds:

> In the Lucerne Backcountry it is extinct, in Entlebuch, as we have seen, it is still present in minimal formulations. In addition to Appenzell-Toggenburg, the classic Fa-areas include both Unterwalden and Schwyz-Muotathal [sic].[10] (Leuthold 1981: 98)

10 Here the valley Muotatal is meant, not the town Muotathal.

In the cantons of Obwalden and Nidwalden, the alphorn-fa can increasingly be heard in audio recordings since the 1960s as well as at current yodel concerts. In the evaluated recordings from the 1920s and 1930s, however, the use of an alphorn melody in yodeling cannot be recognized (cf. p. 174) and notations of Central Swiss yodel melodies from the 19th century are missing.

The Muotatal, where recordings in the 1930s can attest to a non-tempered tonal system in the yodel, stands out from the rest of Central Switzerland. However, the ekmelic intervals used here are not exclusively due to the alphorn. The neutral third,[11] which can hardly be explained by the natural tone series of the alphorn, is intoned more prominently in the Muotatal than the alphorn-fa. On the other hand, the Bücheljuuzes are clearly related to the alphorn or the Büchel (cf. p. 183). In the Muotatal, the typical Büchel intervals are yodeled and the timbre of the instrument is expressed by yodel syllables shaped by the formant regions in the vocal tract.

The situation in eastern Switzerland is different. Two peculiarities of the Appenzell and Toggenburg natural yodel are relevant in the context of this research: on the one hand, the use of the Lydian mode (cf. influence E, p. 172), which can speak for a possible connection to the alphorn, on the other hand, the connection between the Appenzeller and Toggenburg natural yodel and local string music. A relationship to string music may be represented by the multifaceted bordun accompaniment practiced in this area, which occurs both in the Löckler (lure calls) (Leuthold 1981: 86) and in the Talerschwingen (Swiss coin-rolling) and in rhythmic form in the Senntumsschellen (a set of three bells) (Bachmann-Geiser 1981: 17). Numerous natural yodels are played on local string instruments, which indicates a musical relationship between natural yodel and string instrument. The influence of the alphorn on local yodel forms in northeastern Switzerland therefore seems questionable. Some sources from the 19th century also complain about the absence of the alphorn in the Appenzell region, and yet the alphorn-fa appears in the local natural yodels.

Summary

Yodeling in Switzerland received an additional boost after the Second World War through Fellmann's work in the Federal Yodeling Association and in particular through his *Schulungsgrundlage* and the yodeling course system he established. Fellmann was of the opinion that the alphorn-fa belonged as a stylistic device in the natural yodel, and his opinion as an expert had weight in the yodel scene. Proposals for the demarcation of different yodel regions have been submitted by Fellmann (1943), Lienert (in Fellmann 1962), Leuthold (1981), Räss and Wigger (2010) and Gasser (n.d.).[12] Since the yodel shows strong regional differences, the influence of the alphorn can also vary from region to region.

11 A neutral third is a musical interval wider than a minor third, but narrower than a major third.

12 Edi Gasser, *Gedanken zum Kulturgut "Naturjodel"* (Thoughts on the cultural practice "Naturjodel") www.giswilerjodler.ch/gedanken%20zum%20naturjuiz.htm, 23 July 2022.

Despite the efforts of many Bernese composers (cf. pp. 103 and 139) to integrate the alphorn-fa into the yodel, the Bernese Jutz is largely yodeled without a connection to the alphorn, and in central and northeastern Switzerland, where the presence of ekmelic intervals is documented, these can not be traced back only to the alphorn.

Whether the musical possibilities of the alphorn in the 19th century allowed the alphorn-fa to be played and adopted into the yodel is subsequently assessed on the basis of an examination of historical alphorns from the 19th and early 20th centuries.

Chapter 9: Range and intonation of historical alphorns

Alphorn manufacturing in Switzerland became increasingly professionalized from the 1930s onwards, so that in the 1950s the form of alphorns largely corresponded to the standard form favored today. Vignau writes that by 1958 at the latest, one can speak of a designated "Swiss form."[1] Standardization was largely completed in the 1970s when polyphonic alphorn performances were presented at yodeling festivals, for which equally tuned and thus equally long alphorns were necessary (cf. Vignau 2013: 12).[2] Alternative forms of the alphorn continued to be made, as various shapes and lengths are still being experimented with in instrument making today. The standard length of an alphorn today is about 3.44 meters (tuning in F#) or 3.65 meters (tuning in F) (cf. Sommer 2013: 12).

In order to obtain an impression of how alphorn music may have sounded before the first available audio recordings from the 1920s and 1930s,[3] historical alphorns[4] can be measured and, if still playable, blown on. Not only can the playable range be ascertained and compared with that of modern alphorns, also the playable section of the natural tone series of an individual instrument and its deviation from an ideal natural tone series (with the exact frequency ratios 1:2, 2:3, 3:4, 4:5 …) can be determined.

Particularly the use of the alphorn-fa in the Kuhreihen melodies of the 19th century, for example in the *Kuhreihen Collections* of 1818 and 1826, presupposes that the alphorn-fa could actually be played on the alphorns of that time (in the case of Huber's description even before 1818, cf. p. 98). To verify this, the first step is to determine the lengths of the documented alphorns from the 19th century.

Sommer (2013: 13) explains that an alphorn of at least two meters in length is necessary to reach the 11th natural tone (alphorn-fa). Indications of the length and thus the tonal range of the alphorns in the 19th century are provided by instrument illustrations and images on a variety of different paintings, lithographs

1 "…1958 onward, it is known that the end-curved form could only be found in Switzerland. … A 'Swiss form' seems justified at least from that time on" (Vignau 2013: 11). A typical construction plan of the alphorn after standardization is included as a supplement in Bachmann-Geiser 1999 (creator of the plan: Matthias Wetter).

2 The publication of Johann Aregger *Das mehrstimmige Alphornblasen* (Polyphonic Alphorn-Playing) was published in 1971 and assumed equally tuned alphorns (Aregger 1971).

3 On the shellac record *Stösler Schwingfest* from 1928 there is a short Büchel melody, played by Philipp Frank (pers. comm. Peter Betschart 19 October 2015). In 1933, a recording of Huber's *Heerdenreihen* appeared on the shellac record *Schweizer Jodler Sextett*, interpreted by an alphorn player named Hofer (cf. p. 104). In 1936, as part of his research trip to Switzerland (cf. p. 175), Wolfgang Sichardt adopted alphorn melodies in Muotathal, Appenzell, Neirivue and Kerns.

4 "Historical alphorns" are instruments that were built before 1950 and thus before their standardization.

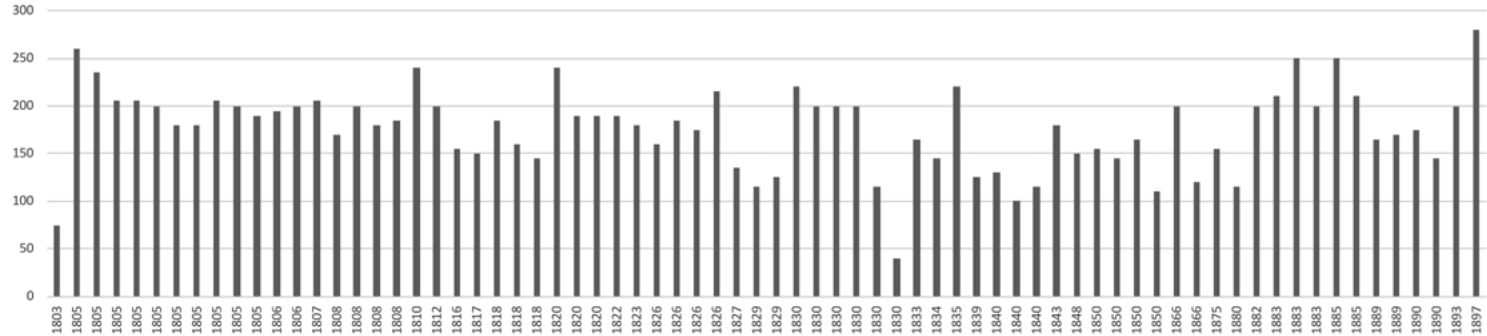

Fig. 54: Estimated lengths (in centimeters) of alphorns from 19th century illustrations.

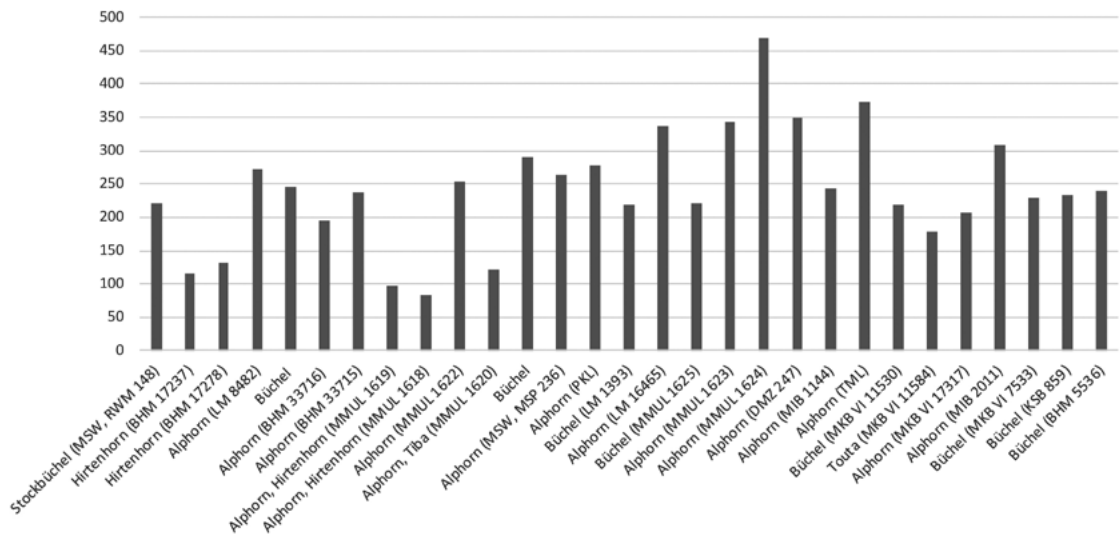

Fig. 55: Measured lengths (in centimeters) of alphorns from the 19th century in museums and private collections. The alphorns are arranged chronologically from left (1800) to right (1900).

and photographs. The following length estimates come exclusively from dated representations in which the alphorn is in a pictorial context with persons or objects. The overview shows the estimated lengths of a total of 72 alphorns from illustrations of the 19th century. The length figures shown here are based on independent estimates made by two people (Fig. 54).

Of the 72 alphorns illustrated, 28 are estimated at two meters or longer and are therefore suitable for producing the alphorn-fa. On 44 alphorns, however, this is not possible. Since the estimates are based on illustrations, exact lengths cannot be ensured (cf. p. 18). It is possible that in many illustrations the alphorns are depicted differently for reasons of picture composition, in some cases, for example, appearing notably shorter than they were in reality.

Reliable values can only be obtained from historical instruments in museums and collections. As part of this research, alphorns from the following museums were measured: Dorfmuseum Zeihen (DMZ),[5] Klingende Sammlung Bern (KSB), Museum der Kulturen Basel (MKB), Musikinstrumentensammlung Willisau (MSW), Talmuseum Lauterbrunnen (TML) and an alphorn from the private collection of Kurt Langhard (PKL). Previously documented measurements of some alphorns in museums were acquired.[6] A total of 29 instruments from the 19th century could be documented in this way (Fig. 55).

The years of construction of the collected instruments could rarely be specified exactly by the conservators, which is why the list represents only an approximate chronological order within the 19th century. As a result of this research, 22 of the 29 instruments measure two meters or longer and are suitable for producing alphorn music with the alphorn-fa. Thus, in the 19th century, instruments were common on which melodies could be played up to the 11th natural tone and possibly beyond.[7] A table with detailed information on the 29 alphorns can be found in Appendix 2.

Although the length of the alphorns of the 19th century allows rough conclusions to be drawn about their playable tone inventory, there are nevertheless differences in the intonation and response of particular scale degrees due to individual alphorn forms and constructions. An analysis of the intonation possibilities of historical alphorns can show how close the playable intervals are to the ideal natural tone series.

Instruments from the following seven Swiss museums were incorporated in this study: Musikinstrumentensammlung Willisau, Museum der Kulturen Basel, Klingende Sammlung Bern, Dorfmuseum Zeihen, Schlossmuseum Thun,

5 The abbreviations of the museums are used only for the labeling in Figure 55.

6 Measurements were acquired from the following museums: BHM: Bernisches Historisches Museum, MIB: Musikinstrumentenmuseum Brüssel, MMUL: Museum für Musikinstrumente der Universität Leipzig, LM: Landesmuseum Zürich.

7 Despite the small number of instruments, the study can be regarded as representative, since the number of alphorns in the 19th century was low according to the written sources evaluated here.

Historisches Museum Bern and Landesmuseum Zürich. In the Historisches Museum Bern and Landesmuseum Zürich, the alphorns were not permitted to be played for conservation reasons.[8] In the other museums mentioned, a total of 33 instruments were played by a professional brass player, for which audio recordings could be made. Of these 33 alphorns, nine could be used to study tonality. A small crack or defect may impact a particular node, or several nodes, of the overtone series, making the associated pitches difficult or impossible to play (or "center, slot"). Instead, one can only "slide" across such pitches in a sort of *glissando*. In such cases, the exact intonation of particular natural tones could not be determined. For the acoustic analysis, therefore, only those alphorns were taken into account on which the scale from the 4th to the 12th natural tone was playable with a stable sound.[9]

As already mentioned, an exact dating of the instruments is generally not possible. An age determination using dendrochronology cannot be carried out, because either too few annual rings are present or these are not clearly visible.[10] The following table shows the instruments analyzed: In the right-hand column, both the number of alphorns played and the number of instruments with a stable and usable tone series are noted. More detailed information on these nine instruments can be found in Appendix 3.

Table 4: Overview of the instruments used to collect data on the tone scale of historical alphorns in museums

Museum	*Sound Recordings*	
Musikinstrumentensammlung, Willisau	2 instruments, of these	1 with stable tone series
Museum der Kulturen, Basel	11 instruments, of these	1 with stable tone series
Klingende Sammlung, Bern	9 instruments, of these	6 with stable tone series
Dorfmuseum, Zeihen	5 instruments, of these	1 with stable tone series
Schlossmuseum, Thun	2 instruments, of these	0 with stable tone series
Historisches Museum, Bern	No recordings (not permitted for conservation reasons)	
Landesmuseum, Zürich	No recordings (not permitted for conservation reasons)	
Totals	29 instruments played	9 with stable tone series

8 Pers. comm. Historisches Museum Bern (19 May 2016) and Landesmuseum Zürich (16 February 2017).

9 The upper limit (12th natural tone) was applied because the historical notations of alphorn melodies usually so limit the range of tones. In modern literature, the natural tones 13 to 16 also appear in some compositions, but these are largely reserved for virtuosos (cf. p. 21). The lower limitation has a practical reason: the first, second and third natural tones are so variable in pitch, especially on historical alphorns, that it is not possible to define a particular frequency for them.

10 This was the result of an inquiry at the Laboratory for Dendrochronology of the City of Zurich (pers. comm. Felix Walder, 21 April 2017).

For comparison with the intonation of these nine historical alphorns, six modern, standardized instruments (after 1950) were used. These come from the workshops of Hermann Koller (1 instrument), Matthias Wetter (2 instruments), Walter Bachmann (1 instrument) and Tobias Bertschi (2 instruments).

For this investigation, the natural tones 4 to 12 were played and recorded on each of the instruments described in order to then determine the exact frequencies with the LARA software developed at the Lucerne University of Applied Sciences and Arts using TCIF spectrograms (cf. p. 19). From the data obtained on the frequencies of the individual scale degrees, a tone scale was then constructed. For this purpose, tone designations are given in C major, as usual in alphorn music: The 4th natural tone is designated c^1 regardless of the tuning of the alphorn, the 5th natural tone e^1 and the 6th natural tone g^1 up to the 12th natural tone, g^2.

The fundamental tone is generally assumed to be a reference tone or a tuning tone, but as could be seen in preliminary investigations, the 4th natural tone (c^1) would not result in an ideal reference tone. A look at the median deviations of the individual tones from all other scale degrees (cf. Fig. 57) shows that conspicuous deviations occur in this low register. This means that from the perspective of the fundamental tone c^1, all other degrees would then deviate clearly from the natural tone scale, although objectively considered, this is not the case as it is only this one tone that deviates so strongly. The measurement of all intervals contributes to the solution to this problem: Starting from the 4th natural tone, the intervals to all other scale degrees are determined. This procedure is repeated for all natural tones up to the 12th, as shown in the example of an alphorn from the late 19th century from the Musikinstrumentensammlung Willisau.

Table 5: Intervals of the scale of the alphorn MSP 236 from the Musikinstrumentensammlung Willisau from the 4th to the 12th natural tone

	c^1	e^1	g^1	$b\flat^1$	c^2	d^2	e^2	*fa*	g^2
c^1	0	422	716	1018	1228	1436	1623	1780	1918
e^1	422	0	294	596	806	1015	1201	1359	1496
g^1	716	294	0	302	511	720	907	1064	1202
$b\flat^1$	1018	596	302	0	210	418	605	762	900
c^2	1228	806	511	210	0	209	395	553	690
d^2	1436	1015	720	418	209	0	186	344	481
e^2	1623	1201	907	605	395	186	0	158	295
fa	1780	1359	1064	762	553	344	158	0	137
g^2	1918	1496	1202	900	690	481	295	137	0

In the first row of the table, all intervals appear from the tone c^1, in the second row all intervals are in relation to e^1 and so on. From this data matrix, another matrix with the intervals of an ideal natural tone series, as shown below, is subtracted. These values correspond to the abstract frequency ratios (1:2, 2:3, 3:4, 4:5 …):

Table 6: Intervals of an ideal natural tone series

	c^1	e^1	g^1	$b\flat^1$	c^2	d^2	e^2	*fa*	g^2
c^1	0	386	702	969	1200	1404	1586	1751	1902
e^1	386	0	316	583	814	1018	1200	1365	1516
g^1	702	316	0	267	498	702	884	1049	1200
$b\flat^1$	969	583	267	0	231	435	617	782	933
c^2	1200	814	498	231	0	204	386	551	702
d^2	1404	1018	702	435	204	0	182	347	498
e^2	1586	1200	884	617	386	182	0	165	316
fa	1751	1365	1049	782	551	347	165	0	151
g^2	1902	1516	1200	933	702	498	316	151	0

After this subtraction, the data matrix with the deviations of each individual interval from the abstract natural tone series appears, here using the example of the same alphorn from the Musikinstrumentensammlung Willisau:

Table 7: Deviations from the ideal natural tone series of each interval in the range from the 4th to the 12th partial tone (Alphorn MSP 236, Musikinstrumentensammlung Willisau)

	c^1	e^1	g^1	$b\flat^1$	c^2	d^2	e^2	fa	g^2
c^1	0	36	14	49	28	32	37	29	16
e^1	36	0	-22	13	-8	-3	1	-6	-20
g^1	14	-22	0	35	13	18	23	15	2
$b\flat^1$	49	13	35	0	-21	-17	-12	-20	-33
c^2	28	-8	13	-21	0	5	9	2	-12
d^2	32	-3	18	-17	5	0	4	-3	-17
e^2	37	1	23	-12	9	4	0	-7	-21
fa	29	-6	15	-20	2	-3	-7	0	-14
g^2	16	-20	2	-33	-12	-17	-21	-14	0

Audible deviations are marked in color, from yellow (weak) to red (strong). |0|–|14| (white) / |15|–|19| (yellow) / |20|–|29| (light orange) / |30|–|39| (dark orange) / |40|–|49| (red). Max. deviation: |49|

This table shows the deviations of the individual scale degrees of the alphorn from the natural tone series in cents. Since an alphorn can intonate either lower or higher, the deviation must be understood both positively and negatively. In the case of our example instrument, the interval between c^1 and e^1 is 422 cents (cf. Table 5). The interval of an ideal natural tone series, on the other hand, is only 386 cents (cf. Table 6) and thus results a difference of 36 cents (cf. Table 7). The interval on the historical instrument is about one sixth of a tone greater (wider) than in an abstract natural tone series, which corresponds to an audible difference. The interval between e^1 and g^1 is 294 cents on the respective alphorn, 316 cents on an ideal natural tone series, with a difference of -22 cents; the interval between the fifth and the sixth natural tone is 22 cents smaller (narrower) on this historic alphorn.

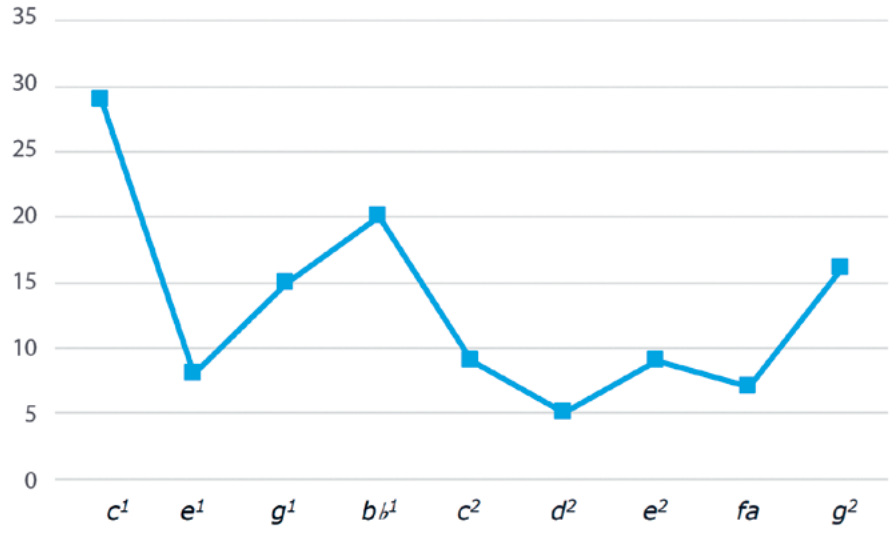

Fig. 56: Deviations (absolute values) of the individual scale degrees (given in cents) from the ideal natural tone scale using the example of the alphorn MSP 236 from the Musikinstrumentensammlung Willisau.

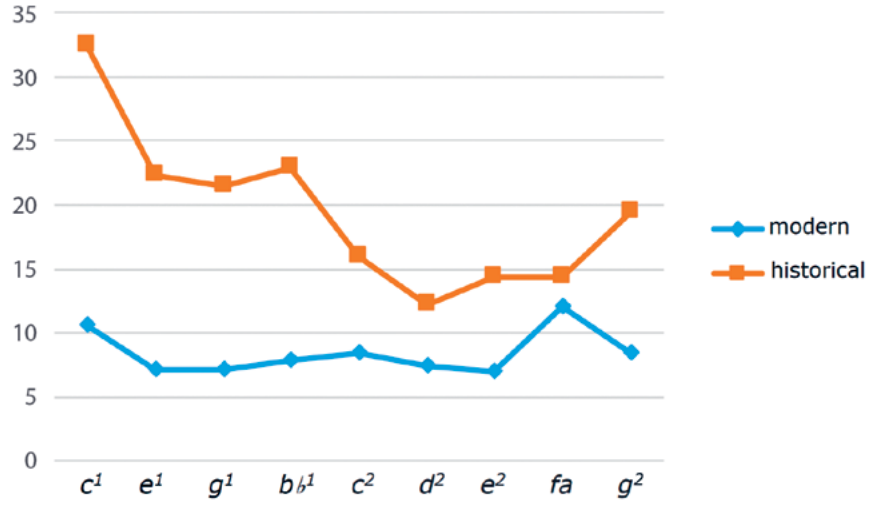

Fig. 57: Average deviations from the natural tone series of individual scale degrees. Red: historical alphorns; blue: modern alphorns; horizontal axis: scale degrees; vertical axis: mean values of the group of nine historical and six modern alphorns, the deviation from the natural tone series (in cents).

In order to quantify how strongly a scale degree, say e^1, deviates from the natural tone series, the individual deviations of e^1 to all other tones of the series must be measured; then the calculated median value of all deviations in column e^1 can be used comparatively.[11] In order for negative and positive deviations of the intervals from e^1 not to cancel each other out, the absolute value must be used instead of positive and negative numbers. The median values of the deviations from the natural tone series of each scale degree of the alphorn MSP 236 in Willisau, as shown in tabular form above, are as follows:

Table 8: Median values of deviations in cents of each scale degree of the alphorn MSP 236 from the ideal natural tone series (Fig. 56)

Scale degree	c^1	e^1	g^1	$b\flat^1$	c^2	d^2	e^2	*fa*	g^2
Deviation	29	8	15	20	9	5	9	7	16

The median deviation of the 5th natural tone e^1 of the historical instrument MSP 236 to the same scale degree of an ideal natural tone series is only 8 cents. On the other hand, the analysis shows that c^1 deviates by a clearly audible 29 cents from the c^1 of an ideal natural tone series. In the upper tone range between c^2 and *fa*, the deviations are relatively small. After calculating the deviations of each instrument from the ideal natural tone series, a comparison between historical and modern alphorns can be generated.

For the comparison of historical and modern alphorns (cf. p. 158), the mean values of the deviations of both groups must be calculated and compared. The mean deviation of the groups of historical and modern alphorns is listed in the following table:

Table 9: Mean deviation of the groups of historical and modern alphorns from the natural tone series (Fig. 57)

Scale degree	c^1	e^1	g^1	$b\flat^1$	c^2	d^2	e^2	*fa*	g^2
Modern alphorns	11	7	7	8	8	7	7	12	8
Historical alphorns	33	22	21	23	16	12	14	14	20

For all natural scale degrees, the historical instruments (red) deviate more from the ideal natural tone series than the modern ones (blue) (cf. Fig. 57). This result is not surprising, since the professionalization in alphorn construction has strived

11 In these entries of measured pitch values, median values, not mean (average) values, are used to relativize "outliers."

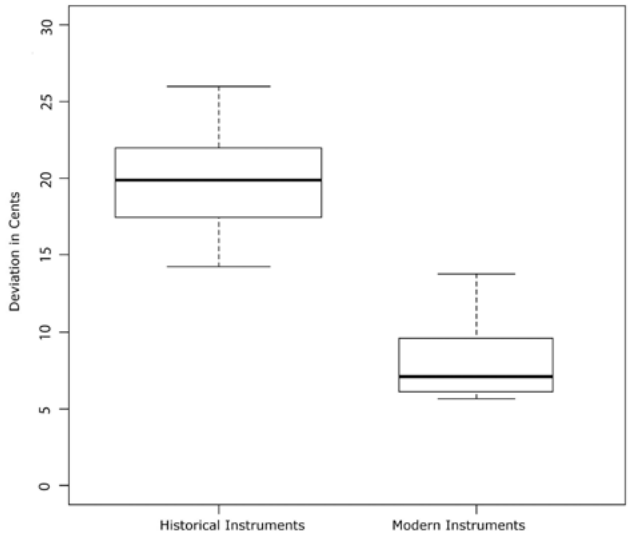

Fig. 58: Average deviation of all scale degrees of historical and modern alphorns from the natural tone series. The wide black bars indicate the median values. Within the square boxes lie half of all values. The T-bars enclose the minimum and maximum values.

for and achieved a closer alignment with the ideal tone series. In the two-line octave, the differences are smaller and the historical instruments move closer to the ideal natural tone series than in the lower octave. The alphorn-fa deviates for the historical alphorns on average only 14 cents (for modern alphorns 12 cents), an inconsequential difference.[12] Since the alphorn-fa deviates 49 or 51 cents from its neighboring equal-tempered tones, it can also be clearly recognized as a characteristic scale degree on historical alphorns and not heard as *f* or *f*#.

If the average deviation of all scale degrees is calculated for the respective alphorns, there are greater deviations from an ideal natural tone series for the group of historical instruments than for the group of modern alphorns (Fig. 58).

The groups of historical and modern alphorns do not overlap in their deviation, as is evident from Figure 58. The difference between the intonation of historical, non-standardized alphorns and the intonation of modern, standardized instruments is clearly visible. This confirms that standardization and professionalization in alphorn construction has led to the production of instruments that approach the ideal natural tone series in their intonation.

12 Why the alphorn-fa in the modern instruments here deviates the most, and whether this deviation is coincidental, would have to be specially investigated.

Summary

Throughout the entire 19th century, alphorns existed on which the natural tone series could be played up to the 12th natural tone, thus including the alphorn-fa. An alphorn-fa could be recognized as such and would hardly be confused with an equal-tempered pitch, since the deviation from the natural tone series (14 cents) is smaller than the deviation from the equal-tempered interval (49 or 51 cents). In the lower octave, historical alphorns sometimes deviate massively from the ideal natural tone series, which can be explained primarily by their individual construction designs. There are considerable differences in intonation between the two groups of historical and modern instruments. The intonation of modern, standardized alphorns largely corresponds to the ideal natural tone series; the deviations here are to a large extent in the imperceptible range.[13] The natural tone series, especially the alphorn-fa, could theoretically have been transferred from the alphorn to the yodel in the 19th century. This assessment serves as a starting point for an investigation into the use of the natural tone series in the yodel of the 20th century.

13 The threshold for the audible differentiation of two consecutive frequencies depends on pitch ranges. For people with average hearing capacities, it is about 10 cents in the middle position of the audible range (Kollmeier/Brand/Meyer 2008: 65).

Chapter 10: Measuring the influence of the alphorn on the yodel in the 20th century

An analysis of available audio recordings of natural yodels and yodel songs from the 20th century provides a method for investigating the distribution of alphorn melodics in the Swiss yodel. Thanks to computer-aided frequency analyses, empirical data on the occurrence of the alphorn-fa and alphorn melodics can be obtained. The strong discrepancy between equal-tempered intervals and those between the 10th, 11th and 12th natural tones allows for a clear recognition of the alphorn-fa in yodel recordings. Intervals to the eleventh natural tone are measured, since these, compared to the seventh and thirteenth natural tones, differ markedly from equal-tempered semitones, and since this (eleventh) natural tone plays such an important role in the aesthetics of alphorn music.

For the exact determination of the intervals in an audio recording, the fundamental frequency of each tone (measured in oscillations per second, or hertz) is identified. For the determination of an interval, the arithmetic distance between two measuring points is subsequently ascertained and entered in cents. Special measures are necessary for the analysis of historical audio recordings, as the usual methods for determining the fundamental frequency can yield unclear results here: Background noise, reverberation, the partially missing fundamental frequency and other acoustic factors influence the sound quality of the recordings. On account of such difficulties, the present research applies an approach described by the Lithuanian ethnomusicologist and physicist Rytis Ambrazevičius (2014: 54), as follows:

> It is comfortable to start with the narrow-band spectrogram to identify such [relatively stationary] segments: the spectrogram shows distinctly the undulating lines of harmonics. Then [a] spectrum of the selected segment is obtained and sets of harmonics of the individual voices are identified in the spectrum. Certain outstanding harmonics are chosen and their frequencies are measured. [A] logarithmic relationship of frequency and pitch is applied and the pitches are calculated. (Ambrazevičius 2014: 54)

First, sonograms are used to identify tone segments displaying such acoustic stability that they can be established as stable pitches. Very short tones may not be identifiable, because they do not display enough stable pitch segments. Using a grid of regular hertz intervals superimposed on the spectrum of a specific stable pitch segment, the overtone spectrum can then be precisely detected. To determine the fundamental frequency, all clearly visible overtones in the frequency range from 0 to 3,000 hertz are taken into account. By including overtones in the high frequency range, between 2,000 and 3,000 hertz, a sufficient accuracy of the measurement is achieved, since the relative deviation in cents from the

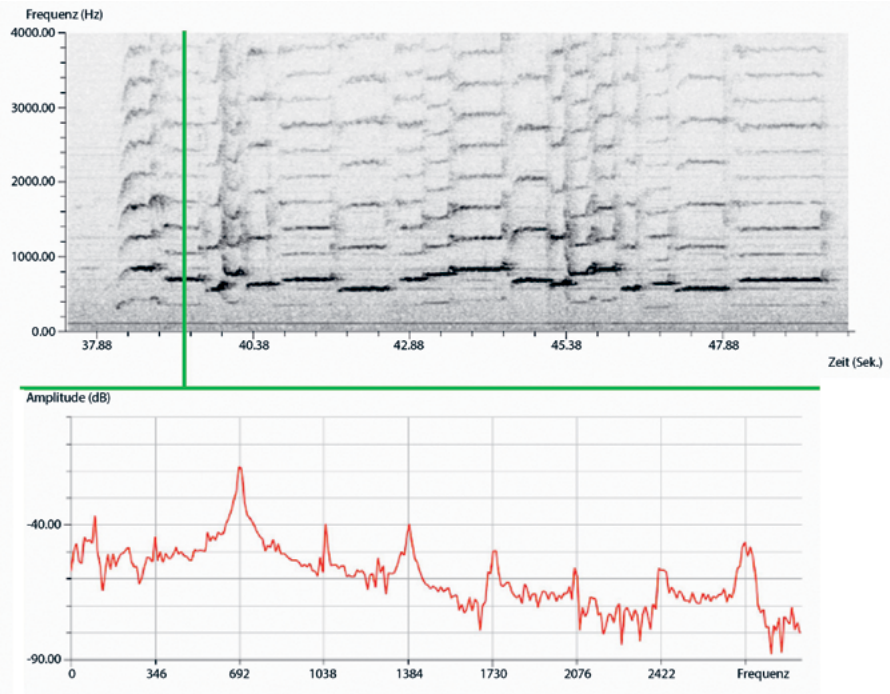

Fig. 59: Illustration of data retrieval. From a spectrogram of a yodel melody (above), a stable sound segment is selected. A grid is superimposed on the overtone spectrum of the duration of this segment (below) in order to identify the fundamental frequency based on the overtones.

measuring point at a high frequency is very small (less than 5 cents).[1] Figure 59 illustrates the procedure.

The upper part of Figure 59 shows the sonogram (spectrogram) of a yodel melody (about 10 seconds long), and the lower part shows the overtone spectrum at the time marked (see the vertical green line), which represents a stable tone segment. The grid in the lower part of Figure 59 is superimposed on the amplitudes of the overtones and serves to identify the fundamental frequency. In the sonogram shown, the fundamental frequency can be detected only faintly and lies on the first vertical line of the gray grid at about 350 hertz (this corresponds approximately to the note f^1). With this methodological introduction, certain yodels can now be analyzed accordingly.

1 The hertz scale is logarithmically, and the cent scale linearly defined. Each octave leads to a doubling of the frequency in hertz (a^1 = 442 Hz, a^2 = 884 Hz, a^3 = 1768 Hz); the octave in cents is always 1200 cents.

Alphorn tonality in the yodel

By means of the following examples, five different ways in which the tonality of the alphorn can be incorporated into the yodel are described: The yodel is based exclusively on the natural tone series (Influence A), the natural tone series is partially used and the alphorn-fa is intoned (Influence B), the yodel integrates the Lobe-motif from Kuhreihen and Betrufs (Influence C), the yodel uses at certain moments the sharpened fourth degree as a stylistic element (Influence D), or the yodel is based on the Lydian mode with a consistently sharpened fourth, which is also referred to as the "Alphorn-Fa-Yodel" (Influence E). These five variants are to be understood as exemplary and not to be taken as clear-cut categories.

Influence A: As an example of a yodel based entirely on the natural tone series, Leuthold provides a Central Swiss natural yodel by the "naturally gifted singer" Paul Gander (Leuthold 1981: 99). Gander consistently intoned the alphorn-fa in his natural yodel with the title *Beckenrieder Kuhreihen*, both in ascending and descending lines (Leuthold 1981: 99) (Fig. 61).

The melody of the *Beckenrieder Kuhreihen* with the range from the 6th to the 12th natural tone could also be played on the alphorn. Yodels that are based entirely on the natural tone series and include the alphorn-fa in both ascending and descending lines are rare in the yodel melodies studied. If, as in this example, the yodel is based entirely on the natural tone series, the relationship to the alphorn is most evident. This feature can also be found in the Bücheljuuz from Muotatal, in which the timbre of the instrument is also imitated (cf. p. 183).

Influence B: More often than yodel melodies based entirely on the natural tone series, other yodels have been passed down that use a diatonic major scale and contain natural tone sequences. Through the acceptance and promotion of the alphorn-fa in the yodel (cf. p. 149), the use of this interval has become well-established. As Gassmann and Leuthold explain (cf. p. 145, p. 150), the alphorn-fa is mainly used as a stylistic element in the natural yodel of Central Switzerland and the Appenzell region. In the recording of a Naturjuiz (natural yodel) from Obwalden, *Hech obe* by Ruedi Rymann, this combination can be shown. The solo beginning of the yodel, before the choral entrance, resembles a characteristic alphorn melody:

Fig. 60: Beginning of *Hech obe* by Ruedi Rymann, recording of the yodel club Giswil under the direction of Edi Gasser (Der Innerschweizer Naturjutz 1997: Title No. 11).

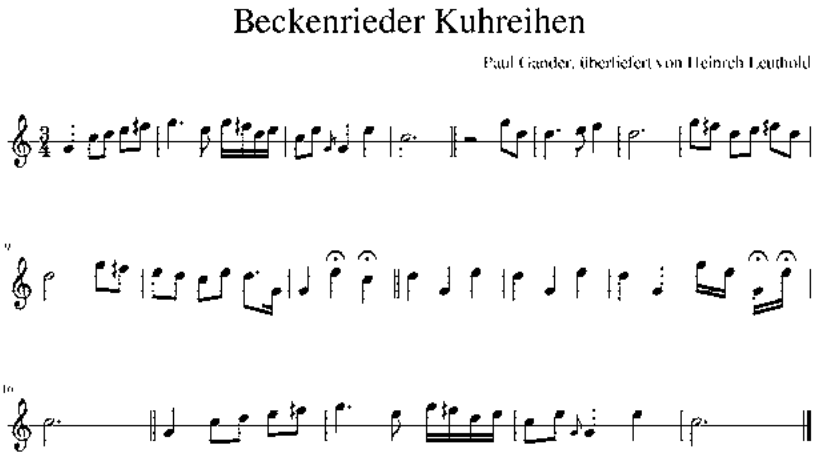

Fig. 61: *Beckenrieder Kuhreihen* by Paul Gander, transmitted by Heinrich Leuthold (1981: 99) (Transcription by the author).

The natural yodel *Hech obe* exemplifies the use of a natural tone sequence. The notes used in the first phrase are completely based on the natural tone series.[2] The intonation of the fourth scale degree, as required by Fellmann (1948: 28), sounds equal-tempered in the ascending line, and in the descending line as alphorn-fa. At the end of the phrase stands the Lobe-motif typical of the Kuhreihen and the Betruf (cf. p. 115, Influence C). Following this phrase, the melody, with choral accompaniment, proceeds diatonically.

In another example, the *Bärgli Juuz*, performed as a solo by Anton Büeler (Muotathal), a sequence at the beginning can be detected in which individual notes by Büeler are intoned in such a way that they clearly deviate from the equal-tempered system. To illustrate this, the following notated example shows the sizes of the adjacent intervals in cents:

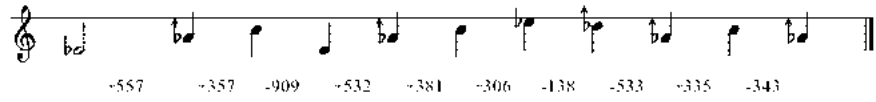

Fig. 62: *Bärgli-Juuz*, sung by Anton Büeler (Volksmusik aus dem Kanton Schwyz 2005: Title No. 4), beginning.

2 In the notation for the alphorn, the melody would be transposed a minor third upwards. It ranges from the 5th to the 12th natural tone.

With this intonation of natural and neutral thirds,[3] the natural yodeler Anton Büeler, who masters just intonation (cf. p. 185), achieves an aesthetic effect that differs significantly from that of an equal-tempered interpretation. The fundamental tone of the sequence, the tone ab^{1}, is intentionally intoned up to a quarter tone higher in relation to the other notes, which is confirmed by the many repetitions. In the descending line, an alphorn-fa is intoned (db^{2} in relation to ab^{1}). Like the Naturjuiz *Hech obe*, this natural yodel also has a diatonic continuation. Yodels which contain sequences of an alphorn melody partially indicate a targeted borrowing from alphorn music.

Influence C: Some natural yodels contain motifs that are typical of the Betruf and the Kuhreihen (cf. p. 115, fig. 31–33). As an example, the traditional Unterwalden *Stelli-Juiz* can be offered. The concluding phrase of the first part of this diatonic melody consists of the typical Lobe-motif, which is known from various Betrufs, Kuhreihen and alphorn melodies:

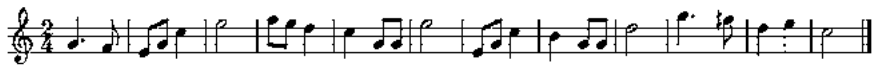

Fig. 63: Bars 13–24 of the *Stelli-Juiz*, with the Lobe-motif as the concluding phrase (Stanser Jodelbuebe 1982: Title B6).

The recording on which this transcription and analysis is based comes from the Stanser Jodlerbuebe[4] from 1982.[5] The aforementioned final motif contains intervals that come close to the natural tone series. These are marked in the following notation:

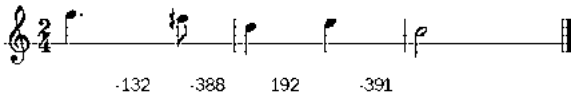

Fig. 64: Lobe-motif as the concluding phrase in the *Stelli–Juiz*.

The perception of the passing tone f^{2} as alphorn-fa is evoked by the first interval in the notated example, although the interval does not exactly correspond to the arithmetic distance from the 12th to the 11th natural tone, 149 cents. However, the interval of 132 cents is perceptibly different from the nearest equal-tempered

3 Large natural third: 386 cents (from the 4th to the 5th natural tone), small natural third: 314 cents (from the 5th to the 6th natural tone), neutral third: 350 cents (average of 300 and 400 cents).

4 Lit. "The Boys from Stans," a yodel club in the city of Stans, the capital of the canton of Nidd walden.

5 For complete conductor notes of the *Stelli-Juiz* and the *Hech obe*, cf. www.naturjodler.ch, 26 July 2022.

interval, the semitone at 100 cents. This analysis shows how a motif from the Kuhreihen or the Betruf found its entrance into the yodel. In addition, the intonation of the alphorn-fa indicates a connection with the alphorn.

Influence D: An indication of a possible connection to the alphorn is found also in the selective use of the sharpened fourth as a stylistic element, without further use of the natural tone series. If, for example, in the key of G major, the tone *c* is increased by a semitone at a certain point so that *c*# sounds, an audible allusion to the alphorn-fa results. An example of this can be found in the complex, multi-part natural yodel *De Schratte zue* by the farmer and yodeler Franz Lustenberger. This natural yodel changes mode several times, contains chromatic tone intervals and occasionally switches to the sharpened fourth. Part B of the yodel illustrates this:

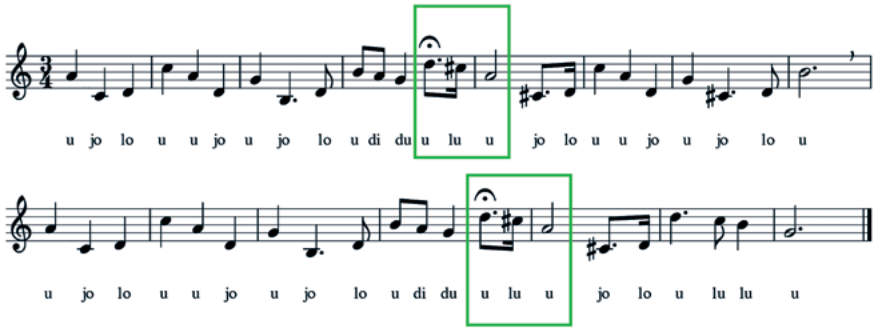

Fig. 65: Part B of Franz Lustenberger's natural yodel *De Schratte zue* (Lustenberger 1959).

The transcription is based on Lustenberger's 1959 recording.[6] The framed sections show a transition with the sharpened fourth, which creates the impression of an alphorn-fa. A version of the same natural yodel, *De Schratte zue*, by the Tannzapfen-Jodler[7] Finsterwald (Entlebucher Naturjodel 2011: Title No. 3) likewise illustrates this tonal effect. As already presented on the basis of Gassmann's transcriptions (cf. p. 148f., fig. 50 and 51), the two versions of *De Schratte zue* also contain an allusion to the alphorn-fa in both the two-line and the one-line octave, independently from the natural tone series. In *De Schratte zue*, the sharpened fourth is only occasionally used as a stylistic element (cf. Fig. 65). A continuously sharpened fourth, on the other hand, corresponds to a Lydian mode (influence E).

Influence E: Alfred Tobler precisely described the perception of the sharpened fourth degree of the tone scale (Lydian mode) as the alphorn-fa in yodel

6 Lustenberger's recording is available at www.youtube.com/watch?v=CvlrTKbFpnw, 8 August 2022.

7 Lit. "pine-cone yodelers from Finsterwald," a village near Entlebuch in the canton of Lucerne.

and introduced the term "Alphorn-Fa-Yodel" for it (Tobler 1903: 90). He wrote about the transfer of the alphorn-fa to the yodel:

> This characteristic, which lies in the nature and texture of the alphorn, was transferred to singing. Because the alpine herdsman likes to accompany his "work in the stable" with melodies that contain such intermediate alphorn tones, this type of yodeling has been given the playful name [Chüädreckeler] by him. (Tobler 1903: 90)

According to Tobler, the use of the "intermediate tone" outside the major scale can be attributed to the alphorn. The examples, which Tobler cites for the "Alphorn-Fa-Yodel," are characterized by large interval jumps and unusual tone sequences and, when the scale degrees are combined into a scale, are notated in the Lydian mode. Tobler notated such a natural yodel with the title *Chüädreckeler* (cow pie):

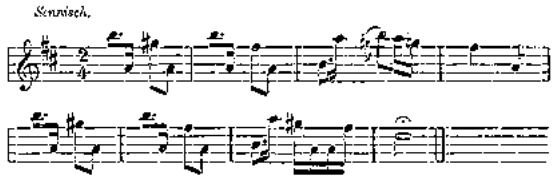

Fig. 66: Appenzeller *Chüädreckeler* (Tobler 1890: 49) with sharpened fourth degree.

Tobler's *Chüädreckeler* is based on the Lydian mode: with regard to the fundamental tone *d*, the fourth *g*# appears sharpened. Large interval jumps characterize the melody, which is why it can be assumed that a register change between chest and head voice was carried out. In his description of the "Alphorn-Fa-Yodel," Tobler can appeal to Szadrowsky, who had already described the use of the sharpened fourth in the Appenzell region 22 years earlier: "It is also a characteristic phenomenon in the songs and musical pieces of the Swiss mountain dwellers, above all with those in the Appenzell, that the fourth (fa) often appears sharpened" (Szadrowsky 1868: 282).

In his later publication *Das Volkslied im Appenzellerlande (*The Folk Song in Appenzellerland) of 1903, Tobler provides concrete information about what he means by the "Alphorn-Fa-Yodel": "It is the yodels which, with the tonic major triad on which it is based, consistently sharpen the fourth degree, the Fa, by a semitone, i.e. in C major *f*# instead of *f*, in D major *g*# instead of *g* etc." (Tobler 1903: 90).

Tobler emphasizes that alphorn tonality in the Appenzell region is to be understood as in the Lydian mode, defined by the fourth tonal degree augmented by a halftone. Consequently, two concepts of alphorn-fa in yodeling can be distinguished throughout Switzerland: on the one hand, the intonation of the eleventh natural tone, which lies in the middle between the 10th and the 12th natural tone, and on the other hand, the "Alphorn-Fa-Yodel" (Tobler 1903: 90)

in the Appenzell region, which corresponds to the Lydian scale. The occurrence of the "Alphorn-Fa-Yodel" is also associated with the alphorn by other folk music researchers in various regions of Switzerland, such as Gassmann (1961: 309), Leuthold (1981: 98) and the archivist of the Center for Appenzell and Toggenburg Folk Music in Gonten, Erwin Sager (pers. comm. 25 January 2016).

Summary

The analysis of these yodel recordings and yodel notations shows how the alphorn influences the melodics and intonation of the yodel. Different types of reception are observable, from the complete adoption of the alphorn scale and the intonation of the alphorn (Influence A) to the inclusion of such sequences (Influence B) and the incorporation of characteristic Betruf and Kuhreihen motifs (Influence C) to the adoption of the augmented fourth as a stylistic element in certain places (Influence D) or the adaptation of an entire yodel to the Lydian mode (Influence E). The examples presented here represent a small part of all modern audio recordings, so no systematic use of these described alphorn influences in a region or in a certain period of time can be proven.

The five proposed models of influence listed above can be confirmed on the basis of these newer yodeling recordings. They date back to the second half of the 20th century and confirm the acceptance and popularity of natural tone melodics and the alphorn-fa in contemporary yodeling. For the beginning of the 20th century, it is much more difficult to document such influences of the alphorn on yodeling.

Early yodel recordings provide no connections to alphorn melodics

Some of the earliest recordings of alpine yodels are dated to 1908 or 1909.[8] They come from the Entlebuch cheesemaker and yodel virtuoso Josef Felder (1835–1914) and are preserved on a phonograph cylinder. The booklet accompanying the recordings, published by Gassmann with the title *Naturjodel des Josef Felder aus Entlebuch* (Gassmann 1908), contains 24 natural yodels and yodel songs. Of these, four yodels are notated in whole or in part in two voices with parallel thirds and sixths, and with harmonic degrees for choral accompaniment, as is still customary in Switzerland today. The vocalization with the syllables "dri," "diri" and "drio" reveals that Felder, who worked for a long time as a cheesemaker in Tyrol, remained influenced by the Tyrolean yodel even after his return to Switzerland. Neither the notated yodels from Felder's repertoire nor his audio recordings contain an explicit connection to alphorn melodics, and none of the relationships to the alphorn presented on p. 169 onwards can be attested.

8 Reinhard and List (1963: 18) date the wax cylinder recording in the Berlin Phonogrammarchiv to 1909. Alfred Leonz Gassmann (1908: 1) writes that they were made "at the beginning of this year," i.e. 1908.

Yodel recordings from the 1910s to the 1940s, which are archived in the Schweizerische Nationalphonothek (Swiss National Sound Archives), show that the yodeling style of that time in Switzerland was very different from today's. In approximately 50 monitored yodeling recordings from that period, no evidence of influences of the alphorn can be recognized. This can be interpreted in such a way that the yodels recorded on shellac records for sales purposes at that time were stylistically oriented towards other folk music trends, such as the Tyrolean salon yodel or Swiss folk music. As already shown, yodel songs with alphorn connections are known from the founding period of the EJV; however, such compositions are not among these approximately 50 recordings. The aforementioned recordings from the Swiss National Sound Archives generally originated as commercial recordings made for profit-oriented purposes in the 1910s to 1940s. Since they were supposed to meet the tastes of the audience, which probably excluded the alphorn-fa at the time, it does not appear in these recordings. Field recordings are more informative for this investigation, because here yodeling was captured in a social context. Fortunately, field recordings from Switzerland from 1936 can be evaluated for this purpose.

Relationships between alphorn and yodel in the field recordings of Wolfgang Sichardt, 1936

The musicologist Wolfgang Sichardt (1911–2002) undertook a research trip to Switzerland in 1936 with the intention of documenting yodeling and exploring the "origin of yodeling," as indicated in the title of his dissertation from 1939.[9] Sichardt (1936b:177) wrote of his endeavor:

> On behalf of the Department of Musicology at the University of Jena, I undertook a folklore and musicological research trip in the Swiss Alpine region in the summer of this year. It was a matter of collecting alpine songs such as yodels, Kuhreihen, alpine blessings, juchzers and alphorn tunes in optimal true-to-sound sonograms and thus adding new observational material to a long-neglected branch of our musical folklore.

The theoretical background on which Sichardt bases his hypotheses was taken from his doctoral supervisor Werner Danckert (1900–1970), who transferred the methods and theories of Kulturkreislehre[10] to musicology. These theories, which Sichardt presents in his dissertation, are obsolete today (cf. p. 27).[11] However, his sound recordings remain interesting for research, as they are the earliest field

9 Full title of Sichardt's dissertation from 1939: "Der Alpenländlische Jodler und der Ursprung des Jodelns." (The alpine region yodel and the origin of yodeling).

10 Cf. p. 27, footnote 2.

11 During the National Socialist period in Germany (1933–1945), German musicology was interested in finding the origin of "Germanic" music. Sichardt's dissertation and conclusions are to be understood in this context.

recordings of alphorn music and yodel in Switzerland.[12] For his field research, Sichardt had the newly developed AEG magnetophone K2 at his disposal, which corresponded to the highest level of technology at that time. New insights into the music of that time can be gained therefrom, even if the small number of recordings are not adequately representative of yodeling and alphorn playing in Switzerland then.

Sichardt's journey took him to Central Switzerland (Kerns, Lungern and Muotatal[13]), northeastern Switzerland (Nesslau and Appenzell), the canton of Fribourg (Neirivue), Valais (Vissoie and Brigerberg) and Graubünden (Mathon) (Sichardt 1939: 169).[14] The choice of these locations was partly related to the advice of his contacts in Switzerland, and partly driven by his need for electricity to run his recording device, which meant the villages had to have a power grid. The recordings in Table 10 are available on twelve magnetic tape reels.

Table 10: Summary of Sichardt's sound recordings from 1936

Tape reels	Location	Recordings (according to Sichardt's designations [1939: 171–175])
1, 2	Appenzell	9 solo yodels, 1 yodel with cattle calls, 1 Kuhreihen, 2 yodel duets, 5 alphorn tunes, 1 alphorn scale, 2 yodel songs
3	Nesslau	4 solo yodels, 2 yodel duets
3, 4	Kerns	5 solo yodels, 1 Alpine blessing, 1 three-part yodel, 3 alphorn tunes, 1 alphorn scale
4, 5	Lungern	7 solo yodels, 3 two-part yodels, calls and whoops,[1] 2 yodel songs
6, 7	Muotatal	11 solo yodels, 8 yodel duets, 6 alphorn melodies, 2 alphorn tunes, 1 alphorn scale, 2 cattle calls, 1 Alpine blessing (spoken)
7, 8	Mathon	17 songs, 2 yodel songs, 1 yodel duet
9	Brigerberg	5 solo yodels
10	Vissoie	1 yodel, 5 songs
10, 11	Neirivue	1 two-part yodel, 4 yodel songs, 1 song with yodeled refrain, 1 Ranz des Vaches, 1 set of alphorn tunes

The designations for the musical pieces correspond literally to those of the original. English translations of designations from Wey 2021, "A Reassessment of Wolfgang Sichardt's 1936 Field Recordings of Swiss Yodel," p. 172.

Source: Sichardt (1939: 171–175).

12 The originals of Sichardt's sound recordings can be found in the Phonogrammarchiv of the Austrian Academy of Sciences in Vienna. Copies of the recordings can be listened to via listening stations of the Swiss National Sound Archives.

13 Sichardt writes "Muotatal," which today refers to the valley. Presumably he did not mean the valley, but the village "Muotathal," but used the spelling without h.

14 A handmade map lists the locations of the field photographs (Sichardt 1939: 169).

In the recordings from Kerns, Lungern, Nesslau, Vissoie, Brigerberg and Mathon, no connections between alphorn and yodel can be identified. Therefore these are not further analyzed. In the recordings from Appenzell and Muotatal there are such connections, which are evaluated here.

Sichardt assumed that the natural tone scale existed in the yodel of the Appenzell and Muotatal regions. According to his remarks, the "influence of the alphorn-fa and the alphorn scale on the alpine vocal genres, in particular yodels and Kuhreihen…[is] undeniable. However, these influences are recorded and processed differently in terms of genre, time-frame, and connections to landscape and family line" (Sichardt 1939: 117). According to Sichardt, the sound system of the Muotatal yodel cannot be sufficiently explained by an influence of the "alphorn scale."

> It is not enough to point out the instrumental role of the alphorn scale. The peculiar structural features are characteristics of a quite independent vocal style. Even the formation of the scale often goes beyond what is instrumentally given and possible. At the very least, the instrumental material is quite independently developed. (Sichardt 1939: 38)

Sichardt suspected a transfer of segments of the alphorn scale into the yodel, however this should be different from region to region and in its manifestation. At that time he already detected these influences especially in the recordings from Appenzell and Muotatal, which could be reconstructed through an analysis of his audio recordings.

One of the alphorn tunes recorded by Sichardt in Appenzell includes the melody of a well-known natural yodel; for the alphorn player Sichardt records only the surname Wild. He could mean Emil Wild (1909–1969); he was known as a passionate alphorn player who took first place at the Central Swiss Yodeling Festival in 1929 (Manser 1980: 204). The photograph on a postcard from 1935 shows Emil Wild with an unusually long alphorn (Fig. 68).

The length of the alphorn pictured matches Sichardt's recording, for which an instrument with the fundamental tone E was used. For the following transcription, the melody was transposed to the common notation for alphorn (C major) for readability.

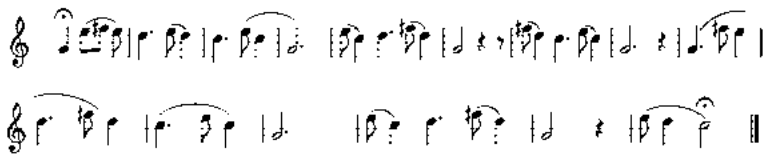

Fig. 67: Transcription of an alphorn melody by Wild, also known as a yodel, recorded by Wolfgang Sichardt (1936a: 2Aα).

Fig. 68: Alphorn player Emil Wild (1906–1969). Original in the Cantonal Library Appenzell Ausserrhoden, Trogen (KB-009769/214).

The recorded melody moves between the 6th and the 11th natural tone. The alphorn-fa often occurs in it, sounds as the highest tone and usually falls on unaccented beats. Wild uses a lot of *legato* in his alphorn playing, which corresponds to a yodel-like style of playing (Sommer 2013: 19). As mentioned above, this melody is also yodeled and then bears the name *Alphorn-Zäuerli.* It can be heard on the LP *Am Jodlerobed* of the yodel club Herisau Säge from 1985. Erwin Sager transcribed the yodel melody (pers. comm. 2 March 2016) (Fig. 69).

The yodel melody sounds in G major and is therefore in a different pitch than the alphorn melody. The alphorn melody that Wild played is found in the yodel transcription in the second and third systems (beginning marked with an arrow). It essentially coincides with Wild's melody, even if the alphorn player engaged in greater rhythmic freedom and does not adapt to the stable meter of the yodel notation. Apparently, to better play the first note, Wild began with the note g^1, the 6th natural tone, and then continued on with the Zäuerlimelodie (Zäuerli melody). The *Alphorn-Zäuerli* contains a sequence of an alphorn melody and thus corresponds to Influence B described on p. 169.

Three Appenzell yodel recordings from Sichardt come from the two beer drivers Franz Speck and Arnold Schlepfer (Sichardt 1939: 171).[15] Sichardt was able

15 Sichardt (1939: 171) noted the name "Franz Spuk." According to Sager (pers. comm. 17 February 2018), however, the person's last name was Speck.

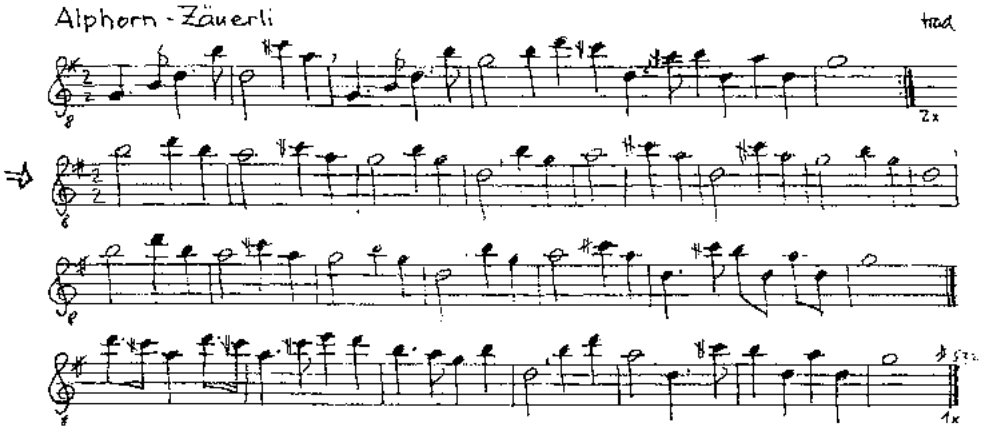

Fig. 69: *Alphorn-Zäuerli*, sung by the yodel club Herisau-Säge in 1985, transcription by Erwin Sager.

to record a solo yodel of Schlepfer and Speck as well as a duet of both yodelers. With regard to the tone system, Arnold Schlepfer's solo yodel is of particular interest, as he sings alphorn-like melodies. The audio recording of Arnold Schlepfer's solo yodel stands out for its idiosyncratic timbres and concrete parallels to alphorn melodics. In order to simplify the readability of the transcription, it was notated a halftone higher than actually sung. Since the yodel was performed very freely by Schlepfer and no clear accented or unaccented beats can be distinguished, measure bars are dispensed with (Fig. 70).

Schlepfer's yodel is clearly based on the Lydian scale, in the notation with fundamental tone c^{1} (sounding: *b*). He sings according to Tobler's "Alphorn-Fa-Yodel" with a fourth scale degree augmented by a halftone, which is not intoned as an eleventh natural tone. The similarity to the alphorn melody is created by this Lydian mode (Influence E).

The audio analysis of Sichardt's recordings in the Muotatal proves to be challenging, since even the first listening impression makes it clear that the intonation of the Juuz lies far from equal-tempered tuning. Subsequently, it will be investigated whether in 1936 in the Muotatal the Juuz followed a tonal system based on the natural tone series or a different regional tonality, and whether a known tone scale can be obtained at all from the available data. Sichardt recorded solo yodels, yodel duets, cattle calls, an alpine blessing and various Büchel melodies in the Muotatal (Sichardt 1939: 172). Of these recordings, nine solo yodels are evaluated in which the pitches can be reliably measured.

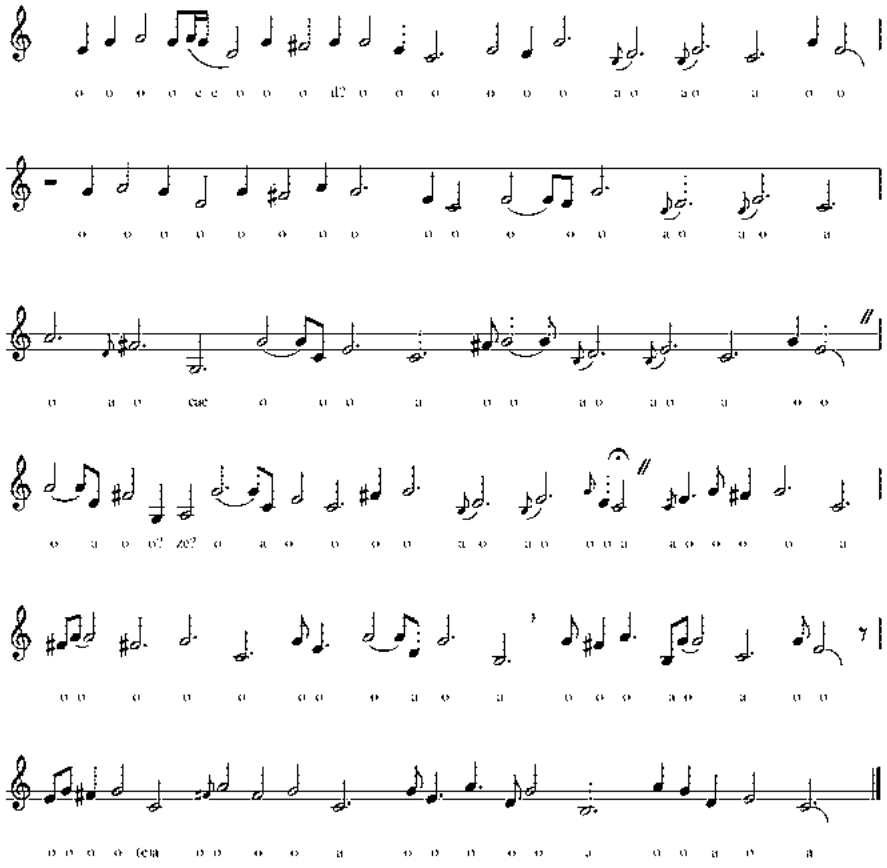

Fig. 70: Solo yodel of the Appenzell beer driver Arnold Schlepfer, recorded by Sichardt (1936a: 2C) (transcription by the authors).

The following graphic summarizes the intonation in these nine yodel melodies. The fundamental tone is defined as the scale degree that is held at the end of a phrase of the Juuz. As a point of reference, the nearest fundamental tone is used to relativize potential tendencies of the voice to rise or fall (Fig. 71).

From the distribution of pitches in relation to the fundamental tone, a tone scale can be clearly recognized with pitches that are distributed over the entire interval spectrum. The figure clearly shows that the scale degrees do not correspond to an equal-tempered scale, since their median values (black bars in Fig. 71) differ significantly from the cent values of equal-tempered semitones (100, 200, 300 …). In order to check whether natural thirds influenced by the Büchel (314 cents or 386 cents) or the alphorn-fa (551 cents) have been transferred to the Muotataler Juuzes, the focus lies particularly on the third and fourth scale degrees.

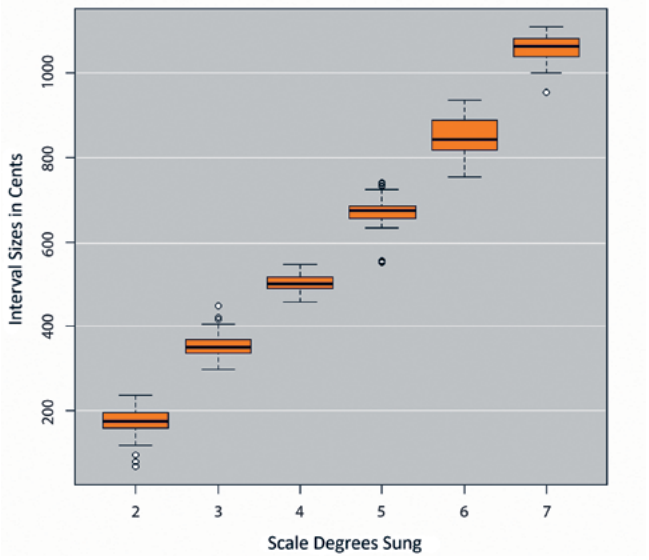

Fig. 71: Distribution of pitches in relation to the nearest fundamental tone in nine solo yodels recorded by Sichardt in the Muotatal in 1936. The vertical axis shows the intervals in cents, the horizontal axis the scale degrees two to seven.

The following figure shows the frequency of the sung thirds and fourths in the nine analyzed Muotataler Juuzes (Fig. 72).[16]

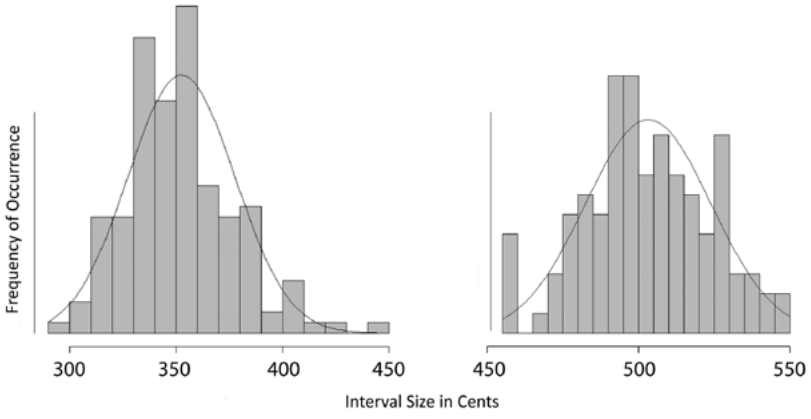

Fig. 72: Distribution of the sung intervals in relation to the nearest fundamental tone in distances of thirds (250–450 cents, left) and distances of fourths (450–550 cents, right).

16 In total, the measurements contain 153 thirds and 118 fourths.

The figure on the left shows that neutral thirds are most often intoned at 350 cents. An intonation of natural thirds influenced by the Büchel would result in two peaks at 314 cents (from the 4th to the 5th natural tone) and 386 cents (from the 5th to the 6th natural tone). An influence of the Büchel on the thirds sung can therefore not be confirmed. Nor does the tonal system seem to be based on the equal-tempered scale, since an equal-tempered minor third would have to sound at 300 cents and a major third at 400 cents. The figure on the right shows that fourths tend to be intoned equally tempered, most often in the range around 500 cents. The intonation of the alphorn-fa should result in a peak at 551 cents. However, this interval is very rarely intoned. Thus, a transfer of the alphorn-fa from the Büchel scale does not seem likely. The analysis of the nine solo yodels from Sichardt's audio recordings (1936a) shows that an independent tonal system existed in the Muotatal in the 1930s, which clearly differed from the equal-tempered system, but also from the natural tone series. These Juuzes therefore generally do not correspond to any of the connections with the alphorn mentioned from p. 169 onwards. However, the analysis results obtained here must neither be generalized nor taken out of their temporal context, as it remains unclear to what extent these audio recordings can be regarded as representative.

Although the intonation of the alphorn-fa in relation to the fundamental tone cannot be established in Sichardt's audio recordings, this does not preclude the auditory impression of an alphorn-fa being evoked through other intervals in the course of the melody, for example through neutral seconds of around 150 cents or neutral thirds of around 350 cents. The ethnomusicologist Hugo Zemp presented related theses in his short film *Voix de tête, voix de poitrine – Jüüzli du Muotatal* (Zemp 1988) and processed his findings in an article about 20 years later (Zemp 2015: 59). Zemp took Sichardt's view that the alphorn-fa is sung in the Muotatal, but qualified it (Zemp 2015: 65) and took into account the distinction between Lydian mode (Influence E) and the intonation of alphorn-fa (551 cents above the fundamental tone). In addition, he noted that in Sichardt's audio recordings, the fourth scale degree was usually sung equally tempered and rarely intoned higher than around 500 cents (Zemp 2015: 65). This is in line with the results presented here (cf. Fig. 72).

Marie Ablondi's solo yodel, also from the Muotatal, stands out for its tonal range and deserves special attention. In order to improve readability and simplify the comparison with the natural tone series, the melody was transposed one semitone higher (Fig. 73).

This solo yodel melody is based almost exclusively on the natural tone series. Only the two notes eb^{2} (bars 18 and 26) and the short notes a^{1} (bars 9 and 23) cannot be reproduced on a natural tone instrument in C.

This yodel has the possibilities of transferring the tonal system from the alphorn to the yodel (Influences A and B). The vocalization on "u" and "o" without consonants characterizes the Muotataler Juuz to this day. Ablondi colors the vowels in such a way that the timbre of the Juuz resembles that of the

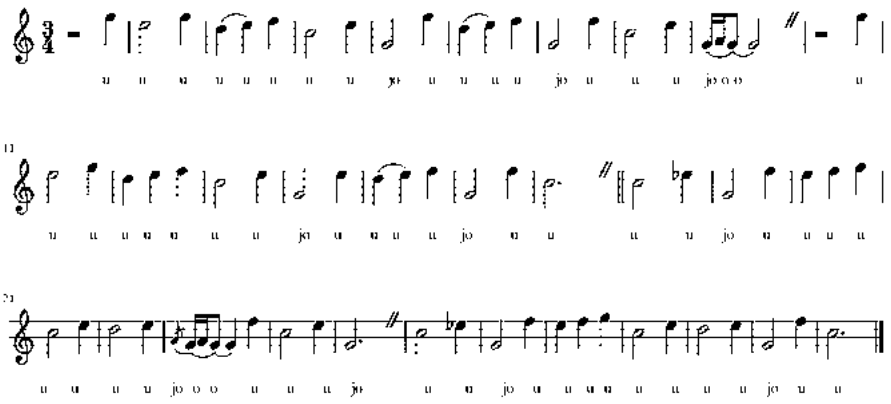

Fig. 73: Transcription of a solo yodel, sung by Marie Ablondi (Sichardt 1936a: 6G), recorded in 1936 (transcription by the authors).

Büchel. This phenomenon is not an isolated case and will be discussed in more detail below, since the adaptation of the yodel voice to the timbre of the alphorn or the Büchel can also be understood as a transfer of an instrument-typical characteristic to the yodel voice.

Bücheljuuz: Yodeling with the sound of the instrument

The alignment of the voice quality with that of the Büchel is mainly found in the Muotatal. A genre of yodeling has developed here which bears the characteristic name "Bücheljuuz." Although the vocal imitation of the sound of the Büchel seems probable earlier, this term has only been used since the second half of the 20th century.[17] No references or recordings from the thirties and forties with this yodel designation are known.

On an impressive audio recording by the yodeler Alois Gwerder (1874–1963) from 1959, a Bücheljuuz is performed in such a way that it sounds deceptively like the instrument. The imitation of the Büchel sound in the yodel could be a creation of Gwerder. The Muotatal teacher Peter Betschart, who dealt intensively with Muotatal Juuz and Büchel music, sees Alois Gwerder as the actual inventor of the Bücheljuuz (Betschart 1978: 28).

17 Sichardt also speaks of the "alphorn" in the Muotatal (Sichardt 1939: 99). He does not mention the term "Büchel."

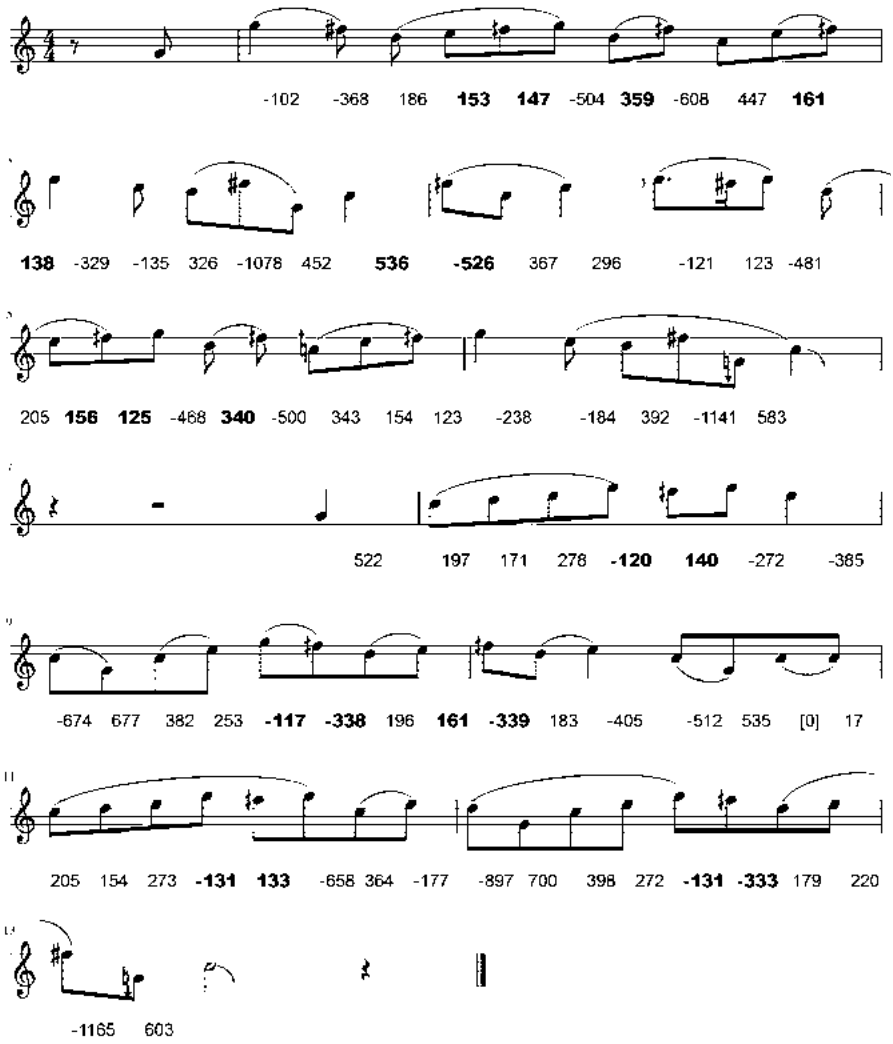

Fig. 74: *Bücheljuuz* by Alois Gwerder (called Wichel Wisi), recorded in 1959 (pers. comm. Betschart, 11 October 2015. Recording is privately owned by Betschart).

The genre of the Bücheljuuz is an exceptional phenomenon in yodel music in that the intonation of the natural tone scale and the imitation of the alphorn sound, here in the Muotatal variant of the Büchel, can be clearly established. Gwerder 'yootzed'[18] the following Bücheljuuz for the first time at the Sennenkilbi of 1893 (pers. comm. Betschart 11 October 2015). At the time of the audio recording in

18 An anglicized version of the Swiss-German verb "juuzen."

1959, Alois Gwerder was already 85 years old. The transcription of Gwerder's yodeled melody has been transposed upwards by a semitone to simplify comparison with the natural tone series (Fig. 74).

The *Bücheljuuz* is based entirely on the natural tone series (Influence A) from the 6th to the 12th natural tone. Below the melody, the intervals of the adjacent tones are indicated in cents. Gwerder intones the alphorn-fa in some places, and in other places an almost equal-tempered *f*#². The decisive intervals for the aural perception of the alphorn-fa are printed in bold in the transcription, and the corresponding notes are marked with a simple sharp. In most cases, the intervals do not correspond to an exact cent distance on an ideal natural tone series, as the intonation of the singing voice is variable. But the clearly audible distance to the equal-tempered intonation of the fourth scale degree leads to the perception of the alphorn-fa. If the intonation of the fourth degree tends toward an *f*#, this is marked with a normal sharp in the transcription. The auditory impression of the alphorn-fa can still also arise in those places that approximate an equal-tempered interval (Influence D). Furthermore, Gwerder imitates with his voice not merely the intonation of the Büchel, but also its timbre. The timbre he uses in the *Bücheljuuz* is so remarkably like the instrument that only the notated final glissandi reveal that the *Bücheljuuz* was yodeled and not played (cf. Fig. 74). Another Bücheljuuz recording from the Muotatal, which is composed exclusively of natural tones (Influence A), comes from Anton Büeler in the 1970s. For comparison with the natural tone series, the notation was transposed upwards by one semitone (Fig. 75).

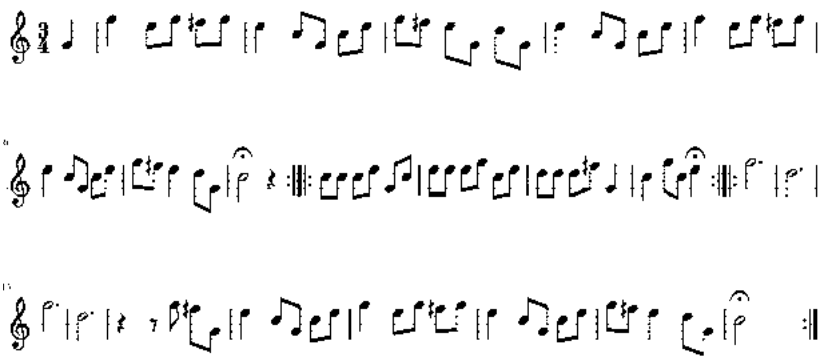

Fig. 75: Transcription of the *Bücheljuuz*, sung by Büeler ([1970]: Title No. 11).

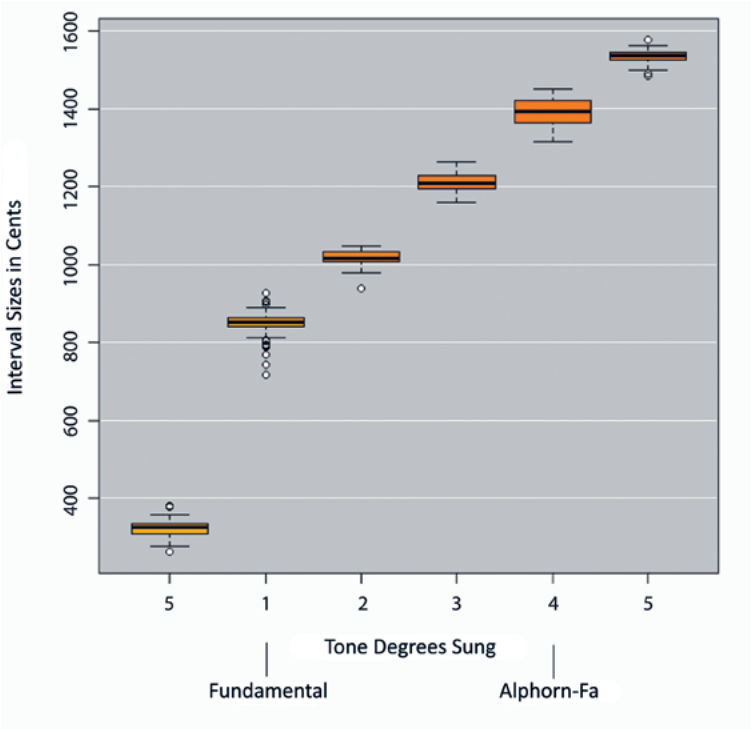

Fig. 76: Distribution of all pitches sung in Büeler's *Bücheljuuz*, based on an arbitrary reference tone at 300 Hz. Within an octave, five different scale degrees are sung.

The results of the analysis of this *Bücheljuuz* were confirmed by Büeler (pers. comm. Büeler, 14 February 2018). The number of measurable tones exceeding those of Gwerder's *Bücheljuuz* amounts to 174, which allows for an in-depth analysis. Figure 76 shows the measured intervals in cents (vertical axis) given in relation to an arbitrary reference tone of 300 hertz. As a result, the fundamental tone is also seen as a variable scale degree (Fig. 76).

Figure 76 shows that Büeler uses a pentatonic scale that divides the octave into five unequal intervals. Between the fifth scale degree (g^{1}) in the lower octave (in the figure on the far left) and the fundamental tone (c^{2}) lies a strikingly large interval, which reflects the one between the sixth and the eighth natural tone on the Büchel.[19]

19 The 7th natural tone (notated: bb^{1}), which lies in the natural tone series within this interval, is not sung. Also, in Büchel music this tone is usually not used. The reasons for this have yet to be clarified.

The position of the fourth scale degree is approximately in the middle between the third and fifth degrees, which in turn corresponds to the approximate position of the alphorn-fa. The exact distance between the median values of the first scale degree and the fourth scale degree is 542 cents, which is considerably closer to the interval between the fundamental tone and alphorn-fa (551 cents) than to an equal-tempered fourth (500 cents), or respectively to an equal-tempered tritone (600 cents). As already observed with Gwerder, there are strong similarities between the voice quality of the yodel and the timbre of the Büchel.

The question of whether the Bücheljuuz originally represented an instrumental piece that was transferred to the yodel, or whether it was created as an independent yodel and gradually came to conform to the melodies of the Büchel, remains unanswered. Betschart writes that the Bücheljuuz is a "transfer from the instrument" to the song but cautions that the emergence of the connections between the sung and played Bücheljuuz cannot be clearly demonstrated (Betschart 1978: 28). Büeler states that he invented his *Bücheljuuz* as a yodel freely and without an instrumental prototype (pers. comm. Büeler 14 February 2018). Both sides of an influence must therefore be taken into consideration.

Büeler's *Bücheljuuz* is in the meantime both yodeled and 'bücheled' by various people also outside the Muotatal: In 2003, for example, the yodel group Schlierätal Alpnach (Canton of Obwalden) under the direction of Thomas Wieland-Bühlmann with the solo yodeler Konrad Schelbert published this yodel (Jodlergruppe Schlierätal Alpnach 2003: Title No. 10). Yodels with comparable names, such as *Bichel-Juiz* or *Bücheli-Jodel*, also occur outside the Muotatal. However, these examples taken up in the following section do not show the same explicit correlations with Büchel music as the Muotatal variants.

The *Bichel-Juiz* by the yodel composer Adolf Zimmermann (1919–2002) begins with a motif that also occurs in the *Beckenried Kuhreihen* (Influence A). In different interpretations, this motif was yodeled with or without the alphorn-fa and analyzed here based on two different recordings, one older and one newer.[20] The following figure shows the initial motifs of both versions of the piece (Fig. 77).

In the older version, the initial motif is intoned differently in the repetition of the first yodel part. In the newer version from the 2000s, the intonation remains relatively constant. Both transitions are therefore notated with their interval sizes in the third system. The intervals that make an alphorn-fa sound are in bold.

The alphorn-fas intoned according to the natural tone series are marked with a blue frame and are yodeled in the first phrase of the older recording. In the repetition of the phrase, the intonation is closer to the equal-tempered scale. In the more recent recording, the fourth scale degree in the descending line (e^2) is intoned a semitone higher (framed in green)[21] and the auditory impression of

20 The recordings come from the private collection of Edi Gasser and are respectively dated 1982 (Stanser Jodelbuebe) and the 2000s (unknown performers).

21 Only in the descending phrase is the fourth scale degree increased, but not in the ascending one. Fellmann described this interpretative approach as early as 1948 (cf. p. 149).

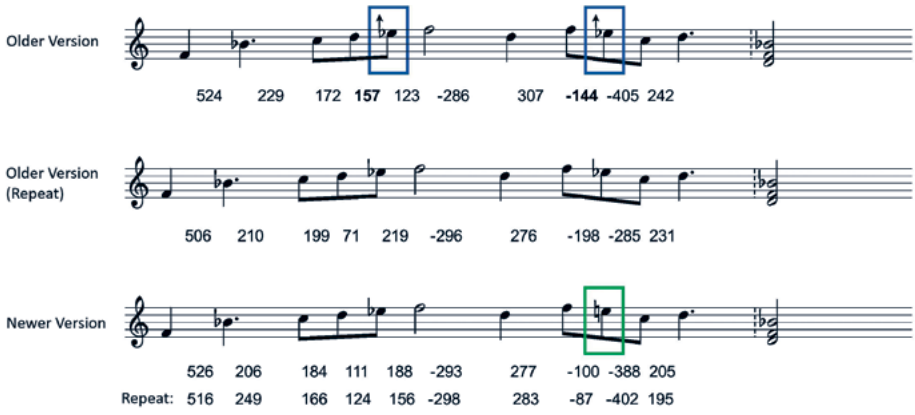

Fig. 77: Transcription of the first phrase of *Bichel-Juiz* by Adolf Zimmermann from two different audio recordings (private collection Edi Gasser).

an alphorn-fa is created by this strange-sounding note (Influence D). After this phrase, the choir begins and continues to sing diatonically. The *Bichel-Juiz* is thus a representative of those yodels that contain sequences with typical alphorn music and incorporate parts of the tonal system in these sequences (Influence B).

Today, the alphorn and the Büchel have inspired yodel compositions by various composers, such as the Bernese Eduard Dauwalder (1935–2002) with his *Alphornjutz*.[22] In the compositions *Büchel-Jodel* (Stadelmann 2003: Title No. 18) and *Alphorn Jodel* (Der Innerschweizer Naturjutz 1997: Title No. 1) by the Entlebuch composer Franz Stadelmann, solo yodel and instrument alternate, an innovative combination of alphorn music and yodel. Another yodel named *Büchel-Juiz* that also plays with the alternation of Büchel and yodel was composed by Fridolin Haldi (1916–2012). This yodel from Obwalden is also available under the title *Alphorn-Juiz*, but there in the key of A-flat major instead of B-flat major. In addition to the common F# or F alphorn, the A♭ alphorn also occurs in Obwalden. Likewise, the *Alphorn-Juiz* by Gebhard Britschgi (1931–2018) is largely based on the natural tone series.[23]

In summary, the analyses carried out show that the connections between alphorn music and yodel yield varying results. Whether a yodel is perceived as alphorn-like or an alphorn melody as yodel-like, however, is a matter of subjective perception. To get an impression of how listeners perceive and evaluate such connections, the results of a 2017 survey that included audio samples are presented below.

22 www.ejdkv.ch, 15 June 2018.

23 Conductor notes and recordings of the yodels of Haldi and Britschgi are available on www.naturjodler.ch.

Empirical studies on the perception of similarities between alphorn music and yodeling

When does a person perceive a yodel melody as alphorn-like or an alphorn melody as yodel-like? To investigate this question, a listening experiment with 82 visitors was carried out at the 30th Federal Yodeling Festival in Brig (23–25 June 2017). Respondents indicated in advance whether they were yodelers or alphorn players, although no response or a response that included both was possible. Twelve short (10–15 seconds) audio samples were then played to them, including four alphorn melodies and eight yodel phrases. After listening to each example, respondents indicated how much the audio sample sounded to them yodel-like (in the case of alphorn melodies) or alphorn-like (in the case of yodels). To do this, they placed an X on a five-point scale to indicate the strength of similarity.[24]

The choice of audio samples was based on the inclusion of various musical elements that are considered typical of the other musical practice. Three criteria were considered when selecting the alphorn phrases. Firstly, whether the *legato* on the alphorn is considered a yodel-like style of playing (Sommer 1994: 14), and secondly, whether slow meters are perceived as more yodel-like than fast ones when played on the alphorn. As a third criterion, melodies based on historical Kuhreihen notations were used to empirically test the hypothesis of a common past of yodel and alphorn melodies in Kuhreihen (cf. pp. 44 and 49). The opening phrases from the following alphorn pieces were played:

1. *Alphornweise* by Emil Wild, 1936 (Sichardt 1936a: 2Aα, cf. p. 177).

2. *Alphorn-Weise* after Kappeler (1767: Plate V, Fig. 2, cf. p. 53), played by W. Chappuis (Bachmann-Geiser [ed.] 1989: Title No. 1).

3. *Alphornsolo*, a field recording without indication of the performer, recorded in Schwyz 1938 (Brăiloïu 2009: 29).

4. *Kuhreihen* after Giovanni Battista Viotti (cf. p. 57), played by W. Chappuis (Bachmann-Geiser [ed.] 1989: Title No. 2).

The audio samples correspond to the criteria of legato, slow tempo and based on historical Kuhreihen as shown in Table 11.

Four aspects were decisive for the selection of the eight yodel phrases. First, it should be assessed whether yodel melodies that are completely based on the natural tone series are perceived as more alphorn-like, secondly, whether yodel phrases with and without alphorn-fa are perceived as different. Thirdly, it should be determined whether polyphonic yodels are evaluated differently than monophonic ones, and fourthly, whether also here differences arise between a slow and fast tempo of yodeling. The eight yodel phrases come from the following sources:

24 The survey was carried out in two phases: As part of a presentation at the second Federal Yoɵ deling Forum (22 June 2017) with 50 valid participants; subsequently during the festival days (23–25 June 2017) at a listening station on the festival grounds (32 valid participants). No one filled out the questionnaire more than once. Of the 88 questionnaires received, 82 were valid and 6 were invalid.

Table 11: Audio samples of alphorn melodies 1–4 according to music-aesthetic criteria

No.	Legato	Slow tempo	Kuhreihen
1	X	X	
2			X
3		X	
4			X

Table 12: Audio samples of yodel phrases 5–12 according to music-aesthetic criteria

Nr.	Natural tone series	Alphorn-fa	Polyphonic	Slow tempo
5	X	X		X
6	X		X	
7			X	
8	X	X	X	
9				X
10	X	X	X	
11	X	X		
12				

5. *Bärgli-Juuz* by Anton Büeler from Muotathal from 2005 (Bachmann-Geiser [ed.] 2010: Title No. 7, cf. p. 170).

6. *Bichel-Juiz* by Adolf Zimmermann from 1982 (older version, cf. p. 188).

7. *Der Ustig wott cho* by Gottlieb Jakob Kuhn and Ferdinand Fürchtegott Huber, sung by Therese Wirth-von Känel 1963 (Bachmann-Geiser [ed.] 2010: Title No. 23, cf. p. 100).

8. *Flueh-Jutz*, yodeled by Arthur Schöpfer and the Yodeling Club Innertkirchen (Entlebucher Naturjodel 2011: Title No. 5).

9. *Hofar*, also named *Holzigjohlar*, recorded in 1967 in the Bregenzerwald (Fink-Mennel 2007: Title No. 1).

10. *Bichel-Juiz* by Adolf Zimmermann from the 2000s (more recent version, cf. p. 190).

11. *Hech obe* interpreted by the Yodel Club Giswil with the solo yodeler Ruedi Rymann (Der Innerschweizer Naturjutz 1997: Title No. 11, cf. p. 169).

12. *Solojodel* by Johann Eyer in Brigerberg, 1936 (Sichardt 1936a: 9N).

The yodel samples are listed in Table 12 according to the criteria described.

The results of the empirical study show that active musicians in the yodeling and alphorn playing categories judged the audio samples essentially the same as visitors who neither yodel nor play alphorn. The following figure shows the different audio samples on the horizontal axis (1–4 alphorn, 5–12 yodel); the vertical axis indicates the similarity to the other category (Fig. 78).

Overall, the assessment of the audio samples does not depend on whether the respondents themselves practice this music and accordingly does not have to be differentiated based on this criterion.

There are clear differences in the alphorn melodies assessed (cf. Fig. 79). The *Alphornweise* recorded by Sichardt (1936a: 2Aα) in Appenzell is felt as yodel-like (Ø 3.683), but not the *Alphorn-Weise* after Kappeler's Kuhreihen (Ø 2.284). The *Alphornsolo* published in Constantin Brăiloïu's field recordings is perceived as very yodel-like (Ø 3.772),[25] more strongly than Viotti's *Kuhreihen* (Ø 3.269), which was documented as played on a horn in 1792 (Fig. 79).

The two audio samples in which the alphorn melody goes back to an 18th-century Kuhreihen were perceived as less yodel-like than the two melodies of recent origin. The slow melodies 1 and 3 were felt as yodel-like, among them the melody of Wild, which was the only one played with pronounced *legato*.

The eight yodel samples were also assessed differently (cf. Fig. 80). Most respondents perceived the natural tone melody of the *Bärgli-Juuz* as alphorn-like (Ø 3.463). The Nidwaldner *Bichel-Juiz* in the 1982 version, which also consists of natural tones, but was intoned in equal temperament, also has a comparably high value (Ø 3.226). Quite different was the yodel part from Ferdinand Huber's yodel song *Der Ustig wott cho* (Ø 1.895); here almost no associations with the alphorn were perceived.[26] The *Flueh-Jutz* was identified as a clearly alphorn-like melody (Ø 4.019). The *Hofar*, in which the responses were not conclusive (Ø 2.857), is the only audio sample not from Switzerland, but from the Bregenzerwald in Vorarlberg (Austria). The newer version of the *Bichel-Juiz* (Ø 3.359) was rated roughly the same as the older one. The beginning of the yodel *Hech obe*, which is based on a typical alphorn melody, was mostly perceived as alphorn-like (Ø 3.293). Johann Eyer's *Soloyodel* from the Brigerberg was not perceived as alphorn-like (Fig. 80).

Differences between monophonic (examples 5, 9, 11 and 12, Ø 2.893) and polyphonic yodels (examples 6, 7, 8 and 10, Ø 3.125) are not decisive, as are the differences between slow (examples 5 and 9, Ø 3.268) and rapid tempos (examples 6, 7, 8, 10, 11, 12, Ø 3.217). On the other hand, a perceived alphorn similarity is confirmed in the Entlebucher *Flueh-Jutz*, which builds on the natural tone series, as well as the already discussed natural yodel *Bärgli-Juuz* and *Hech Obe* (cf. Influence B, p. 169). The differences between the yodel melodies consisting

25 In this audio sample, the perceived yodel similarity between visitors and active musicians diffee red by one point.

26 This can be explained by the fact that this excerpt represents the virtuoso salon yodel of the 19th century.

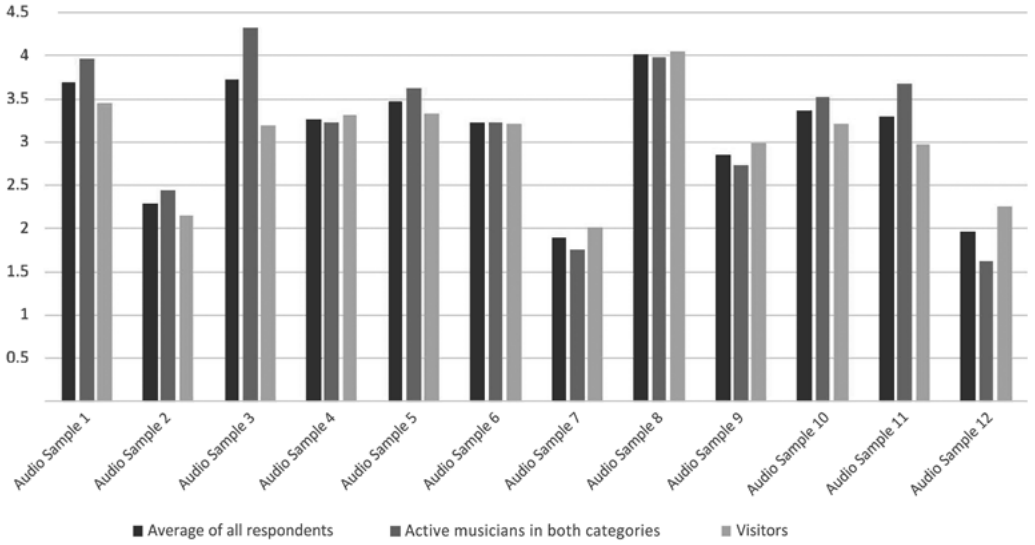

Fig. 78: Average values of all respondents (black), actively (dark grey) and passively (light grey) involved in the music.

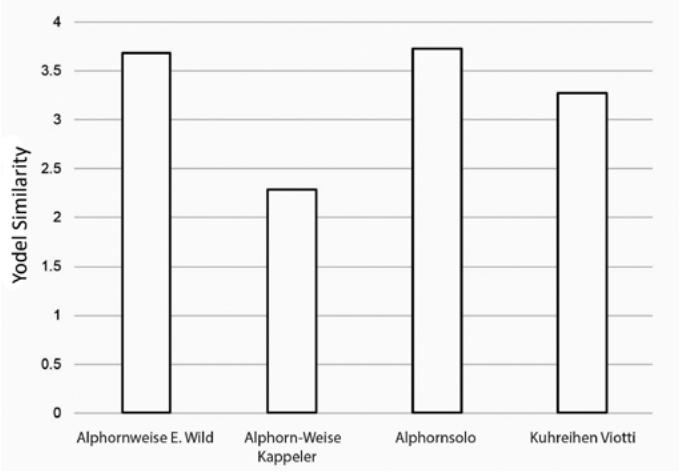

Fig. 79: Yodel similarity of the four alphorn tunes played (sample nos. 1–4).

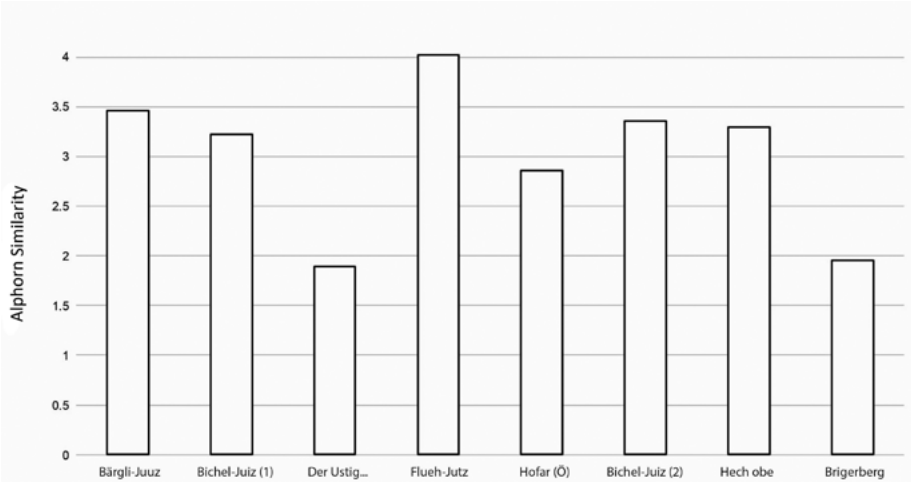

Fig. 80: Alphorn similarity of the eight yodel phrases played (sample nos. 5–12).

of natural tones and those built on a diatonic scale were clearly recognized (cf. Fig. 81).

The yodel phrases based on the natural tone series (Examples 5, 6, 8, 10, 11, Ø 3.472) are perceived more alphorn-like than those based on a diatonic scale (Examples 7, 9, 12, Ø 2.236). This means that the natural tone scale in a yodel is felt to be a connection to the alphorn. Four of these melodies include an alphorn-fa within the yodeled natural tone series, which may underpin the relationship with the alphorn.

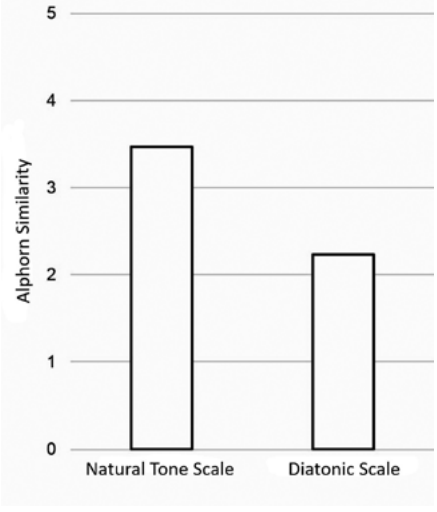

Fig. 81: Comparison between yodels based on the natural tone series or on a diatonic scale.

Summary

The results of the survey must not be generalized, as they are based on only twelve audio samples and are supported by a relatively small number of participants; nevertheless, the survey shows evident tendencies. Alphorn melodies, which were performed slowly and with *legato*, seemed yodel-like. The yodel melodies showed that phrases based on the natural tone series were perceived as alphorn-like.

There are different views on what is meant by the tonal mode of the alphorn in yodeling. A yodel can be completely (cf. Influence A, p. 169) or phrase-wise (cf. Influence B, p. 169) based on the natural tone series, both criteria for a perception as alphorn-like (cf. p. 193). Motifs incorporated into a yodel from the Betruf or the Kuhreihen (cf. Influence C, p. 171) can indicate interactions between alphorn music and yodel. If the fourth scale degree has been increased by a semitone, this may give the impression of the alphorn-fa, even if it has not been intoned according to the natural tone series. This feature can be inserted at individual places in the yodel (cf. Influence D, p. 172) as well as be consistently present as a Lydian mode (cf. Influence E, p. 172).

From the examined audio documents of the first half of the 20th century, there are no yodel recordings with clear intonation of the alphorn-fa as the 11th natural tone. Even though Sichardt described the alphorn-fa as part of the Muotatal tonal system in his publication, this cannot be confirmed by his audio recordings. On a field recording of Sichardt from Appenzell, however, the Lydian mode can be confirmed (Sichardt 1936a: 2C, cf. p. 180).

In yodel recordings after 1950, an alphorn melodics can be perceived more frequently. There are several reasons for this: On the one hand, alphorns were produced and played in large numbers, polyphonic alphorn music was widespread and alphorn making was professionalized. Thanks to these developments, alphorn music is prevalent in its current form and can inspire yodelers on many occasions. In addition, the Federal Yodeling Association addressed the aesthetics of the natural tone series and promoted the acceptance of ekmelic notes.

In the Muotatal, the genre of Bücheljuuz exists in which the sound and intonation of the Büchel are vocally imitated with amazing results. The audio analysis of the Bücheljuuzes of Gwerder (1959) and Büeler (around 1970) has shown that the alphorn-fa is intoned by the two yodelers as an ekmelic tone. The Muotatal Bücheljuuz is the only yodeling genre in which a clear connection to the alphorn can be attested in respect to tonality, intonation and timbre. A similarity exists in the Wurzhorner (song), a yodel from Austria, which in most cases is inspired by the Wurzhorn (instrument) and limited to the natural tone series (cf. p. 129).

The results of audio analyses can describe acoustic phenomena but cannot prove if a yodel phrase is perceived as alphorn-like, or an alphorn phrase is understood as yodel-like. The decision as to whether a yodel melody sounds like an alphorn is ultimately determined by the individual listening experience.

Chapter 11: Alphorn and yodeling: tangible, yet unsteady inter-relationship

The development of cultural customs and traditions is shaped by historical events and changes in social mindsets. They are constantly transformed by spontaneous or personal circumstances. Such unstable and irregularly surfacing social occurrences change facets of folk music, among other things, through inclusion of musical peculiarities of other musical genres of the same or foreign musical cultures. These manifold developments can be observed in European folk music since the beginning of its scientific music historiography. The ethnomusicologist Doris Stockmann emphasizes that since the Middle Ages, folk music has been strongly influenced particularly by church and art music, and since the 19th century also by various popular musical genres, whereby characteristic features have developed in musical structures (tonality, melody-formation, meter and rhythm). "Transitioning into the major mode, a strong tendency towards rational-uniform time signatures and the loss of regional- and genre-specific modes of performance are processes of profound structural change that can be observed everywhere, which little by little 'leveled out' old traditional regional styles" (Stockmann 1992: 147).

Although the aforementioned processes of change with the result of a "leveling" of regional styles clearly emerge in the history of alpine folk music, other locally determined factors must be considered for this cultural area, which are able not only to halt this "leveling," but also to revive typical but forgotten regional practices. For the time frame relevant to the current research, this includes especially the effects of Enlightenment thinking, socio-political upheavals and mountain tourism. The effects of these social phenomena on alphorn playing and yodeling were undesirable for some people passionate about folk music at the time, and they tried to counteract these developments according to their own personal preferences and possibilities, either by special compositions, or writing and publishing engaging texts, or by forming associations with other concerned people.

The way in which yodeling and alphorn are performed today, how these folk music expressions are perceived by the population and what cultural values are attributed to them, reflects the result of a leveling due to the effects of such cultural and socio-historical events on the one hand, and the counter-measures taken by dedicated institutions and persons on the other.

Yodeling and alphorn playing have been practiced for several centuries by the same population sectors in the same mountain regions, and yet the simple assumption that the two musical practices "at some point and somehow" influenced each other unilaterally or mutually cannot be accepted. A folk song is not conceived by the "people" (Volk), but by one or more persons; it may have changed

musically several times, possibly received a different text, and ultimately showed only a slight similarity to its previous form. The same applies to the processes involved in the adoption of musical expressions by the alphorn from singing. Places and dates of such processes and their musical results must be identifiable and verifiable to account for corresponding changes in musical forms of the yodel. Intermediaries who mastered both musical practices and handed them down can now be acknowledged, as well as musicians who consciously inserted elements of an alphorn melody into a yodel melody.

The present research has revealed names of persons, key moments and places in the folk music history of the Alpine region that played pivotal roles in shaping influences on folk music practices. Furthermore, the analysis of selected musical examples confirms the existence of musical appropriations. Answers to initially asked questions have been found, and new insights into the musical relationships between alphorn and yodeling gained. Despite some questions that remain open, answers to the question of a musical connection between the alphorn and yodeling can be formulated and placed in context with the instrumental hypothesis mentioned at the beginning.

Earliest sources relating to alphorn music and yodeling prove to be contextually too imprecise to trace borrowing processes between these two musical practices, but they do contribute to gaining an overview of the development of yodeling and the alphorn in the Alpine region. From the 16th century the first references to the alphorn appeared that allowed concrete statements to be formulated regarding the form of the instrument, thereby justifying assumptions about its music. The first notations of Kuhreihen date from the same period. Just how these sounded until the end of the 18th century, and whether they were performed instrumentally or vocally, must be decided from case to case. The use of the natural tone series in about half of these early melodies suggests the possibility of a musical relationship with the alphorn. At that time, the Kuhreihen had its function in agriculture, and the notations of that period followed a type of template. In the 18th century and at the beginning of the 19th century, the popularity of the Kuhreihen increased through romanticized depictions of "homesickness" and travelogues that included music notations.

The first Unspunnenfests and the associated *Kuhreihen Collections* serve as the environment for the first long-lasting combination of alphorn music with register-changing singing. Descriptions of the Kuhreihen indicate that they were interpreted in yodel-like fashion during the first half of the 19th century. During this time, the Kuhreihen became the musical representative of Swiss "Alpine herdsmen culture," and it was commercialized throughout Europe.

With the composers Ferdinand Fürchtegott Huber and Johann Heinrich Tobler, the beginning of an intentional adoption of typical alphorn motifs and intervals in a creative compositional process for yodel songs appeared, and other well-known folk song composers of that time embraced these ideas. Such adoptions that increasingly appeared become evident through the sustained use of

typical alphorn motifs as a compositional tool for yodel songs and Kuhreihen. With commercialization and transformation into salon music, the Kuhreihen lost its original function and, after the 1840s, further lost its relevance as an inspiration for new compositions.

Publications on Swiss folk music mention the Betruf as a ritualized musical expression. The analysis of the Betruf and its functions carried out in this research, in particular the comparisons of its musical form with alphorn music and Kuhreihen, admit the conclusion that the Betruf can also be regarded as a possible link between alphorn music and yodel.

Already in the first decades of the 19th century, male choirs were formed in the German-speaking world, which sang songs in four-part arrangements and thus founded a new song aesthetic based on polyphony and the equal tempered tone system, which excluded ekmelic alphorn intervals and register-changing, heterophonic singing. This Europe-wide musical aesthetic also resonated with the expectations of the increasing number of mountain tourists, who were presented with alphorn music and yodeling to the point of intrusiveness. The process of adopting musical characteristics of the alphorn into folk song compositions, as it took place at the beginning of the 19th century with Huber and other composers, came to a standstill in the middle of the century. Neither in the arranging of well-known folk songs and Kuhreihen, nor in the creation of new compositions did new connections between yodel and alphorn arise; in fact, the Kuhreihen in their original form did not even find entry into the repertoire of choirs.

To counteract a feared decline of the alphorn and yodeling, committed private individuals campaigned for their continuation and promotion. As already in the 1820s, alphorns were given free of charge to selected young men also from the 1860s onwards, and Alpine festivals with alphorn and yodeling competitions were organized (Ammann 2018). It is possible that joint music-making of alphorn players with yodelers was cultivated, although this is not documented and corresponding compositions from that time are not known. The discrepancy that arose then between the organizers of the Alpine festivals, who tried to preserve the customs through specific measures, and those persons responsible for choral development, who wanted to serve an intellectually idealized form of patriotism, was based on a different interpretation of the same esteem for tradition.

The increasing performances of groups of singers from Tyrol and Styria from the middle of the 19th century had an influence on yodel development in Switzerland. Their stage yodels were popular with the Swiss public and were frequently sung. The appropriated yodel melodies were not those Wurzhorner yodels, which lie clearly in musical connection with the natural trumpet, the Wurzhorn instrument, but rather folk songs with a yodel part that were specially created for stage concerts. The Swiss preference for these stage yodels led to a neglect of local folk song compositions, and for the beginning of the 20th century the question arises concerning which regional yodel characteristics were

still conveyed among the Swiss mountain population and which traditions were completely discontinued.

At the height of nationalist politics in Europe in 1910, motivated individuals joined forces to enhance the national distinctiveness of yodeling and alphorn playing by founding the Swiss Yodeling Association and to eliminate foreign influences on Swiss yodels. Three main initiators of this movement, Oskar Friedrich Schmalz, Johann Rudolf Krenger and Alfred Leonz Gassmann, who saw in the Kuhreihen and yodel songs of the first half of the 19th century the original yodel form of Switzerland, followed Huber's model not only in their compositions, but also with the organization of alphorn courses and the publication of corresponding sheet music. Commercialized yodeling, which was also emulated by Swiss singing groups at the beginning of the 20th century, could not be eliminated within just a few years. Music recordings by yodel choirs from Switzerland in the 1920s and 1930s reveal a closeness to the aesthetics of stage yodels.

With the successful optimization and standardization of alphorn making in the 1950s, there was a turning point for connecting alphorn music with yodel. From here on it was possible to play an alphorn melody on other instruments without interval deviations. A musical exchange between the two musical practices thus achieved an effectiveness that furthered a concrete and long-lasting influence, as evidenced by the yodel recordings with alphorn-fa and typical alphorn motifs, which increasingly appeared from the 1960s onwards. Such borrowing processes flourished even more strongly since the last decades of the 20th century, as the alphorn-fa was accepted in the yodeling competitions held by the EJV and its sub-associations in both alphorn music and yodeling.

Applications of alphorn melodics in yodeling developed differently in the different regions and with different emphases. In the Muotatal and in the Appenzell-Toggenburg area, audio recordings from 1936 document the occurrence of ekmelic intervals. Whether these are due to the alphorn, however, cannot be definitively clarified. Distinct appropriations of instrumental music in vocal musical expression can be seen in the imitations in the Wurzhorn yodels from Austria and in the Bücheljuuz from Muotatal. However, such adoption processes have not taken place continuously, are highly person-dependent and apply exclusively to limited periods of time and regions.

The extent to which borrowings before the 1950s were musically possible or even perceived is clarified by audio-analytical studies on historical instruments and empirical research. The audio analysis of historical instruments confirms that the alphorn-fa was also playable and audible on non-standardized alphorns of the 19th century. The conducted survey, based on audio sample assessments, supports the evidence that most participants perceived differences in terms of alphorn-like yodeling and yodel-like alphorn playing, thereby confirming the approach and rationale of this research.

The present research aimed to answer the question of whether a musical relationship between yodeling and alphorn music is a fact or an ideology. The short

answer is that both options are correct, depending on the region and time period. However, a continuity in these musical relationships cannot be detected, since music-aesthetic demands have changed continuously over the last two hundred years. At the same time, the manner of the musical relationship must be considered in a differentiated way; from the simple adoption of typical alphorn intervals to the imitation of the instrument timbre by the voice, numerous gradations exist.

At the beginning of the 21st century, yodeling and alphorn playing are practiced by a broad, urban audience inside and outside the Alpine region. Through these new movements, which include the "New Folk Music of the Alps" and "Urban Yodeling," a return to regional musical peculiarities is appreciated and emphasized by artists. In doing so, musical scenarios deviating from the usual equal tempered mode are specially emphasized to distinguish themselves from the musical mainstream.

Regarding the instrumental hypothesis, the results obtained here show that no regularities and continuities can be discerned in musical borrowing processes, but rather that these connections have very different characteristics in time and location. Thus, generalizing statements about the instrumental hypothesis, as formulated by music researchers about a hundred years ago, bear no validity. The results obtained also call for a critical questioning of the newer hypotheses on the origin and universals of music. According to the present results, these hypotheses, despite their interdisciplinary approach over such long periods of time, by no means lead to abstractions and generalizations of musical borrowing processes.

Appendices and Indices

1. Traditional Kuhreihen 1545–1840

The indented titles are copies of the title above them. The verbatim titles are listed as titles in the corresponding publications. First-time publications of a melody are in bold.

Der Appenzeller Kuhreien: "Lobe, lobe"
Authorship: Georg Rhaw
Year: 1545/1968 in: Bicina gallica, latina, germanica, p. 84

> Der Appenzeller Kuhreihen. Lobe. Lobe.
> Authorship: Alfred Tobler
> Year: 1903 in: Das Volkslied im Appenzellerlande, p. 126

Cantilena Helvetica der Küe-Reyen dicta
Authorship: Theodorus Zvingerus
Year: 1710 in: Dissertatio Medica Tertia De Pothopatridalgia vom Heim-Wehe, p. 102

> Kuhreihen
> Authorship: Heinrich Zschokke
> Year: 1797 in: Meine Wallfahrt nach Paris, Appendix

> Kuhreihen
> Authorship: Johann Gottfried Ebel
> Year: 1798 in: Schilderung des Gebirgsvolkes vom Kanton Appenzell, Appendix No. 5

> Ran de Vache du Dictionnaire de Rousseau.
> Authorship: Sigmund Wagner (ed.)
> Year: 1805 in: Acht Schweizer Kühreihen mit Musik und Text, Appendix, p. 4

> Ranz des Vaches de ZWINGER
> Authorship: George Tarenne
> Year: 1813 in: Recherches sur les Ranz des Vaches, p. 34

> Appenzeller-Kühreihen
> Authorship: Gottlieb Jakob Kuhn
> Year: 1818 in: Sammlung von Schweizer-Kühreihen und Volksliedern, p. 106

> RANZ DES VACHES OF HOFFER
> Authorship: Samuel Leigh
> Year: 1824 in: On the Ranz des Vaches, in: Harmonicon 2, p. 38

Appenzeller Kue reien
Authorship: Maria Josepha Barbara Brogerin
Year: 1730 in: Liederbüchlein der Maria Josepha Barbara Brogerin

Appenzeller Kuhreihen
Authorship: Hans Georg Nägeli
Year: 1800? [likely earlier]

Appenzeller Kuhreigen
Authorship: F. L. Stolberg
Year: 1794 in: Reise in Deutschland, der Schweiz, Italien und Sizilien
Mit Klavier/Flötenbegleitung, Appendix

Appenzeller-Kühreihen
Authorship: Alfred Tobler
Year: 1903 in: Das Volkslied im Appenzellerlande, p. 131

Appenzeller Kuhreigen
Authorship: W. Sichardt
Year: 1939 in: Der alpenländische Jodler, p. 65

Kühreihen der Appenzeller
Authorship: Ludwig Albrecht Haller (ed.)
Year: 1805 in: Acht Schweizer-Kühreihen, p. 17

Ranz des Vaches du Canton d'Appenzel. (tel qu'on le chantait l'an 1750.)
Authorship: George Tarenne
Year: 1813 in: Recherches sur les Ranz de Vaches, p. 31

RANZ DES VACHES OF THE CANTON OF APPENZEL
Authorship: Samuel Leigh
Year: 1824 in: On the Ranz des Vaches, in: Harmonicon 2, p. 39

[Melody under an image of an alphorn]
Authorship: Moritz Anton Kappeler
Year: 1767 in: Pilati montis historia, Appendix

No. 3
Authorship: Ernst Gottfried Baldinger
Year: 1791 in: Neue Zeitschrift für Ärzte 15, p. 380

[slow and with emphasis]
Authorship: Johann Gottfried Ebel
Year: 1798 in: Schilderung des Gebirgsvolkes vom Kanton Appenzell, Appendix No. 6

[similar melody] Lied der Emmenthaler
Authorship: Ludwig Albrecht Haller (ed.)
Year: 1805 in: Acht Schweizer-Kühreihen, p. 11

Ranz des Vaches du Mont Pilate
Authorship: George Tarenne
Year: 1813 in: Recherches sur les Ranz des Vaches, p. 30

Ranz des Vaches du Mont Pilate
Authorship: Gottlieb Jakob Kuhn
Year: 1818 in: Sammlung von Schweizer-Kühreihen und Volksliedern, p. 120

RANZ DES VACHES OF MONT PILATE
Authorship: Samuel Leigh
Year: 1824 in: On the Ranz des Vaches, in: Harmonicon 2, p. 38

Ranz des Vaches du Mont Pilate
Authorship: Alfred Tobler
Year: 1890 in: Kühreihen oder Kühreigen, Jodel und Jodellied in Appenzell, p. 11

Le Rans des Vaches
Authorship: Jean-Jacques Rousseau
Year: 1768 in: Dictionnaire de musique, Appendix, Planche N

LE FAMEUX AIR SUISSE APPELÉ LE RANS DES VACHES
Authorship: Jean Benjamin de la Borde
Year: 1780 in: Essai sur la musique ancienne et moderne T2/4, p. 106

"No. 2"
Authorship: Ernst Gottfried Baldinger
Year: 1791 in: Neue Zeitschrift für Ärzte 15, p. 378.

Air pour les Suisses Ranz des Vaches
Authorship: Francois-Joseph Gossec
Year: 1792 in: Le Triomphe de la République, p. 191–193

[very slow]
Authorship: Johann Gottfried Ebel
Year: 1798 in: Schilderung des Gebirgsvolkes vom Kanton Appenzell, Appendix No. 7

Ran de Vache du Dictionnaire de Rousseau
Authorship: Ludwig Albrecht Haller (ed.)
Year: 1805 in: Acht Schweizer-Kühreihen, p. 4

Ranz des Vaches de J. J. Rousseau
Authorship: George Tarenne
Year: 1813 in: Recherches sur les Ranz des Vaches, p. 30

Rans des Vaches
Authorship: Ange-Marie D'Eymar
Year: 1792 (1799/1800) in: Anecdotes sur Viotti, p. 43

Viotti's Kuhreihen.
Authorship: Orion
Year: 1812 in: Allgemeine Musikalische Zeitung 14, p. 438

Ranz des Vaches de VIOTTI
Authorship: George Tarenne
Year: 1813 in: Recherches sur les Ranz des Vaches, p. 61

Le même Ranz, Avec des mesures, et les paroles du ranz des vaches des Ormonds.
Authorship: George Tarenne
Year: 1813 in: Recherches sur les Ranz des Vaches, p. 62

RANZ DES VACHES OF THE ORMONDS, Viotti's Copy.
Authorship: Samuel Leigh
Year: 1824 in: On the Ranz des Vaches, in: Harmonicon 2, p. 38

RANZ DES VACHES DE VIOTTI
Authorship: Gottlieb Jakob Kuhn
Year: 1818 in: Sammlung von Schweizer-Kühreihen und Volksliedern, p. 120

"No. 1"
Authorship: Ernst Gottfried Baldinger
Year: 1791 in: Neue Zeitschrift für Ärzte 15, p. 378.

"No. 4"/Entlibucher
Authorship: Ernst Gottfried Baldinger
Year: 1791 in: Neue Zeitschrift für Ärzte 15, p. 380.

RAN DE VACHES
Authorship: Haller, Ludwig Albrecht
Year: 1805 in: Acht Schweizer-Kühreihen, p. 20

Ranz des Vaches des Ormonds
Authorship: George Tarenne
Year: 1813 in: Recherches sur les Ranz des Vaches, p. 52

Kuhreihen des Sennen
Authorship: Johann Gottfried Ebel
Year: 1798 in: Schilderung des Gebirgsvolkes vom Kanton Appenzell, Appendix No. 1

Kuhreihen des Handbuben
Authorship: Johann Gottfried Ebel
Year: 1798 in: Schilderung des Gebirgsvolkes vom Kanton Appenzell, Appendix No. 2

2. Alphorns from the 19th century in museums and collections

Instrument	*Date*	*Length*	*Origin*	*Location (Inv.-No.)*
Stockbüchel	ca. 1800	222 cm	A or CH	MSW (RWM 148)
Hirtenhorn	ca. 1800 (?)	115.5 cm	Ct. Bern (?) – CH	BHM (Inv. 17237)
Hirtenhorn	ca. 1800 (?)	132 cm	Ct. Bern – CH Berner Oberland	BHM (Inv. 17278)
Alphorn	ca. 1800	272 cm	Ct. Bern – CH*1	LM (LM 8482)
Büchel	ca. 1800	246 cm	Muotathal – CH	DMZ (Inv. 249)
Alphorn (so-called Unspunnenhorn)	ca. 1825	194 cm	Ct. Bern – CH	BHM (Inv. 33716)
Alphorn (so-called Unspunnenhorn)	ca. 1825	237 cm	Ct. Bern – CH	BHM (Inv. 33715)
Alphorn, Hirtenhorn	1st half 19. c., poss. 18. c.	97.7 cm	CH	MMUL (Inv. 1619)
Alphorn, Hirtenhorn	1st half 19. c., poss. 18. c.	83.5–83.7 cm	CH	MMUL (Inv. 1618)
Alphorn in C	bef. mid-19. c.	210 cm (orig. ca. 254 cm)	Ct. Luzern – CH	MMUL (Inv. 1622)
Alphorn (Tiba)*2	bef. mid-19. c., latest 1870	120.2–120.8 cm	Engadin – CH	MMUL (Inv. 1620)
Büchel	19. c.	290 cm	CH	MSW (RWM 147)
Alphorn	19. c.	264 cm	Central Switzerland – CH	MSW (MSP 236)
Alphorn	19. c.	277 cm	Ct. Glarus (?) – CH	PKL
Büchel	1800–1900	220 cm	No info.	LM (LM 1393)*3
Alphorn	1800–1900	336.5 cm	Ct. Bern – CH*4	LM (LM 16465)
Büchel	ca. 1870	220.5 cm	Ct. Glarus – CH	MMUL (Inv. 1625)
Alphorn	ca. 1875	342.5 cm	Lauterbrunnen, Ct. Bern – CH	MMUL (Inv. 1623)
Alphorn	ca. 1875	469 cm	Lauterbrunnen, Ct. Bern – CH	MMUL (Inv. 1624)
Alphorn	ca. 1880	350 cm	Ct. Obwalden – CH	DMZ (Inv. 247)
Alphorn	bef. 1893	244 cm	CH	MIB (Inv. 1144)
Alphorn	1880–1900	373 cm	Mürren Ct. Bern – CH	TML
Büchel	late 19. c.	220 cm	Central Switzerland – CH	MKB (Inv. VI 11530)
Touta	late 19. c.	178 cm	Ct. Wallis – CH	MKB (Inv. VI 11584)

Alphorn	bef. 1900	206 cm	Ct. Uri – CH	MKB (Inv. VI 17317)
Alphorn	bef. 1900	309 cm	CH	MIB (Inv. 2011)
Büchel	ca. 1900	230 cm	Ct. Schwyz – CH	MKB (Inv. VI 7533)
Büchel	ca. 1900 (?)	234 cm	CH	KSB (Inv. 859)
Büchel	ca. 1900	239 cm	Ct. Bern (?) – CH	BHM (Inv. 5536)

*1 Bachmann-Geiser 1999: 222.
*2 The instrument is made of wood.
*3 In the database extract of the National Museum Zurich, this instrument has no length indication. Bachmann-Geiser (1999: 222) specifies a length of 220 centimeters for the exact copy of this instrument (LM COP 5128).
*4 Bachmann-Geiser 1999: 222.

BHM	Bernisches Historisches Museum (Bachmann-Geiser 2001)
DMZ	Dorfmuseum Zeihen (field research, 5 December 2016)
KSB	Klingende Sammlung Bern (field research, 17 August 2016)
MKB	Museum der Kulturen Basel (field research, 8 December 2016)
MSW	Musikinstrumentensammlung Willisau (field research)
MMUL	Museum für Musikinstrumente der Universität Leipzig (Heyde 1982, www.mimo-international.com, 15 June 2018)
MIB	Musikinstrumentenmuseum, Brüssel (www.mimo-international.com, 15 June 2018)
PKL	Privatbesitz Kurt Langhard (field research, 15 February 2018)
LM	Landesmuseum Zürich (pers. comm. Bernard A. Schüle 16 February 2017, Bachmann-Geiser, 1999: 222)
TML	Talmuseum Lauterbrunnen (field research, 24 April 2017)

The list of instruments from the 19th century does not claim to be exhaustive. Further instruments are to be expected in other museums and private collections. Only wooden alphorns and shepherd horns, which are approximately dated, were included in the list. The dates are taken from the corresponding collections and museums. The length corresponds to the length of the air column. The order of the instruments corresponds to their approximate chronological dating in the course of the 19th century. Instrument names are taken from the museums and collections. At the beginning of the 20th century and later, the number of alphorns preserved in museums and collections increased. The air column of the instruments tends to become longer.

3. Historical alphorns employed for analysis of their intonation

Instrument	*Museum*	*Inv.-No.*	*Length*	*Source*	*Date*
Alphorn	Instrumentensammlung Willisau	MSP 236	264 cm	Sammlung Otto Dreyer	19. c.
Büchel	Museum der Kulturen Basel	VI 41507	222 cm	Muotatal, Schwyz	ca. 1935
Büchel	Dorfmuseum Zeihen	249	246 cm	Muotatal, Schwyz	ca. 1800
Büchel	Klingende Sammlung Bern	722	248 cm	Musikinstrumentenmuseum Karl Burri, Zimmerwald	ca. 1910
Alphorn	Klingende Sammlung Bern	762	308 cm	Muotatal, Schwyz	bef. 1950
Alphorn	Klingende Sammlung Bern	763	293 cm	Sammlung Karl Burri	bef. 1950
Alphorn	Klingende Sammlung Bern	768	336 cm	Muotatal, Schwyz	bef. 1950
Büchel	Klingende Sammlung Bern	859	234 cm	Sammlung Karl Burri	ca. 1900
Büchel	Klingende Sammlung Bern	1552	240 cm	Sammlung Karl Burri	1st half 20. c.

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