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## CONFUSING ROARS AND CHANGING CLOUDS: A HISTORY OF MULTIPART ALPHORN MUSIC

#### **ABSTRACT**

L'esecuzione a più parti su strumenti basati sugli armonici segue le proprie regole. Lo possiamo osservare nella storia della polifonia sul corno delle alpi, uno strumento a fiato che oggi viene spesso suonato in ensemble di tre o quattro parti. L'articolo è strutturato in tre parti: le fonti antecedenti alla standardizzazione, la creazione di piccoli ensemble intonati e le pratiche contemporanee che utilizzano corni delle alpi diversamente accordati. Suonare insieme ha richiesto una standardizzazione degli strumenti e della loro accordatura, che si è affermata solo a metà del XX secolo. Le prime forme di esecuzione a più parti, invece, di solito non erano organizzate in modo tonale. Nel XIX secolo si sono avute rare esecuzioni pubbliche in occasione di feste e rituali, con una convergenza apparentemente casuale di diversi elementi sonori. Nelle sue istruzioni per l'esecuzione di corni alpini a più voci del 1971, Johann Aregger scrisse che «più di quattro voci sono musicalmente insostenibili», e i compositori hanno seguito questa restrizione fino ad oggi, con rare eccezioni. Attraverso la valutazione di fonti storiche che finora hanno ricevuto poca attenzione e le informazioni fornite dai compositori contemporanei di musica per corno, emerge un quadro completo delle forme di pratica musicale a più voci per lo strumento. La possibilità di mescolare diverse serie timbriche con corni delle alpi di diversa lunghezza ha ispirato, a partire dagli anni '90, alcuni musicisti a creare composizioni ed esecuzioni sperimentali. Emergono diversi ideali sonori, che da un lato si riferiscono ai modelli tradizionali di consonanza, dall'altro ai timbri e al loro design creativo.

PAROLE CHIAVE Polifonia, musica multiparte, corno delle Alpi, Svizzera, tradizione

#### **SUMMARY**

Multipart playing on overtone instruments follows its own regularities. We can observe this in the history of polyphony on the alphorn, a wind instrument that is today often played in ensembles of three or four parts. The article is structured into three parts: pre-standardization sources, the establishment of attuned small ensembles, and contemporary practices using differently tuned alphorns. Playing together required a standardization of the instruments and their tuning, which was only established in the middle of the 20th century. Early forms of multipart playing, on the other hand, are usually not organized tonally. The 19th century saw rare public performances in festivities and rituals, with a seemingly random convergence of several sounding elements. In his instructions for multipart alphorn playing in 1971, Johann Aregger wrote that «more than four voices are musically untenable», and composers have followed this restriction until today, with rare exceptions. Through the evaluation of historical sources that have received little attention to date and the information provided by contemporary composers of alphorn music, a comprehensive picture of the forms of multipart musical practice for the instrument emerges. The possibility of mixing different tone series with alphorns of different lengths has recently, since the 1990s, inspired some musicians to create experimental compositions and performances. Various sound ideals emerge, which on the one hand refer to traditional models of consonance, and on the other to timbres and their creative design.

KEYWORDS Polyphony, multipart music, alphorn, Switzerland, tradition



### 1. Introduction

For most of its history, the alphorn was primarily a solo instrument. Not only that, it was also an instrument often played in solitude. The accounts we have from players in the 19<sup>th</sup> century who performed publicly for tourists in the mountain ranges and villages of the alps are scarce. Marie Widmer's essay «The Swiss Alphorn in Legend and Fact» opens with the phrase: «Trying to explain the origin of the Swiss alphorn, a pretty legend relates how a lonely young herdsman in the Alps wished constantly for something that might help him brighten the long hours of his solitude». Solitude – an often-overlooked motif for making music<sup>2</sup> - might well be one of the key functions of the alphorn for herders who spent their summer days on uninhabited mountain pastures. Coping with seclusion and loneliness may have been an important function alongside communication through signals to other shepherds and communication with animals, which is well documented. Today we are faced with a situation where alphorn music is not only popular at festivals and concerts, but has also developed into a mostly social and polyphonic musical practice. The «lonely» alphorn in the mountains is more of a romanticized idea of the past, even if some alphorn players still like to practice alone outdoors today. The development and establishment of this polyphonic playing has hardly been documented to date. In 2023, Ammann, Kammermann and Wey presented a treatise on the most important sources for early, polyphonic alphorn playing between 1800 and 1830, focusing on the question of how this may be related to polyphony in vocal music, the local traditions of yodeling.<sup>3</sup> However, the question of how the interplay with different alphorns developed requires more attention. In particular, its use in atonal and cacophonous noise rituals, which are documented in some mountain areas, has not been discussed in recent history.4

The history of multipart<sup>5</sup> alphorn playing can be roughly divided into two paradigms: Firstly, playing with instruments that were not tuned to each other; secondly, playing with alphorns of the same length and tuned to the same fundamental. The second only became popular and widespread in the second

- 1. WIDMER, Legend and Fact, p. 126.
- 2. KILLICK, Solitary Music-Making, p. 273.
- 3. AMMANN et al., Alpine Vibes, pp. 77-84.
- 4. Felix Hoerburger elaborated on several instances the concurrence of voices does not represent polyphony in the traditional musical sense, nor does it align with basic heterophony. However, there is a perception of unity in an extra-musical or pre-musical way. Thus, he argues that it indeed constitutes a form of pre-musical polyphony (HOERBURGER, *Pre-Musical Polyphony*, p. 50).
- 5. For the sake of accurate terminology, we should distinguish between "polyphonic" and "multipart" music (all polyphonic music is multipart music, but not all multipart music is polyphonic). However, in the sources relating to the interplay of several alphorns, the two expressions are used interchangeably. Some musicians will write "polyphony" when music theory would suggest "homophony" a term I have not yet encountered in relation to alphorn music. I will therefore use the terms "multipart" and "polyphony" in the same context as the primary sources do.

half of the 20<sup>th</sup> century. To make it possible, the construction of the instruments had to be standardized. Until the 20th century, the tradition of alphorn making was an individual one;<sup>6</sup> there were no professional makers of this instrument. The need for multipart ensemble playing was apparently small, and only isolated attempts occurred. Some observations suggest that an earlier form of polyphony on the alphorn and related wooden horns and trumpets consisted of a drone accompaniment. However, the sources for this theory are scarce for the Central European Alpine region. The exceptions to these paradigms are particularly noticeable: for example, even before the standardization of form and length in alphorn making in the 20th century, there were already attempts to play together with instruments tuned to the same pitch. Conversely, the possibility of mixing different tone series with alphorns of different lengths has recently, since the 1990s, inspired some musicians to create experimental compositions and performances.

Alphorn music follows the principles of the overtone series, also known as the 'natural scale.' The notes produced by 'natural' wind instruments are harmonics of a fundamental frequency, beginning with the octave. In this series, higher notes are spaced more closely than lower ones. The entire scale shifts depending on the fundamental tone, which is determined by the length of the instrument's tube. As with all acoustic instruments, longer tubes create lower tones through slower, larger vibrations. Consequently, two or more alphorns will only have the same range of notes and similar intonation if they are intentionally built to the same length. The standardization of alphorn making in Switzerland from the 1920s onwards and its export to neighboring and more distant countries should be examined in a separate study. The focus of this article is limited to the characteristics of polyphony and how to deal with the special requirements of the natural tone series.

This paper is divided into three parts. Firstly, an evaluation of the sources before the standardization and attunement of the alphorns; secondly, the question of attunement and the establishment of small ensembles with their own compositional style in the 1970s; and thirdly, the methods of multipart, harmonic series-based music with several, deliberately differently tuned alphorns since the 1990s. We limit this investigation of the sources geographically to the Alpine region. In Bohemia, in the Harz Mountains, as well as in various more distant regions in Northern and Eastern Europe, comparable wood trumpet traditions are known in some respects, which deserve their own investigations into their musical aesthetics and their development.

- 6. GASSMANN, Das Alphorn in den Bergen, p. 294.
- 7. HERBERT, Music in Words, p. 143.
- 8. Ammann et al., Alpine Vibes, p. 21.
- 9. Such standardizations of traditional instruments are also not limited to the alphorn but occurred in various traditions at a time where a musical practice became stabilized around certain norms (HOERBURGER, *Musica Vulgaris*, p. 94).

## 2. Confusing Roars: Multipart Playing Before Standardization

Regardless of the missing attunement, we can assume that the alphorn was sounded in the context of other instruments, singing, and noisemaking more often than suggested in the sparse literary sources. In the ethnographic literature we nonetheless find a few examples that illustrate such uses. Among these is a custom called «Polsterlijagd» in the region of Entlebuch, described in 1858 by then city mayor of Lucerne, Casimir Pfyffer von Altishofen (1794-1875): «young men chase away a kind of bogeyman from one community to another, which takes the form of a donkey, a witch or a goat and is pulled on a sleigh. [...] Now a deafening confusion of cow bells and goat bells, of kettles and pans resounds; arm-thick and claw-long whips bang, brass and iron sheets are struck against each other; alphorns and French horns make with their harmonic tones the terrible roar even more confusing». This description suggests that this was not music in the sense of an aesthetic expression with structures but aimed at enriching the general festive noise; a seemingly random convergence of several sounding elements that have nothing to do with each other tonally or rhythmically.<sup>11</sup> However, since the instruments were at hand and presumably mostly blown in the villages and not in the high mountains, we can well imagine how the alphorn was also used at village festivities, dancing, and gatherings. The ethnographic description of the Entlebuch region by Franz Jospeh Stalder also holds a chapter about traditional festivities. Among these, he describes the soundscape in a «hamlet in an Arcadian wilderness, enclosed by towering mountains and high alpine pastures, from where the mooing of the cheerful herd, and their bells ringing, the more serious alphorn, or the softer shawm of competing shepherds' sweet melody is ringing down».12

In the 1828 German translation of John Carne's *Letters from Switzerland* and *Italy*, a commentator in the appendix mentioned only as «Karl vom Jura», describes the use of alphorns as a way to rouse confusing noises during a ritual in the Bernese highlands.

A highly comical custom among the young people in the Oberland is the so-called 'Trychlete', or the 'Zügelfuhr'. [...] This happens at night and usually on the wedding day [...]. Then the whole swarm of young boys from the village of the bride's father parade in front of the new couple's house with whips, cowbells, whistles, alphorns, cauldrons, and everything that can make a terrible noise [...]. <sup>13</sup>

<sup>10.</sup> PFYFFER VON ALTISHOFEN, *Der Kanton Luzern*, p. 331; VEREIN ENTLEBUCHER MUSIKGES-CHICHTE, Hg., *Das klingende Tal*, p. 34. All translations of direct quotes are by the present author.

<sup>11.</sup> HOERBURGER, Vorformen, p. 194.

<sup>12.</sup> STALDER, Fragmente, p. 75.

<sup>13.</sup> HOFFMANN-KRAYER, *Fruchtbarkeitsriten*, p. 267. «Karl vom Jura» is a reference to someone named Karl from the region of Jura, a mountain range in the northwest of Switzerland.

Depending on the social context, the musical instrument could also be used as a ritual tool. According to Hoffmann-Krayer, both the «Polsterlijagd» and the «Zügelfuhr» were fertility rites. <sup>14</sup> Rituals and spells related to mating and fertility were assumably widespread and important ceremonies in the annual cycle of village communities in sparsely populated mountain areas, where the threat of depopulation was ever-present from generation to generation.

In 1847, the magazine «Der Postheiri» published a satire on the politically tumultuous conditions in Switzerland and neighboring countries, expressed through a chaotic musical performance in Paris, the «European Concert». In the satirical text, alphorns serve to illustrate the chaos in Switzerland and the interplay with other wind instruments as a symbol of misunderstanding, confusion and loud noise: «The whole thing begins with a gigantic fugue, performed by all the ophicleides and trombones to be found in the city of Paris. This is intended to depict the enormous confusion in Switzerland. In the pauses one hears Alphorns blow the song: *come*, *Hanso*, *in front of my window*. This is followed by a chorus of the four intervening powers [Austria, Russia, France, and Prussia]». This satirical use of the alphorn for sounding confusion mirrors the perception a somewhat untamed source of uncontrolled sound.

In 1805 and 1808, performances involving several alphorns happened at the «Alpine shepherds' festivals» on the Unspunnen meadow in Interlaken. The descriptions leave it rather open as to what kind of interaction was involved. The only specific performance in the first half of the 19th century in which we have definite evidence from the sources of a performance with two coordinated alphorns comes from Basel in 1815. It is not atypical that this took place in an urban setting and not in the mountains, as the alphorn had been presented in the cities as a musical emblem of rural culture since the Unspunnen festivals. On September 4, 1815, the people of Basel thanked the Habsburg Archduke Johann (1782–1859). In addition to other musical performances and productions, the song «Uf eusre Berge» by J. Kunze, accompanied by two alphorns, was performed at this festival.

One attempt to have a multipart performance organized and trained was carried out by one of the early promotors of the alphorn, the St. Gallen composer and trumpet player Ferdinand Fürchtegott Huber. He recounts his experience teaching a group of students of a boarding school in the highlands near Bern how to play the alphorn. «Everyone was looking forward to learning to blow the alphorn. In the course of fourteen days, I had brought them to the point where they could blow one, two and three-part movements, placed on different hills, rhythmically and purely». Huber's quote implies that the

<sup>14.</sup> HOFFMANN-KRAYER, Fruchtbarkeitsriten, pp. 240, 267.

<sup>15.</sup> HARTMANN, ed., Das Europäische Concert, p. 93.

<sup>16.</sup> A detailed account of the sources and the events during the «Unnspunnenfeste» can be found in AMMANN *et al.*, *Alpine Vibes*, Chapter 4.

<sup>17.</sup> SUPPAN, *Erzherzog Johann*, p. 86; Ammann *et al.*, *Alpine Vibes*, pp. 81-82. The identity of «J. Kunze» is still left to be clarified.

alphorns players performed his own compositions. It remains questionable what is meant by alphorn playing «on different hills» and how this is supposed to have worked in practice. Is It is, based on this only surviving quote about the performances, doubtful whether they played in a multipart way resembling today's alphorn music with attuned instruments. Regardless, this is – together with the quoted Basel source form 1815 – the most concrete description of a multipart alphorn performance in the conventional sense in the 19<sup>th</sup> century.

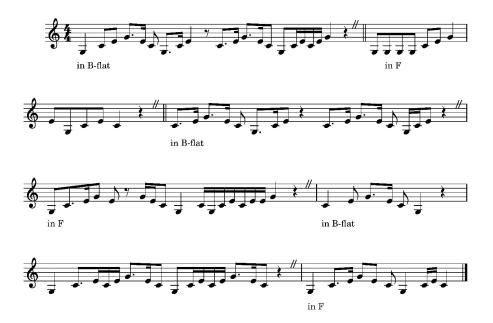
The German-Swiss publicist Hermann Alexander von Berlepsch (1814–1883) delivered in 1861 the most detailed description of the alphorn in his time. In his monograph, *Die Alpen in Natur- und Lebensbildern*, he not only recounts sources of alphorn music but also gives a colorful description of the sound of the instrument. On the attempts to perform multipart music, Berlepsch takes a pessimist stance: «Attempts have also been made to tune alphorns in order to play them in quartets or even just in two voices. The attempt does not seem to have been successful, as only 'solo artists' have ever performed on our mountain tours. On the other hand, alphorn players have already had the pleasure of corresponding from distant, opposite Alps, which produced an indescribably beautiful effect with the difference in the height or depth of the sound and the emerging echoes». From Berlepsch's view we can see that there were probably very few attempts at polyphony, such as those documented here.

Among forms of 'playing together', we also have to consider the alternating playing of several horns, as a non-multipart form. For it may well be that several alphorns performed in musical interaction, even if not simultaneously. A harmonious interplay then existed more in legends. In the journal «Alpenrosen - magazine for house and family», in the year 1869, Johann Jakob Romang (1831-1884) writes about the legendary origins of the alphorn from the Wengenalp: «There, on the Wengenalp, there was a beautiful young man who is said to have invented the alphorn [...]. Soon, on the other alp, the young man's beloved appeared with her alpine herd and also blew a little piece to answer. Soon they blew together in two voices a song, soon one heard again a lovely solo. Thus, the two lovers conversed with each other for many an hour and one shared his thoughts with the other through the alphorn... ». 19 Two characteristic phenomena appear in the legend: First, the instrument as a communication tool: The alphorn is portrayed not just as a musical instrument, but as a means of communication between two herders. This reflects a broader historical context where music in rural and pastoral societies was often a medium for expression and dialogue, especially in remote areas. Second, the form of a musical dialogue: The concept of a musical «conversation» through solos and duets highlights the alphorn's versatility and the skill of its players. This aligns with musicological themes where instruments mimic or replace verbal communication.

<sup>18.</sup> KAMMERMANN et al., Ferdinand Fürchtegott Huber, pp. 18-19.

<sup>19.</sup> ROMANG, Kuhreihen, p. 164.

Example 1. Transcription of alternating tunes by two *Waldtuter*, wooden trumpets from South Tyrol (Northern Italy). Recording by Alfred Quellmalz, 1942



An early sound recording documenting a back-and-forth game can be found in the collection of Alfred Quellmalz. In 1942, he made nine recordings in South Tyrol of so-called «Waldtuter», straight wooden trumpets that correspond to a short alphorn form from the 19th and early 20th centuries. They are not even half as long as today's popular alphorn, which is around 3.5 meters long, but we must remember that in the time before standardization, shorter forms were much more common, and a wide variety of lengths existed side by side. Example 1 shows the transcript of the recording of two Waldtuter in interaction. The two instruments are tuned quite differently, a longer one to the fundamental B-flat and a shorter one to F. I have arranged the notation as is normal for alphorns and was used by composers for all brass instruments until the normalization of valve instruments: in the key in which the instrument is tuned. This makes it easy to recognize which harmonics occur in the melodies (c = harmonic 4). To my current knowledge this is the earliest sound recording of two alphorn-type instruments from the Central European alpine region playing interlocking tunes in two different tunings. The two players are registered as «Em. u. [and] Jos.[ef] Oberkircher» in Quellmalz' diary of field notes.20

Based on the mentioned accounts we can summarize three ways of the alphorn in multipart playing on alphorns before the standardization in the 20<sup>th</sup> century. First, the playing with other instruments and sources of noise

<sup>20.</sup> QUELLMALZ, *Tonband-Aufnahmen*, p. 56. A copy of this unpublished manuscript has been generously provided by Thomas Nussbaumer.

primarily for a sonic effect. Second, the playing together in groups of horns with two or more players, but without aiming at a common tuning. Third, and only sparsely documented, attempts to synchronize tunings (lengths) of the instruments.

## 3. Towards a 'Natural' Harmony: Attunement

Establishing multipart alphorn groups to the public sparked a debate. The important turn towards the nowadays locally popular playing in groups of three or four voices happens in the 1970s, when the Federal Yodeling Association (FYO) decides to add multipart alphorn performances at their festivals. These festivals, regional and every three years a national event, are the most important festivities for yodelers and alphorn players in Switzerland and serve also as competition, where participants are not ranked, but classified into four tiers and given an evaluation and feedback by veterans who serve as jurors.

In 1972, the first festival to include multipart performances with groups of up to four players was held in Lucerne. The reaction of audiences was enthusiastic. The chairman of the Central Swiss alphorn players, Fasi Kohler, wrote in a letter to the president of the Yodeling Association of Central Switzerland, praising the innovation: «The first event of the Yodeler Festival of the ZSJV 1972 in Lucerne was not only a musical, but also a great public success. I remember the three or four listeners at the solo recitals and the massive audiences at the multipart performances». He then urged for the adoption of multipart playing at future events. On 20 January 1973, representatives of different yodeling associations gathered for a meeting in Lucerne to discuss rules and modes of evaluation for multipart alphorn contests. In an undated letter (probably from the year 1974), which is kept in the Lucerne State Archives, the representative of the alphorn players in Central Switzerland addresses the president of the Federal Yodeling Association.

The letter reads:

As I have recently heard, the board of the FYO has decided not to hold a competition in polyphonic alphorn playing at the forthcoming Federal Yodeling Festival in Aarau. This decision has come as a great surprise and disappointment to us alphorn players from Central Switzerland. Although we are well aware of the negative aspects of polyphonic playing, the advantages seem far more important to us, so that a competition can certainly be justified.

The letter does not specify the arguments that speak against multipart performance. We can only speculate that in the early phase of trying out these formations, the result was often unexpected and very different from what was

<sup>21.</sup> WEY - KAMMERMANN, The Swiss Alphorn, p. 83.

<sup>22.</sup> Manuscripts in the Lucerne State Archive, Archive of the Central Swiss Yodeling Association, Sign. PA 404/1 - PA 404/444. https://query-staatsarchiv.lu.ch/detail.aspx?ID=150121.

intended; especially, if the instruments were not well attuned. The authors then cite a variety of pro-arguments, from the better quality of the competition performances to the social advantages of polyphonic playing and the argument that alphorn groups are now established at folklore events anyway and that this trend should be followed: «Today, folklore events are almost invariably attended by polyphonic [alphorn] formations. Polyphonic playing has therefore become firmly established». Here we see a clear difference to the earlier attempts with polyphonic alphorn groups; the proponents see it as a situation in which polyphony is already becoming the norm anyway. Multipart performances have become mainstream in the alphorn community, which was undoubtedly made possible by developments in instrument making. However, as of today, it remains unclear whether it was the demand for harmony that brought about standardization, or if it occurred by chance, as a result of the few active alphorn makers exchanging and copying their templates and blueprints.

The newly discovered and popularized practice of performance also demanded sheet music, new repertoire, and didactic material. The composer Johann Aregger (1927-2007) responded to this with the booklet Das mehrstimmige Alphornblasen (The multipart alphorn blowing), published in 1971. Regarding the number of parts, Aregger wrote: «The polyphonic alphorn blowing reaches its absolute perfection in the quartet. More than four voices are musically untenable. Double occupation of individual voices can be tolerated».<sup>23</sup> Aregger's instructions for polyphonic alphorn playing were not only the first of their kind, but also had a lasting influence on other composers: A few years later, it inspired the publication of the first book with multipart Bavarian alphorn music, the Alphorn-Büechle by Michael Bredl and Wilhelm Fritz. Aregger's booklet also produced 'classics' of traditional alphorn literature, in particular the composition *Uf dä Bänklialp*,<sup>24</sup> which practically every alphorn player today has performed at least once, and which has become common knowledge. Aregger's original notation, shown in Example 2, has three staves. Three parts are notated in the top stave, which together also form a trio movement and are played as a trio during the performance. Only the bass line is notated in the middle staff. This fourth part is added to those notated above when the piece is performed as a quartet. Two parts are notated on the lowest staff, marked «duet» - the version of the composition for two players. This brings us to a characteristic of polyphonic alphorn music as it was created in Switzerland from the 1970s and a little later in neighboring areas of the Alps: The starting point of the piece is a melody that can also serve as a solo piece. Additional polyphonic parts are written for this, which are used additively up to the quartet instrumentation. Consequently, quartet or trio compositions can always be played just as well in a smaller formation. This undoubtedly pragmatic process has become popular in the alphorn community and has

<sup>23.</sup> AREGGER, Mehrstimmiges Alphornblasen, p. 3.

<sup>24.</sup> The title refers to a place in the mountains (an «Alp»). «Bänkli» is a diminutive form for «bench», the title may therefore be translated to «On the little bench alp».

Example 2. Johann Aregger, *Uf dä Bänklialp*, 1971 (Aregger, *Mehrstimmiges Alphorn-blasen*, p. 6.) The three systems of the partiture correspond to versions for trio, quartet, and duet.



proven its worth to this day. Pieces that deviate from this approach are often more experimental and place high technical demands on the individual players.

The composition *Uf dä Bänklialp* also shows a form that is representative of what is now a large body of literature for alphorn trio or quartet. It consists of two parts, the first of which is repeated after the second and leads into a final sequence. The first part is played slowly and with a reverent gesture, the second is more animated and rhythmic. This pattern, which as mentioned is typical of alphorn compositions of the past decades, is not marked with tempo indications. The performance style is part of the implicit knowledge that the players bring with them from experience.

Let us return to the statement, that «blowing reaches its absolute perfection in the quartet» and that «more than four voices are musically untenable».

Aregger's musical rule may seem arbitrary, and the question arises on which levels it is a social convention of the tradition's custodians, a consequence of the adoption of 'classical' tonal rules for alphorn playing, or whether it is related to beliefs about the meaning and agency of sound. Aregger concluded his text with the remark that it is meant «as an attempt and for discussion».

To explain why four voices were considered ideal, I spoke to renowned alphorn composers. Hans-Jürg Sommer, who has composed several hundred

pieces for alphorn formations with one to four voices, responded as follows: «The actually ideal form is three-part harmony (trio). As soon as there are four voices, one is doubled now and then. Or the lowest voice can play only two bass notes, or a middle voice comes to rest constantly on the note *g*».

Sommer has, in the opinion of many, perfected the polyphonic style already used by Aregger. His tonal language is strongly based on traditional melodies and historical concepts about the alphorn. His interpretation refers to the possibilities of polyphonic voice leading, whereby it should be avoided that one part can only play very few different notes, and that there is unison overlapping of the parts.<sup>25</sup>

Another interpretation is given by the contemporary composer Thomas Heel, who has dedicated himself to polyphonic alphorn playing. His considerations are also historically informed, but focus more on the question of the ideal sound:

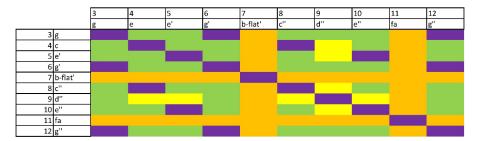
For most 'traditional' alphorn pieces, three alphorns would also be harmonically sufficient – it is often the case that the 1st voice can be played alone or in duet with the second, the remaining one or two voices can be added, but do not have to be. In a four-part movement there is usually an imbalance when the «dominant» (g-d without third) is played (three horns play a g, one a d). [...] I believe that a consonant 'euphony' and 'purity' aesthetic resonate with these limitations (also in terms of rhythms, etc.), but also the idea of the (string) quartet.

But what does the primacy of a «consonant euphony» mean for the possibilities of playing together with several equally tuned horns? Historically, there have been debates among theorists about the origin of perceived consonance. Some suggest that it's rooted in physiological or sensory experiences, while others believe it's a result of learned cultural patterns. Yet, these theories are not necessarily contradictory. In terms of acoustics, the sympathetic resonance occurs when sound waves of varying frequencies vibrate together, aligning with ratios that are simple whole numbers. In the practice of alphorn music, integer ratios of up to 5:6 (minor third) are considered consonant, integer ratios of 6:7 (approx. 1/5 tone smaller than a minor third) and higher as dissonant.

For alphorns that sound simultaneously, it is easy to show which patterns are perceived as consonants in the main pitch range between the third and twelfth harmonic. Table 1 shows patterns of consonance and dissonance in the main range of two alphorns sounding together. The combinations are color coded to make it easier to read. Purple are unison or octave, green stands for

- 25. In 2023, he published a short essay with a criticism of larger alphorn groups. There, Sommer reiterated and explains the preference of three-part over four-part pieces: «The alphorn was originally played as a solo instrument. Playing together in a duo or trio is also possible and enriching in its own way. In a quartet however, the alphorn's range is too limited. The third voice usually has to play the g' and this g' becomes increasingly agonizing for listeners» (SOMMER, *Erläuterungen*, p. 2).
- 26. PALISCA MOORE, Consonance, unpaginated.

Table 1. Patterns of consonance and dissonance in the main range of two alphorns sounding together [Color code: Purple = unison or octave; green = consonance; yellow = dissonance, equal-tempered; orange= dissonance, (audibly) not equal-tempered]



consonance, yellow for dissonant, but equal-tempered intervals, and orange represents dissonant intervals which are audibly not equal-tempered.

In compositional practice, this means that the combinations shown in green and violet in Table 1 can be perceived and used as consonant. Note that in conjunction with the note g (harmonics 3, 6, 12), whether as the third, sixth or twelfth harmonic, all other equally tempered notes can be played. There is even a joke circulating among alphorn players that if you don't know what to play, you can always hold out the g, which always fits. We also recognize from this that more than four voices cannot be set without several of these voices playing in octaves or unisons.

The 19th-century theory of harmony, developed predominantly for chromatic instruments aligned with equal temperament, presents a unique set of compositional challenges when applied to instruments like the alphorn, which inherently adhere to a tonal scale based on the overtone series. This clash is evident in the limited pitch options available on the alphorn, contrasting sharply with the expansive chromaticism of the period. Additionally, the conventional avoidance of rests and unisons in compositions for three to four voices leads to a situation where nearly all conventionally available pitches are engaged, further highlighting the disparities between traditional harmony rules and the specific limitations of certain instruments. The interplay of alphorns of different lengths has in turn inspired several artists to experiment in recent decades. The mixture of differently tuned alphorns, on the other hand, opens new explorative possibilities of tonal combinations. If the intervals between two instruments tuned to the same pitch are already manifold (let us remember that on the natural tone series no two notes are the same distance apart from octaves), the tonal space becomes even larger with different tunings. However, from the point of the listener, the melody tends to shift away from a coherent harmony and melody, and towards changing timbres.

# 4. Changing Clouds: Multipart Concepts in the 'New Folk Music' Movement

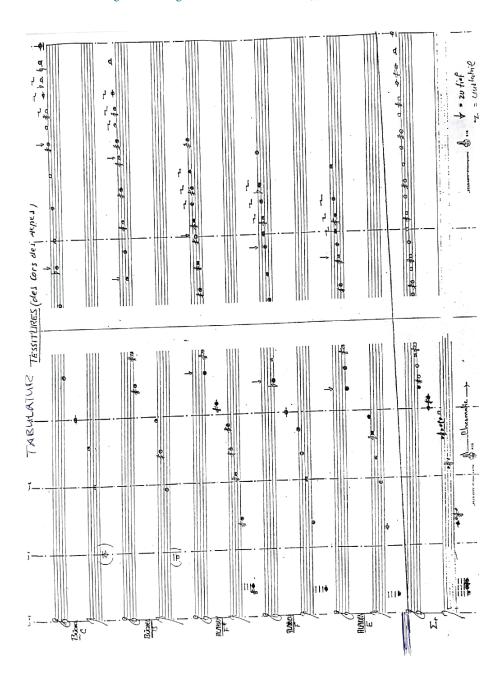
«New folk music» (German «Neue Volksmusik») is the prevalent term in the German-speaking Alpine region for the musical movements also referred to as «folk fusion».<sup>27</sup> Part of the «revival» movements, the proponents cross over genres between traditional music, pop, jazz, and contemporary art music.<sup>28</sup> It is a little-researched phenomenon that began to spread widely in Switzerland in the 1990s and continues to this day. A study showed that the phenomenon draws on very different cultural-historical, political, and individual biographical sources and goes back well into the 1970s.<sup>29</sup> New ways of dealing with the tonality and tuning of the alphorn and new forms of multipart playing emerged from this movement.

In the 1990s, Swiss jazz trumpeter Hans Kennel (1939-2021) began to focus intensively on the traditional music of his homeland in the canton of Schwyz, composing and arranging pieces for alphorns. Alphorns of various lengths were also used in some of these pieces. Kennel even sought copyright protection for this technique – the interplay of alphorns of different lengths – and even had «AlphornPolyphonie» registered in the Swiss trademark register. The trademark protection was registered from 2003 to 2013 (trademarks that are not renewed are deleted after 10 years).<sup>30</sup>

In the late 1980s, Kennel began performances with alphorns with differing tunings. In a 2002 essay, he called it «a gateway to a never before heard world of overtone sound».31 For Kennel, the use of the harmonic series constitutes a reintroduction of an extinct mode of traditional music, because «some 300 years ago, a very important step was made in European music with the introduction of the so-called tempered tonal system». This shows awareness for the predicament of non-equal tempered, regional tonal systems in the Alpine region and beyond, but represents an oversimplified view of their development and demise. Evidently, the twelve-tone equal-tempered tonality has superseded and replaced the systems that existed before. However, this happened over a longer period of time and arguably later than 300 years ago, since singing under the instruction of conductors and music education only became widespread in the early 19<sup>th</sup> century. The general adoption of the diatonic scale during the 19th century, facilitated by the establishment of choirs and schoolbased singing, is a key development.<sup>32</sup> Nonetheless, it is impossible to ascertain the makeup of scales that existed prior to their replacement by diatonic

- 27. LANGE, Local Fusions; LOMSADZE, Georgian Folk-Fusion Music.
- 28. NUSSBAUMER, Hg., Das Neue in der Volksmusik; and NUSSBAUMER, Interkulturelle Horizonte. Contemporary art music, in the sense it is used here, may be defined as music «much more sensitive to technological changes» than others (FOUCOULT, Contemporary Music, p. 6).
- 29. RÜHL RINGLI, Die neue Volksmusik.
- 30. «Hans Kennel AlphornPolyphonie», registered trademark from 2003 to 2013, <a href="https://database.ipi.ch/database-client/register/detail/trademark/1200720437">https://database-client/register/detail/trademark/1200720437</a>, 29.11.2023.
- 31. KENNEL, Polyphonie.
- ${\bf 32.\ \ Wey,}\ Transformations, {\bf p.\ 144.}$

Example 3. Hans Kennel, Sketches of tessituras of alphorns with different lengths' Kennel used a downwards arrow to signify «too low [intonated]» notes and a z-like symbol to designate «unstable» notes. (The musical legacy of Hans Kennel consists of around 250 recordings, sheet music – compositions and arrangements – and extensive documentation of his life and work. The latter include correspondence, concert and tour programs, bookings, and his own writings. The archive is held in the library of Lucerne School of music, <a href="https://www.hslu.ch/de-ch/musik/campus/bibliothek/sondersammlung/sammlung-hans-kennel/">https://www.hslu.ch/de-ch/musik/campus/bibliothek/sondersammlung/sammlung-hans-kennel/</a>, 01.12.2023)



scales. Presumably, a variety of local musical traditions existed, all of which, including those derived from the harmonic series, were gradually supplanted. We have to assume that there exist 'unknown unknowns' – scales and modes that are not only undiscovered but also represent gaps in our awareness of their absence.<sup>33</sup>

Example 3 shows the concept of scales of differently tuned overtone instruments mentioned by Kennel, organized in a tablature.<sup>34</sup> The instruments and their tunings are indicated to the far left of the staff. These are the common forms of the 'Büchel'<sup>35</sup> in C and B flat, as well as the Alphorn in F sharp and F, and the rarer, exceptionally long Alphorn in E. At the bottom is a summary list of the scales of all these instruments together, marked with the algebraic sum sign. Kennel was aware of the various intervals between notes on the harmonic series and commented on the «tablature»: «Last but not least, the chords built on the natural tone series result in completely different interval relationships and therefore unusual and above all irregular layers of sound».<sup>36</sup>

In the 2010s and 20s, several artists explored various techniques of polyphonic alphorn playing, among them the Austrian composer Thomas Heel, who also plays the alphorn himself. He wrote musical studies on the possibilities of playing three to six alphorns together<sup>37</sup> and published a volume of alphorn pieces for groups of up to four alphorns in 2022.<sup>38</sup> When choosing the number of parts, he again referred to Bredl's collection, which has since become a classic, especially for alphorn players from Austria and Bavaria. Thus, like Aregger's and Bredl's alphorn compositions before them, these were written for a maximum of two voices. In addition, Heel composed several pieces for up to eight alphorns, which also contain cluster composition techniques such as random pitches. One example of this is the piece «In the Name of Picforth», a section of which is shown in Example 4.

Regarding the intention of his compositions, Heel explains: «A basic principle was that the resulting pieces should be playable for ambitious amateurs and therefore there should be no unnecessary virtuosity. Another principle was that improvisation should be given high importance – be it in many pieces themselves, or in the creative combination of pieces or parts of them with one another. The compositional process itself has many improvisational aspects». This approach using the sound clouds brings the timbre to the fore as a characteristic. Alphorn music in all its variants is strongly characterized by the peculiar sound of the wooden horn, but here melodic and rhythmic components are clearly shifted into the background. This makes polyphonic

<sup>33.</sup> WEY, Büchel Performance, p. 469.

<sup>34.</sup> Hans Kennel's musical legacy was donated to the Lucerne School of Music in 2022. The cataloging of the estate is still in progress at this time in early 2024. The materials cited here can be viewed in the archive of the Lucerne School of Music library.

<sup>35.</sup> Büchel is the name for a trumpet-shaped, folded variant of the alphorn.

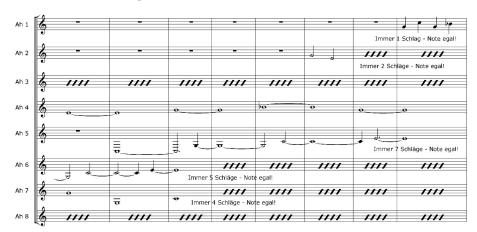
<sup>36.</sup> KENNEL, Polyphonie, unpaginated.

<sup>37.</sup> HEEL, The Alphorn Consort.

<sup>38.</sup> неег, alphOrnamente.

<sup>39.</sup> HEEL, The Alphorn Consort

Example 4. Thomas Heel, *In the Name of Picforth* (excerpt). «...a constantly changing cloud of sound» (Heel, personal communication)



alphorn music one of the types of «timbre-based music» that is receiving relatively new attention today and spans a very diverse field of musical traditions. $^{40}$ 

## 5. Discussion

Depending on the perspective, the premises of the harmonic series are understood rather as a restriction of the sound material for the musical-creative process, or as an expansion of the conventional tonal space. In its use as a single instrument, which was the norm until at least the middle of the 20th century, this question is not even relevant. An evaluation of the interplay of several alphorns as well as other instruments and other sounding tools before 1900 shows a mixed picture, telling us about productions of noise and disorderly frenzy. The tradition of 'organized' duets for communication, on the other hand, likely belongs to the realm of legends. Meanwhile, the embeddedness of the sound of the alphorn and other sounds independent of its performance, whether natural or human-made, is well documented.

Multipart music is defined as «a specific mode of music making and expressive behaviour based on intentionally distinct and coordinated participation in the performing act by sharing knowledge and shaping values», according to the Study Group for Multipart Music of the International Council for Traditions of Music and Dance (<a href="http://www.multipartmusic.eu/">http://www.multipartmusic.eu/</a>, 23.11.2023). With this understanding, some of the more 'accidental', historical forms of alphorns sounding together with other instruments may not qualify as a con-

<sup>40.</sup> See NIKOLSKY et al., The Overlooked Tradition; SHUSTER – WEY, Cross-Cultural Analysis of Vocal Timbre; DOLAN – REHDING, eds., Oxford Handbook of Timbre.

scious multipart performance. On other occasions, multipart music has been defined via negativa as «what *is not* monophonic music or monody produced by only one performer»<sup>41</sup>. We have seen how composers of alphorn music, regardless of whether they self-identify rather as 'traditional' or 'experimental', or 'unconventional', avoid the use of unisons among the different parts of a piece. This may also limit the number of voices that can polyphonically interact in the framework of the harmonic series. The same effect is described by Machiarella: «during the performative processes, the unison is often not really perfect: small lags, fortuitous overlapping among different sounds, uncertainty in tuning and rhythmic stressing etc. are quite common. These should not be considered as multipart music since they lack intentionality».<sup>42</sup>

The development from the individual voice to organized, composed ensemble playing, which can be reliably traced based on historical sources, runs the risk of being prematurely interpreted as quasi-evolutionary. Instead of an, in this case too bland, explanation of sophistication from the simple to the complex, we may ask: What fulfilled the function of polyphony well enough that it was not perceived as a need for a long time? In an essay on the meanings and functions of alphorn music especially in sacred contexts, Hermann Ullrich writes (emphasis added):

What is meant are [...] the tones, the sounds, the noises of nature per se, which are produced without human intervention [...]. This ranges from the wind, which can carry sound waves to considerable distances, the rushing of a stream, which can be perceived as a kind of soundboard, *perhaps to the sound of an alphorn*, to the sound of bells or bells of the herd ringing, to birdsong and other animal sounds [...]. <sup>43</sup>

In similar fashion, various writers in the nineteenth century commented on alphorn music. The influential music theorist of his time Francois-Joseph Fétis (1784-1871) concluded in his essay on the alphorn:

The imposing physiognomy of the mountains and the forests that crown them, the solitude of the valleys, the peculiar light conditions, the bells of the herds, the customs of the shepherds – all this, I say, is a necessary accompaniment for the simple songs and the peasant instruments that one hears in the Alps. Brought into our cities, this music loses its effect.<sup>44</sup>

Following this idea, we obtain a different picture of alphorn music before its popular polyphonic use. Being embedded in the sounds and tones of the natural and human environment meant that the voice was never completely alone in the room, but in interaction with the 'accompanying' environmental voices. The transfer to settings in which environmental noise tends to be

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41. MACCHIARELLA, Multipart Music, p. 10.
42. Ibid.
43. ULLRICH, Naturtöne, pp. 154-155.
44. FÉTIS, L'Alp-horn, p. 422.
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perceived as disturbing led – in line with the idea brought forward by Ullrich – to the loss of this musical ingredient. This explanation suffers a little from a well-documented glorification of the alphorn as a natural instrument of a romanticized, Arcadian Alpine landscape. However, we can also ask ourselves how the Romantic view of Alpine music, which had a strong impact in the 20th century, was based on concretely experienced circumstances or retroactively influenced current practice. Meanwhile, the immersion in a natural soundscape is very much alive in herding music cultures, where players often sound the horn alone in the open air.<sup>45</sup>

The combination of usually two to four alphorns built according to standardized tuning specifications inspired composers from the 1970s onwards to create a large repertoire of short pieces for such duo, trio, or quartet formations. More than four parts were not used. Thereby, the framework of Western art music's tonality was extended to include non-equal harmonics, but not to abandoned it entirely, instead considering the usual use of consonant and dissonant intervals. This type of multipart composition for alphorns has now been handed down through at least three generations of composers and players and promises to continue to develop and prove itself in the future. Since alphorn making today is generally standardized to tunings in F or F-sharp, bringing together instruments of the same tuning is no longer a challenge. Only very minor deviations in intonation need to be corrected.

Playing with alphorns of different tunings is not new but it has been redesigned by various musicians since the 1980s. The possibility of combining two or more different overtone series invites experimentation with sound. In the concrete implementations, we observe that the main melody part becomes comparatively less important. Instead, the timbre comes to the fore. On the one hand, this has certainly to do with the difficulty of creating catchy melodies with unaccustomed tonalities and without a familiar harmonic framework; on the other hand, with the experimental and study-like form of the compositions. In contrast to musical practice before the standardization phase, however, we do not see a return to 'unorganized' playing today, but rather a search for new, yet clearly outlined techniques of sounding together without equal tuning.

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45. See Stomberg - Tiderman-Österberg, Duets with Nature, p. 13.

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