Study Guide

A Swiss Yodelling Series: “Jüüzli” of the Muotatal

and

SWISS YODELLING
30 YEARS LATER

by Hugo Zemp

An investigation of the particular yodelling styles
of the Muotatal, a small valley in the Swiss Pre-Alps

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A Swiss Yodelling Series: "Jüüzli" of the Muotatal

Recording Swiss Yodelling

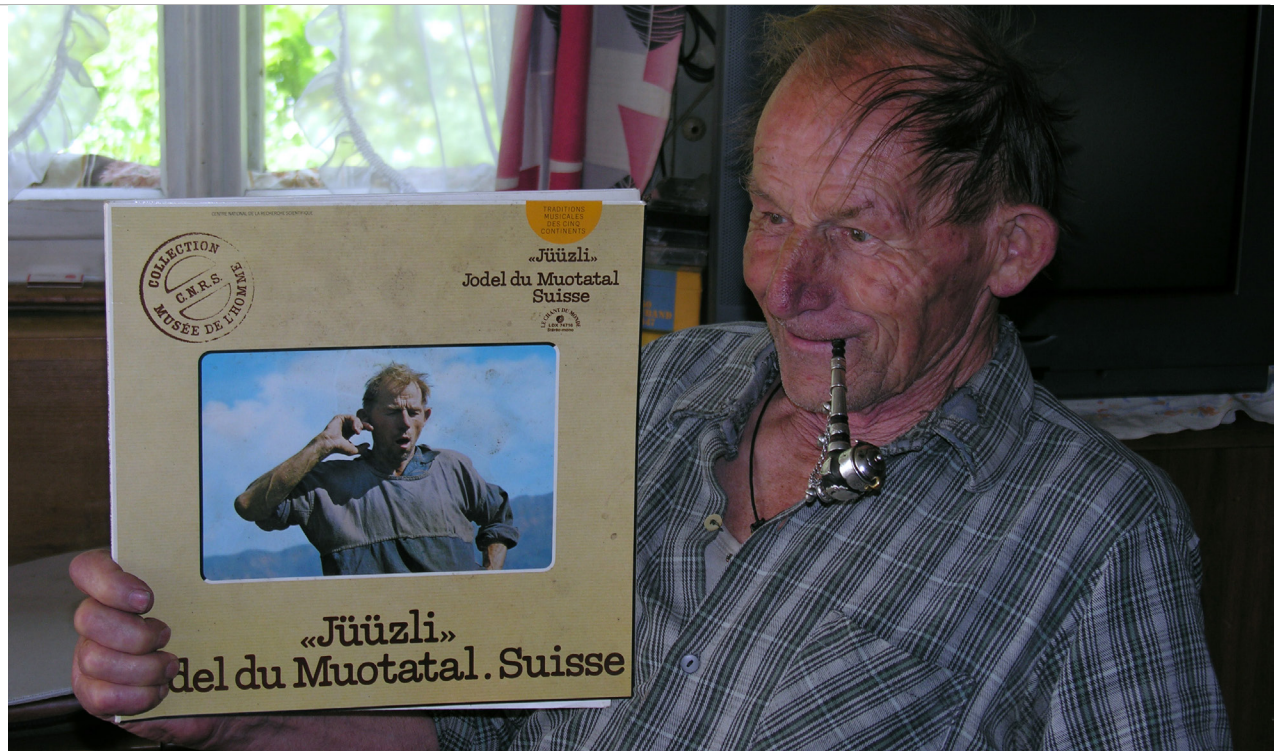

Fig. 1: Erasmus ("Müssl") Betschart (Photo by Andreas Heinzer, 2006)

In January 1979 I was sitting at the 16 mm editing table at the Audiovisual Department of the CNRS (National Center for Scientific Research, my employer) in a suburb of Paris, working with the editor on my film *'Are'are Music*. Jean-Dominique Lajoux, anthropologist, photographer, and filmmaker, specialist of French ethnography, came into the editing room. He had initiated me several years before in handling a 16 mm Éclair ACL camera. He said to me that in a few days he would be going to Eastern Switzerland to photograph maskers representing "savage men" at the "Old" New Year's festival of the Julian calendar, on 13 January. When he mentioned the very strange sounds of shouting by the maskers I immediately understood that he was speaking about yodelling of the Appenzell canton, of which I had a LP by a choir recorded in the studio. I said to myself: "I am sitting at the editing table for a film shot in the antipodes and I don't know anything about today's 'traditional music' in the country where I was born and raised!" I took my Stellavox tape recorder and went two days later with him to the village of Urnäsch. While Jean-Dominique made still photographs, I made sound recordings of the maskers called *Silvesterkläuse* who went in small groups from house to house to wish people a good new year. They performed yodels referred to locally as *Zäuerli* while ringing big ceremonial cowbells and pellet bells. We spoke with our hotel keeper who told us that some men frequently came to his inn to play cards, and that they yodelled sometimes. He invited four men and so I recorded casual yodelling by people in the relaxed atmosphere of talking, joking and having a drink.

After this first experience, I started to search for yodel LPs in Swiss record shops and found out that all were by yodel choirs singing under the direction of a conductor and recorded in a studio. I remembered that at the beginning of my student years in Paris in 1961 André Schaeffner, the "father of French ethnomusicology", told me about a famous recording of people yodelling while going up to the alpine pasture in Switzerland, published in Brăiloiu's *The World Collection of Folk Music* (1951–58). I listened to this recording again at the sound archives of the Musée de l'Homme and, wondering if this event was still going on, I decided to go back to Urnäsch in summer[1].

I also searched for literature on Swiss yodelling, which appeared to be extensive, mostly written by local yodel amateurs and choirmasters of the Swiss Yodelling Association (Eidgenössischer Jodlerverband). Two books, published by German musicologist Wolfgang Sichardt (1939) and Swiss ethnomusicologist Max Peter Baumann (1976), were outstanding. While Sichardt's theoretical frame (Kulturkreislehre) is outdated, his transcriptions and analyses of the field recordings of Swiss yodelling, made in 1936 with a freshly invented AEG tape recorder, are important contributions. Basing his study entirely on written sources, Baumann analysed orally transmitted yodelling embedded in custom and work in contrast to "folklorism" where songs are arranged or written by composers for stage presentations, imitating on scene nostalgic peasant life in a nationalistic ideology. Both authors wrote about the yodel of Appenzell, for which I was looking first, but I got very much interested in Sichardt's musical transcriptions and analyses of yodels of the Muotatal, whose melodic structure, performance style, and sound ideal he strongly contrasted with the features of other Swiss yodels. This incited me to combine, in the following summer, recording Appenzell yodels sung while going up to the alpine pasture with a visit to the village of Muotathal[2].

1 Two years later I published the first LP entirely devoted to field recordings of yodelling from Appenzell. But the first LP with field recordings of Switzerland became the one on the Muotatal.

2 The geographic name of the valley is Muotatal, the "Valley (Tal in German) of the Muota (river)". The spelling of the only village and community is archaic, Thal with h, thus Muotathal.

There I met Peter Betschart, a young schoolteacher who had just finished his teacher diploma with a dissertation on the traditional yodelling of his valley. He introduced me to the best performers.

Among others, I recorded a peasant calling cows on the alpine pasture. His picture is on the cover of the LP record (later CD) that I published in 1979 in the record series *Collection CNRS/Musée de l'Homme*. His fellow villagers made fun of him because his working shirt was patched up; usual record covers showed yodellers in clean folkloric costumes with embroideries of alpine flowers. People also laughed at him because he had put his hand on the ear, which was not very common in the Muotatal, but probably also because there was some jealousy. He was deeply hurt and told people that he got a lot of money from the record, even though he received no more than his share like the other participants. When we started filming in 1983 he refused to participate. But he preciously kept the LP and when, 27 years after its publication, an American lover of Muotatal yootzing went to visit him, he proudly showed the old record cover [3].

3 My co-researcher Peter Betschart told me the story. An American ethnomusicology student, after having heard the record, wrote to the music school of Muotathal, asking if it was possible to learn yootzing performed during work. He was interested in working songs from different countries of the world. The husband of the secretary, a policeman, took him to Erasmus ("Müssl") Betschart and took the photo. Müssl no longer went to the alpine pasture and did not yootz anymore. Because of family reasons the student had to return to America on short notice.

"Jüüzli" Yodel of the Muotatal[4]

The word yodel is generally used to refer to a kind of singing characterised by rapid alternations between chest and a head voice. This results in the frequent use of large intervals. Another feature of the yodel is the lack of text: the singing is vocalised by means of syllables that have no lexical meaning.

In Switzerland, the yodel is traditionally found mostly on the northern slopes of the Alps. Yodelling has spread very little into French-speaking Switzerland (Fribourg and Vaud Alps) and is completely absent in the Italian-speaking South, being essentially an art cultivated by the Swiss German dialect speaking people.

The yodel of oral tradition, with its very marked regional stylistic elements, nowadays is generally described as *Naturjodel*, "Natural Yodel". This term was coined in order to distinguish it from the *Jodellied*, a piece written by a composer who adds a yodelled refrain to the words in verses. The expansion of these written works, with texts conveying a patriotic ideology that glorifies the so-called free life of peasants and herdsmen and the beauty of the mountains, is closely linked to the development of choral societies, which began in the nineteenth century.

The *Jodlerklubs*, choirs specialised in yodelling (mainly the *Jodellied*), as well as soloists and Alphorn players, are grouped into regional associations and a federal association. These periodically organise festivals where town and country participants compete and are rated by *Kampfrichter* (literally "fight judges"). The associations also organise beginners' courses in yodelling and courses for choirmasters. According to the views of the Swiss Yodelling Association (*Eidgenössischer Jodlerverband*), as expressed in the beginners' handbook and in the workshops, yodelling requires no less voice training, mastery of breathing techniques, and discipline in execution than classical singing.

Exercises comprising sequences of "normalised" syllables prepare beginners for these skills. At the end of a yodel course organised by a regional association, the leader declared to the press: "Just open your mouth and yodel? That's all over. Today vocal technique and resource, and of course practice, must be thoroughly understood" (Heim 1979).

The inhabitants of the Muotatal do not like it, when the type of singing they themselves call *Juuz* (pronounced "yootz") or its diminutive form *Jüüzli*, is referred to as yodel. For a long time the valley was comparatively isolated. This, they say, led the people over the centuries to forge their own peculiar collective character, which makes them suspicious of strangers on a first encounter. The isolation, however, probably fostered the development and preservation not only of a specific dialect, but also of a very particular musical style, unique in Switzerland.

Fig. 2: The village of Muotathal

4 The following paragraphs are excerpts of the record notes.

Filming in the Muotatal

After my first field recordings made in1979 I returned to the Muotatal several times over the following years and started filming in 1983. In contrast to the traditional singing style of the record I also wanted to document the practice of yodel choirs and investigate the relationships between the two very different aesthetics. This time my friend and co-researcher Peter Betschart also worked as sound operator.

The initial project was to film in context every kind of event that shows the traditional local yootzing and the institutionalised yodelling. Peter Betschart, living in the village of Muotathal and personally knowing every single traditional yootzer as well as the soloists of the local yodel choir, regularly called me to announce forthcoming dates. These were the going up to the alpine pastures (Glattalp and Gummen), the cattle market, the annual concert of the local yodel choir, the alpine wrestling festival, and a wedding where a Yodel Mass was programmed.

The going up to the alpine pasture Glattalp was an important part of my project. A few years before, I had made hundreds of still photos, heard cattle calls and yootzing in the alpine hut. But at the end of the day of filming I had many reels of cattle filmed from every imaginable perspective but not one sound of yootzing! The reasons why and the solution I found are revealed at the end of the film and detailed in the article *Ethical issues in Ethnomusicological Filmmaking*.

At the cattle market every year a van of a well-known Swiss Cigar factory provided the sound system. I heard that the small female choir *Pragelchörli* was going to sing in the afternoon. I asked Anton Büeler, the well-known individual yodeller and soloist of the local yodel choir, to come once more to the cattle market to perform together with his colleague Alfred Schelbert the so-called "*Büchel-Juuz*", imitating the melody of the small Alphorn in trumpet shape. Four years before he had made me listen to an old recording of this yootz that became one of his favorite. The two sisters Theres Sutter and Vreni von Rickenbach, whom I had recorded before, told which inn they would be staying at on the evening of the cattle market. I didn't know

Fig. 3: Vreni von Rickenbach and Theres Suter sisters perform a yootz in a restaurant at the cattle market.

in advance that Franz-Dominik Betschart, who is seen in other situations in the film, would stand up to dance with Vreni while I was filming the accordion duo.

Other shootings, not limited to a specific date, could be arranged in a common agreement. From former conversations with Franz-Dominik Betschart I knew that he sometimes yootzed after cutting grass, that his children yootzed up a tree and also together with their parents. Alois Schmidig, one of the best singers of the traditional style, was for me an important figure to be filmed. I went four times to his alpine pasture Gummen: once to film the arrival of the cattle in trucks, once when his brother and a friend came to visit him and to yootz in front of the hut while their wives were sitting beside on a bench, once for the cattle call where he wanted to be alone so that the cows would not be frightened by many visitors, and a last time when I showed him and his family a work print of the rushes which I had filmed before. He liked alpine wrestling festivals, to which he was invited to yootz in earlier years. My idea was to film him going to the festival, thus providing a transition with the actual performance of a yodel choir. One yootzer, whom I did not know from former visits, Matthias Schelbert, agreed to be filmed while he was going to transport wooden logs. Thus, little by little, at many periods over the course of two years, I filmed the events I was looking for.

After I had shown the first three films in Muotathal and Schwyz, the teacher of the primary school and some students of the teacher seminar asked me how to explain to the children the specific style of the traditional yootzing. I thought a lot about this question and had the idea of using animated graphics. This would allow viewers, even without knowledge of musical notation, to visualise the musical features and performance practices. This was becoming the fourth film, *Chest Voice and Head Voice* (see the article *Visualizing Music Structure through Animation: The Making of the Film 'Head Voice, Chest Voice'*.

In my article *Filming Music and Looking at Music Films*, written shortly after the completion of the series, I discussed five fundamental types of camerawork: stationary framing (fixed angle), panning, zooming, sequence shot, multiple cameras. For each of these types I gave one or several examples from the four films. Several stills extracted from the films allow the reader to quickly find the corresponding scenes of the DVDs. The article also discusses problems and experiences of editing (p. 404-405) as well as of narration and verbal explanations (p. 405-409).

Just as I had insisted that the record published in the *Collection CNRS/Musée de l'Homme* should have a German text to complement the bilingual French-English, I likewise ensured that the films I made were available in English and German, in additional to the original French version. Having noticed that German TV interviews spoken in a Swiss local dialect were subtitled in German, I also subtitled the films, making them available in Germany and Austria.

The "History" of the Record & of the Films

I wrote elsewhere about the reactions of the first screening in 1987 of three of the films (*Head Voice, Chest Voice* had not yet been made) in the village of Muotathal and the neighbouring town of Schwyz (*Filming Music and Looking at Music Films*). A brief recap of the main points will help in understanding the situation today:

1. At the private screening, which Peter Betschart and I organised for the performers, the reactions where unanimously positive.

2. At the premiere for the general audience in Muotathal the villagers liked the films, but some criticised the ending of *Glattalp* because it "destroyed" their idyllic image of the local tradition; consequently, they asked me to cut out the ending where I revealed the reality, which I did not do.

3. Children of the primary school in Muotathal liked the films. Only two children had parents who yootzed; one was featured singing with his parents in the film *Yootzing and Yodelling*. When the teacher asked them, a majority of about one hundred children said that they would like to know more about their local tradition.

4. Adolescents in a secondary school of the town of Schwyz had a completely negative opinion. They preferred rock and pop (see the jacket with the image of Michael Jackson at the cattle market). When the teacher asked who liked the films and the music, only one child out of a hundred held up his hand, and when he saw all the eyes of his classmates directed toward him he dropped his hand in shame.

5. Some future teachers of the teachers' education seminar appreciated the films and asked for more information.

I sent back 40 VHS cassettes of the German version: 20 to all singers according to their participation in one, two, or all four films; 20 for the Cultural Commission of the Education Department of the canton Schwyz with a letter suggesting their destinations (schools, libraries, archives, etc.). The director of the Commission was at the premiere in Muotathal, and I proposed a booklet in German for schools. However, due to lack of funds for editing and printing the idea was abandoned.

While I was preparing the present study guide for Documentary Educational Resources (DER), co-researcher and sound operator Peter Betschart sent me a number of emails and we had several telephone calls about the situation of yodelling in the Muotatal today. The following paragraphs are based on this correspondence.

Some participants on the record, or their children, still have a LP from 1979. When the CD was issued in 1990 I again sent copies to the families. The production of the record series Collection CNRS/Musée de l'Homme having been stopped by the record company, the last copies of the CD edition were sold around 2000. As there are still a few demands, a man from Muotathal, yodel choir director, copied the CD, printed the label, the cover and the German text of the booklet, and sells it at a price which covers the expenses of production. The funny thing is that he made this nonprofit preservation even though he said that he "couldn't listen to more than two pieces in succession", because of the off-key singing with tensed voices! Many thanks to him for preserving the life of the CD while the record company is failing to do so!

Several performers and their families still have the VHS cassettes but have not watched them for many years. Nobody seems to know what happened to the 20 copies I sent to the Education Department of the canton Schwyz, with one exception: Peter Betschart found out that the library of the canton still had copies, but they are no longer in the catalogue! Since for many years the VHS cassettes were rarely asked for by the public, they were not copied and burned to DVD like other VHS cassettes. Peter wrote me, with the typical dry humour of the Muotatal people (considered by town people ten miles away as backwoods hicks): "You should not forget that even in the Muotatal the era of videotape-recorders is over!"

Conclusion: the films did not find their entry into local schools. Music teachers have the classic conservatory education and don't know how to handle traditional folk singing—especially when the voice technique and intervals do not correspond to the more common aesthetic. The films survived only among the performers and their families, sometimes with pirated copies on privately burned DVDs.

The German version of the films was not mentioned in the catalogue of the producer, the CNRS Audiovisuel (today CNRS Images); the catalogue was written only in French (today also in English). Since nobody ordered the German version, the 16 mm copies and the VHS masters got lost (sic!), probably during the moving of the centre; only one video master of the German version of *Head Voice, Chest Voice* could be found, but appeared to be completely unusable.

Musical Features: Preservation & Changes Over 75 years

1936: SOUND RECORDINGS BY WOLFGANG SICHARDT

His book of 1939 describes as particular features the final falling glissando, the neutral intonation of the third (scale degree 3) and the slightly augmented fourth of the scale (Alphorn-Fa). According to the author, the style of the Muotatal may be distinguished from that of other Swiss regions by, along with other elements, a pulsating rhythm, "zigzag" melodic figures, and extreme tension of the voice with its nasal sound reminiscent of the oboe.

1979-1984: SOUND RECORDINGS AND FILMS

Among performers known as deliberately keeping to traditional intonation and voice technique, these features described by Sichardt as typical of the Muotatal could still be heard more than forty years later at the time of my sound recordings and filmmaking.

Even though the yootz of the Muotatal has altered intervals, it belongs to the tonal system due to its major scale. In three-part polyphony the functional harmony is particularly clear with the alternation of the bass line between tonic and dominant, and with ending lines and final chords on the tonic (scale degree 1). Moreover, the neutral intonation of the third (scale degree 3) at final chords is particular striking: this means an interval narrower than a major third and wider than a minor third in relation to the first degree of the scale (tonic). On the 1979 record, neutral thirds are notable at the end of the lines of polyphonic yootzes by the trio Alois and Paul Schmidig with Joseph-Maria Schelbert[5].

New measurements of the same three singers show that sometimes the thirds are clearly neutral (*Yootzing and Yodelling* 03:13–04:20), and sometimes even narrower, around 330 cents while the temperate neutral third has 350 cents (*Yootzing and Yodelling* 04:21–06:30 and *Head Voice, Chest Voice* 17:38–18:45). In any case, in the general system of a major scale these narrow ending intervals give the performances a very particular colour. Two other renowned yootzers, the brothers Erwin and Alois Imhof (*Head Voice, Chest Voice* 15:49–17:29), also sing neutral thirds at the end of lines.

As the films show with diagrams, comments, and conversations between performers, the neutral third is not allowed in "cultivated" singing promoted by the Swiss Yodelling Association. It is therefore not surprising that the Muotathal yodel choir sings major thirds at the end of the lines at the concert (*Yootzing and Yodelling* 28:01–29:44) and in the church (*The Wedding of Susanna and Josef* 04:31–32:22). However, even performers who do not have trained voices or participate in workshops held by the Swiss Yodelling Association are losing the traditional feature of the neutral third, for example: the women's choir Pragelchörli (*Yootzing and Yodelling* 34:40–36:30), the sisters Vreni von Rickenbach and Theres Suter (*Yootzing and Yodelling* 37:26–39:18).

In solo singing Franz-Dominik Betschart sings neutral thirds. In the animated cipher notations downward arrows written over the cipher 3 indicate the neutral intonation (*Head Voice, Chest Voice* 06:30–06:50; 14:01–15:04). In polyphonic performances, in which he participates, either in the context of family (*Yootzing and Yodelling* 43:03–44:32 and *The Wedding of Susanna and Josef* 09:06–10:27) or with friends (*Glattalp* 16:40–26:27), the scale degree 3 at the end of the lines is closer to major than to neutral thirds in relation to the tonic.

When Adolf Gwerder, known as an excellent traditional yootzer, sang the first voice together with friends in the inn (*The Wedding of Susanna and Josef* 15:43–16:39), the thirds at the end of lines were neutral. When, afterwards, Richard Gwerder (who later became the soloist of the Yodel Club Muotathal) performed the first voice (16:45–17:42), the ending thirds were major.

As already mentioned in the record notes some pieces have no degree 7. In those which have, some performers sing the pitch with a neutral intonation, especially when ascending to degree 1 of the upper octave, or descending from degree 1. Thus, the "leading note" is neutralised since the interval is between a minor second and a major second. In the yootz that Franz-Dominik Betschart sings in company of a goat (*Head Voice, Chest Voice* 14:01–15:04) the neutral intonation of degree 7 is clearly perceptible. In his book on yodel, Sichardt (1939) does not mention the occurrence of the neutral degree 7.

Sichardt did, however, recognise the Alphorn-Fa in the yodel of the Muotatal as well as in the yodel of Appenzell (cf. CD 3). The Alphorn-Fa is the degree 4 slightly augmented by a quarter tone (between F and F# in C). It has its name because it corresponds to the eleventh harmonic of the natural scale used by wind instruments without finger holes or piston valves, such as the alphorn. In the film *Head Voice, Chest Voice* (06:30–06:50) Franz-Dominik Betschart sings an Alphorn-Fa in the first yootz, but not in the second (14:01–15:04) even though the ear could be misled in the latter[6].

5 To measure musical intervals ethnomusicologists since Ellis use a system attributing a size of 100 cents to the tempered semitone; the octave with 12 semitones thus counts as 1200 cents. Thus the whole tone measures 200 cents, the minor third 300 and the major third 400 cents. The neutral third is between the minor and the major third, approximately 350 cents. The Alphorn-Fa is between a perfect fourth, 500 cents, and an augmented fourth, 600 cents. The measurements of the yootzes published on the record in 1979 and on the film *Head Voice, Chest Voice*, were made with a Stroboconn in the acoustic laboratory of the Musée de l'Homme, Paris. In 2012, while writing this study guide, I made them again and added the measurements of other performers of the films, this time with the free software *Sonic Visualiser* (© 2005–2011 Chris Cannam and Queen Mary, University of London).

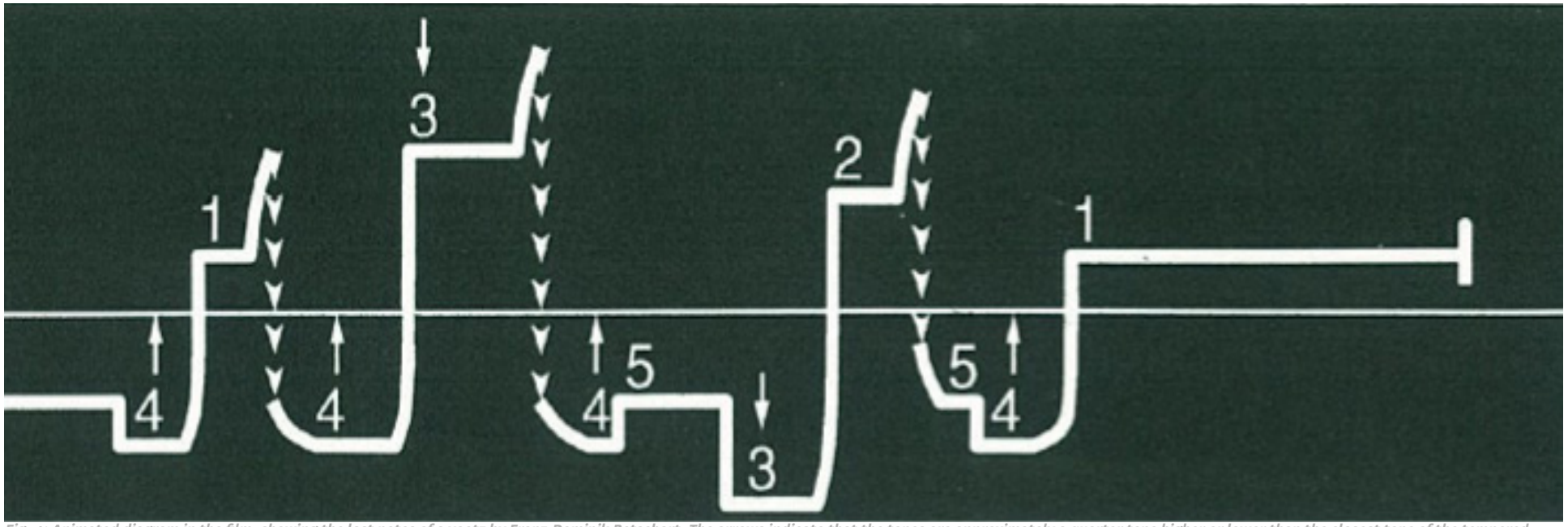

Fig. 4: Animated diagram in the film, showing the last notes of a yootz by Franz-Dominik Betschart. The arrows indicate that the tones are approximately a quarter tone higher or lower than the closest tone of the tempered major scale.

2007 – 2012: CD OF *NATUR PUR*

In 2007, six young men from Muotathal started a vocal ensemble which they want to be close to the local tradition; two of them are peasants. The group's website maintains: "The real purpose is not public presentation at concerts or events, but as in older days, to yootz out from the heart with friends, or as the name says—*Natur pur* ("Nature pure") — in the free nature" (see References, Websites). However the choir successfully produced a CD and also performed at a concert (see References, CD of the group from 2007 and Websites).

One of the performers is Bernhard Betschart who, at the age of seven, sang with his sisters up in a tree and with his parents (*Yootzing and Yodelling* 00:17–01:18, 43:05–44:43; *The Wedding of Susanna and Josef* 09:03–10:27). On my request Peter Betschart, co-researcher and soundman of the films, recorded him in 2011 singing the same yootz as his father had sung in the film *Head Voice, Chest Voice* (14:01–15:04). Bernhard Betschart (locally known as "z'Lipschä Beny") claims to be particularly faithful to tradition and clearly separates the style of yootzing he practices from the Country Western and Rock music he performs as a semi-professional guitar player and singer. It is astonishing how he could preserve neutral thirds in singing the yootz of his father (with the exception of the beginning third which is major). In polyphonic performance with the group *Natur pur*, it sounds as if collective singing "grinds down" (or rather: "polishes off") the harsh sounding neutral degree 3 in the final tonic chord, where it is mostly between a neutral third and a major third.

Bernhard Betschart also kept from his father the rapid rising of pitch at the head voice before falling down to the chest voice. Moreover, as a personal stylistic feature, he also accentuates the semi-consonant "y" in some upwards movements from chest to head voice, producing an original sound effect. Unlike his father he does not break the vocal tension at the end with a glottal stop, but rather with the more common final glissando. This is also what the group *Natur pur* does although, rather than just naturally relaxing the vocal tension at the end, he and his group exaggerate the ending in sound intensity and also in amplitude, going first higher before falling, thus making the final glissando wider and stronger. It is a deliberate intention to artificially keep this final glissando as an archaic and typical feature of the local tradition.

6 Indeed, this could happen listening to the descending passage at the end of the lines: Upper 1–7–4–3–2–Upper 1. To understand this strange impression in listening, let's remember that normally degree 4 is a semitone higher than degree 3 (E-F in C major). Since in these performance degrees 7 and 3 are neutral, the degree 4 appears in a somehow strange situation. As the neutral third is lowered a quarter tone the distance to degree 4 is a three-quarter tone, the same interval found between a major third and an Alphorn-Fa.

The Situation of Yootzing in 2012

In the movement back to nature and authenticity, to local roots (and foods!), to simple life, and to the slogan "local is fine", there is a new interest—one could say a rediscovery—of local traditions both from young people of the Muotothal village and from the outside.

While some young villagers joined the local Jodel Club, others don't like the institutional, normative singing of the official yodel choirs which perform at concerts and competitions; they prefer informal singing in the inn for their own pleasure. Peter Betschart explains the phenomenon:

> "I think it is a profound feeling of life, which can be expressed in yootzing. Lively sung or shouted, with energy and emotion, to put out all frustration and express joy. Free and unrestrained, insolent, vigorously. This is a real trend today. At the Jodelsymposium 2011 in Altdorf [see below], there were many such people, but only few of the national, institutional yodel scene. It is more authentic than artificially cultivated (affected) singing".

The ensemble *Natur pur*, mentioned before, sang in 2011 at the second international Jodelsymposium, an event different from the conventional festivals and competitions of the Swiss Yodelling Association. In 2011 the tradition of the Muotatal was honoured with lectures, concerts, and workshops. Peter Betschart presented excerpts of our films (about this Yodel Symposium, see References, Websites).

In the context of this alternative yodel event of 2011 a local newspaper referred to the record which I published as having acquired a "cult status", and reproduced the photo of Erasmus ("Müssl") Betschart proudly presenting the 1979 LP (see above). Another local article discussed the presentations on YouTube of two excerpts taken from the German version of *Yootzing and Yodelling*. In contrast to many other "pirated" clips, the member of *Natur pur* who had the VHS cassette, acknowledged the names of producer and filmmaker including the soundman and co-researcher.

Outside of the Muotatal and the close neighbouring regions the local yodel tradition—in different German, French, and English spellings (*Juuz, Jüüzli, Youtse, Yootz*)—is now also internationally known. A women's trio of professional singers from Berlin took into their repertoire some yootzes, which they learned from the CD of *Natur pur* [7]. Beyond Europe, yootzing also arrived in the United States thanks to the American student interested in learning work songs during fieldwork, mentioned at the beginning of this study guide[8].

In Swiss media there are nowadays lively discussions, which would have been unthinkable during the period of our sound recording and filming in the late 1970s and early 1980s. A highly interesting website is entitled *blogvolkskultur* ("Folk Culture blog"), the subtitle of which is *unabhängige Diskussionsplattform zur Schweizer Volkskultur* ("independent discussion platform on Swiss Folk Culture").

Among different domains such as politics, architecture, or customs, there are also many contributions on music and folklore including some severe critics of the Swiss Yodelling Association which is accused of standardising and adulterating lively local traditions (see References, Websites).

This text on "Musical Features: Preservation and Changes over 75 Years", has been written in 2012, and published in 2014 . It is completed in 2015 with many new measurements in The Question of Intonation.

7 The name of the pleasant yodel trio *La vache qui crie* ("The Cow that cries") is a funny wordplay on the name of the famous cheese loved by children, *La vache qui rit* ("The Cow that laughs"), fabricated in France. A few yootzes can be heard on the website of the trio (see References, Websites).

8 The Antioch University New England graduate attempted to teach a yootz of the Muotatal (not of Austria as written in the comment) "used by herders in the Alps to communicate with their livestock". At the May 3 2009 commencement ceremony of the university, he had some fun with the enthusiastic audience, but forgot that yootzing of the Muotatal, like yodelling in general, is characterized by the alternation of chest voice and head voice.

Restoration of the Films

While preparing the distribution of the English version for Documentary Educational Resources (DER), I asked the *CNRS Images*—the new name of *CNRS Audiovisuel*—to restore the films. It appeared that the 16 mm prints were heavily damaged and completely irrecoverable, as they are almost black. There was no budget to make a new video scanning directly from the colour negatives, and anyhow the negatives were probably also damaged. The only solution was to start from former analogue video transfers.

In the eighties, the 16 mm prints were transferred on analogue video, first on U-Matic which was later copied on U-Matic SP, later on BETA or BETA SP. Thus there were at least two or three generations of analogue copies, which explains the loss of quality. It is particularly frustrating, as the originals had been shot in 16 mm. The latest BETA cassettes were copied on DVCAM and put on Final Cut Pro for the restoration.

The CNRS technician corrected the strong magenta dominant and also used a method to diminish the fast flickering of "snow" and to slightly increase the sharpness. At each cut between two shots, the splice of the 16-mm negative editing was visible; 2 to 5 frames had to be cut out.

For a reason which I will overlook, the image quality of the French version of three of the films was better than of the English version. Therefore, I preferred to make fine colour corrections on the former. Consequently I had to make new English subtitles on black boxes to cover the French ones. Anyhow, I disliked the former subtitles which had been chemically engraved on each 16 mm print and which "danced" on the screen, unstable vertically as well as horizontally. Furthermore, in the same subtitle, the white letters were thicker on a light background and thinner on a darker one. Chemically engraved subtitles were less expensive than making of each film internegatives in French, English, and German, thus altogether twelve internegatives for the series of four films. For *Yootzing and Yodelling* the English version was satisfactory after fine colour corrections, but I also made new subtitles on black boxes for uniformity of the series.

I shortened many shots, cutting out pre-echo and made a new sound mix. Being aware that the bad quality of optical sound in 16 mm films was especially regrettable for music, I had insisted since the beginning on showing the films with a double-band projector, i.e. a second reel of a perforated magnetic sound simultaneously rolling with the celluloid reel of the images. In the eighties, the video scanning of my 16 mm films was made in the audio visual department of a university which did not have the necessary equipment to scan the magnetic sound of the double band. Unfortunately, the result is not only a greatly reduced sound quality of the original Stellavox recordings and additional back-ground noise of optical sound, but also an increased scratching sound as repeated projections occurred during the time before the video transfers could be made.

Many shots made with the camera on the shoulder where unstable (I see that today better than before!). For *Yootzing and Yodelling* I regret not having had a tripod with a fluid head for the panning of the first yootz in front of the alpine hut. In the scene of the three traditional performers discussing their video image I should have hired a second tripod for the close ups as I later did for the scenes where the two soloists of the local yodel choir discuss with the soundman. From the original version I cut two long shots of yootzing with the worst instability: in *The Wedding of Susanna and Josef* one of the two shots of the family singing in the restaurant in folkloristic costumes, in *Glattalp* one yootz performed at night in the alpine hut. In *Yootzing and Yodelling* I cut the middle part of a shot with the discussion of three traditional yootzers. As the dialogues concerning the transmission from parents to children are interesting, I reproduce here the few sentences (after the subtitle "When the farmhand is here…", at 07:21):

- The young people should do it now, but they do not!

- You did not teach us! [A girl on the left, completely in the dark]

- You three could now! [Addressed to the three youngsters]

- We could not learn it, Daddy never yootzed!

- Our children would have laughed at me!

- Daddy yootzed during milking, but not often.

[Continued with "When the farmhand is here…"]

In some other shots, I tried to slightly diminish the instability of the image with SmoothCam of the software Final Cut Pro, being very careful not to augment the un-sharpness. This was the most successful in the animated graphs of *Head Voice*, *Chest Voice*. Another difference from the first editing is the new titling with new background photos at the beginning and the end of the films.

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Guide written by:
Hugo Zemp

Color images excerpted from the films

Designed and assembled by:
Frank Aveni and Tianna DiMare
at Documentary Educational Resources

SWISS YODELLING
30 YEARS LATER

Thirty years after the four documentaries, this film continues the research about the particular yodel style of the Muotatal, a small valley in the Swiss Pre-Alps. Shot in the 1980s, these earlier films present the traditional local yodel (called "yootz") sung at work or whilst socializing in restaurants, in contrast to the stage presentations by yodel choirs, which were directed by conductors and followed the esthetics of the folkloric Swiss Yodel Association.

The study guide for *The Swiss Yodelling Series* addresses the four earlier films and gives general background information that is not reproduced here. The reader will, however, find notes about the specificity of Muotatal yodelling, research history, the making of the films, as well as bibliographic and discographic references, and links to websites.

The Making of the Film

I started in 2011 and 2012, in collaboration with the video editor of the French Center for Scientific research, to restore the four films of the Series.

Since DER has the potential to publish study guides on the internet, I called my friend Peter Betschart[1]—co-researcher and sound man on the first four films—and asked him about the current yootzing situation in the valley where he still lives. He told me that the seven year old boy, Bernhard Betschart , whom I had filmed with his parents and sisters, had become a rock and country music singer and guitar player, but he had turned back to the local tradition and created, in 2007, with five friends, the local yootzing group *Natur pur*. Little by little, the idea grew to make a new film, with Bernhard as the central figure. On learning that the group *Natur pur* met every year at the local cattle fair (which I had already filmed in the eighties), we agreed to start shooting during that period.

1 Betschart is a well-known family name in the valley; Peter and Bernhard are not related.

FIRST SHOOT IN SEPTEMBER 2013

A dialogue between Bernhard and Peter in the former's apartment, about his childhood, his love for rock and country music. I added a short scene where I am sitting with the two protagonists, answering Bernhard's questions.

– 30 years later, Bernhard performing the yootz that he had sung with his parents in the family home, another yootz that his father had sung after cutting grass, and the cattle call, also performed by his father.

– Bernhard performing his favorite country song, "Wagon Wheel". As the lyrics are about a trip in the USA, I filmed Bernhard on the train travelling through a Swiss mountain landscape close to the Muotatal, with a view of future editing.

– Scene of the cattle fair.

– Group *Natur pur*. Yootzing in the restaurant "Schäfli".

– Group *Natur pur*. An informal conversation between the members of the group in Daniel Schmidig's farmhouse, where the group sometimes met. I discussed the main topics of the conversation with Peter Betschart, and of course, when the friends met together over a drink, I didn't have to ask them to yootz!

Sometimes I interfered and talked directly with Bernhard. Thus, as he spoke about the cattle call, I asked him if he could perform it. A funny and unexpected situation occurred when I asked him about watching the old films for the first time. Dry humor and quick-witted responses are appreciated in the valley.

SECOND SHOOT IN JANUARY 2015

In September Bernhard had said that when "going out" they sometimes yootzed with women, and also that women are more numerous in workshops, so we agreed to organize a second shooting period. This time I preferred in winter, since I wished to have some views of the village and mountains under the snow.

- The workshop in Oberwil, about 30 miles from the village of Muotathal.
- Yootzing with women in the restaurant "Schützenhaus".
- Landscapes of mountain and village scenes in the snow.
- On the train along Lake Zug, from Oberwil where Bernhard gives his workshops.

As in my former films, I used two cameras fixed on tripods to film the conversations: one framing all protagonists without a cameraman, the other focused with a close-up and panning. Sometimes I went from one camera to the other in order to change the framing. This was to keep the conversation spontaneous, without interruption, and to be able in editing to alternate views, cutting out or shortening too lengthy shots. While I usually shoot a whole musical piece with one camera and keep the shot in editing, this time I alternated the two cameras in the workshop scene. The yootzing of the group at the cattle show, and one of the yootzes with the women, were filmed with handheld cameras.

During my stays in the village of Muotatal, I checked with Bernhard and Peter all the conversations and dialogues after each shooting session, noting with them the passages that were difficult to understand because of laughter masking the speech or, on a few occasions, when I did not know particular words of the local dialect. Other passages had to be clarified by email correspondence or telephone, as I live in Southern France.

EDITING

The structure of the film emerged by itself. From my first plan, I had thought about starting with a closeup on

Bernhard's face as he is watching and listening to himself singing with his parents, at seven years of age. It was obvious to add his solo interpretation of the same song in the editing of the film.

Rather than a long narration explaining the reason for my return to the valley, I put in the short conversation between Peter, Bernhard and me. The title and inter-titles then follow with the landscape of the valley as background, with a brief written explanation of the features of the Muotatal yootz. It was logical to let the dialogues about Bernhard's childhood and his love for American rock and country music follow on from this. I like to keep in when editing entire musical pieces without interruption. As the "Wagon Wheel" song is quite long and outside of the main topic of yootzing, I intercut two long shots showing Bernhard travelling by train, illustrating the lyrics of the song, but instead of travelling in the USA, it showed Swiss landscapes close to the Muotatal. The scenes of the yootzing with women, and of the workshop, were included after the topic was brought up during the conversations.

Excerpts of the older 16 mm films were intercut where the context was suitable, in a smaller size because of the loss of definition during transfer to analogue video in the eighties. The sequence of the animated graphics is quite long (6 minutes), but many viewers of this new film may not have seen *Head Voice, Chest Voice*. Bernhard showed some of these graphic animations at the workshop, with my spoken comments on the German version, in order that the workshop members could understand. For the English version, I took the English spoken comments. Three shorts clips were taken from YouTube.

During the conversations between the group and Peter Betschart, many interesting topics were addressed. But to obtain a certain balance between singing and speaking, it was not possible to keep too lengthy scenes of discussion. Therefore, I put in as an extra the conversation about my LP record from 1979 and their CD from 2007. I also added a sequence about creating new yootzes, a theme of discussion spontaneously introduced by Peter, after Bernhard had told that it was not necessary to look for new ways, and just to keep the tradition and repertoire of their ancestors. A short conversation follows about the titles of yootzes.

The Question of Intonation

This part of the study guide considerably expands on what was written in the paragraph entitled "1979-1984: Sound recordings and films" in the chapter Musical Features: Preservation and Changes over 75 Years. To stop the reader having to go back and forth between the two texts, I am reproducing some data here, in particular a footnote concerning the measurements of intervals[2].

The study of intonation is very technical, and addresses ethnomusicologists rather than anthropologists. But there is a certain idealization of the specific "natural" intonation in the traditional performing style of Muotatal yootzes, that it is necessary to present some facts.

NEUTRAL THIRDS (FLATTENED SCALE DEGREE 3)

When I first went to the Muotatal in the summer 1979, the musicologist Wolfgang Sichardt's (1939) book was unknown to people living there. It seems that I was the first outsider—after Sichardt and thanks to his research—to be interested in neutral thirds in local yodelling. Peter Betschart—who just had finished his teaching diploma on the traditional yootzing of his valley, and had introduced me to performers who were the most committed to the traditional performing style—was the first insider as we discussed the matter. Nobody before in the valley seemed to care about "neutral thirds", i.e. the interval between scale degree 1 and degree 3, which is neither a major nor a minor third. Traditional yootzers were accused of singing off key, their tones being considered as "dirty". But even belonging to a depreciated minority face of the normative esthetics of the Swiss Yodelling Association, some defended their particular local way of singing, as the three singers, known as the "Fluehof's", explained in the film *Yootzing and Yodelling*.

Sichard briefly mentioned the neutral intonation of the third, together with the final downwards glissando, as particular "archaic features" (p. 28), but did not include the former in the summary of Muotatal yodel characteristics, in contrast to the second feature (p. 129). However, elsewhere in the text, he in passing mentions the neutralization of the third (p. 117).

I could confirm his findings with a few measurements from my own recordings, published in 1979 in the record notes of the LP, and later on in the reissue of the CD. To allow local people to read the record notes, I published these not only in French and English as usual in our record series "*Collection CNRS/Musée de l'Homme*", but also in German. Colleagues have noticed, however, that few people from the areas where the sound recordings were made really read detailed record notes. This was particularly the case in the Muotatal. As Peter Betschart reminds us in the Extra of the film, many Muotatal people did not appreciate the LP, saying that it has not been necessary to record these performers as others could do it just as well (or as badly), implying that the local yodel choir had better singers worthy of recording and releasing a disc.

After the Premiere in the village of the first three films in 1987, I worked on the fourth film *Head Voice, Chest Voice*, to visualize the general features of yodeling, and of the local yootz in particular. Now the audience could follow visually with sync sound performance style, thanks to animated graphics. This film was shown for the first time in the village of Muotathal in 1990, together with the three earlier ones. As Peter Betschart recently told me (I had forgotten about it), "the size of the audience was disappointing". But the VHS cassettes remained there, mainly in the performers families. In the meantime, the LP, reissued as a CD, acquired "cult status" for some people, and the neutral intonation of thirds, illustrated in the film *Head Voice, Chest Voice*, drew the attention of some lovers of traditional music, including performers like those of the group *Natur pur*.

Whilst writing this study guide, I have made new measurements of the old recordings and films, and of the new film. The figures in cents are approximate. *Sonic Visualiser*, the software that I use, presents in real time spectrograms, where the horizontal line of the fundamental tone (harmonic 1) in chest voice is difficult to measure. As the graphics of the overtones become thicker as the frequency augments, I usually check at the same time the fundamental frequency and the second harmonic at the octave, varying the cursor until it reaches the middle of harmonic 2. With a very slight movement of the cursor, the value of the frequency can vary more than 10 cents. Despite this variability of the result of measurements, it allows us to see if an interval is close to a major third, a minor third, or systematically near to a neutral third.

Measurements show that the intonation is not very stable. Further more, in most performances, the pitch is slightly raised, sometimes between a quartertone and more than a halftone from the beginning until the end of a yootz.

Muotatal yootzes are firmly structured in parts (*Teili*, "small parts", in the local dialect). The performers consider that the most common form has two parts (AB), each part being repeated with a different ending. In a musicological analysis one could say that these same yootzes have four parts, the first and the third part being slightly elongated. This form can be noted as AoAcBoBc, where o stands for "open", and c for "closed". In two- or three-part polyphony, the closed parts end on the tonic, the first voice singing mostly degree 1 or 3 (rarely 5).

The intonation usually stabilizes towards the end of each part; therefore, I mainly measure the intervals there. When the soloist with the yodelling voice sings scale degree 1 in the head voice register at the end of a part, and the performer of the second voice in the high chest voice register sings a neutral degree 3, the result is a neutral sixth.

2 To measure musical intervals ethnomusicologists since Ellis use a system attributing a size of 100 cents to the tempered semitone; the octave with 12 semitones thus counts as 1200 cents. Thus the whole tone measures 200 cents, the minor third 300 and the major third 400 cents. The neutral third is between the minor and the major third, approximately 350 cents. The Alphorn-Fa is between a perfect fourth, 500 cents, and an augmented fourth, 600 cents. The measurements of the yootzes published on the record in 1979 and on the film Head Voice, Chest Voice, were made with a Stroboconn in the acoustic laboratory of the Musée de l'Homme, Paris. In 2012, while writing this study guide, I made them again and added the measurements of other performers of the films, this time with the free software *Sonic Visualiser* (© 2005–2011 Chris Cannam and Queen Mary, University of London).

Franz-Dominik Betschart, Bernhard's father, was one of the few yootzers filmed in the eighties, who systematically sang neutral thirds. His son Bernhard, despite his participation with rock and country music and his occasional singing in a pop choir, could partially keep this intonation, which he had "in his ears". His intonation is especially near to his father's when he listens several times to his father's recording, and then immediately sings. In *Head Voice, Chest Voice* (14:48[3]), Bernhard's father sings neutral thirds indicated on the cipher notation with downwards arrows. My new measurements with *Sonic Visualiser* confirmed in 2011 and 2015 my older Stroboconn measurement of 1979: neutral thirds are between 340 and 360 cents. In the sound recording by Bernhard Betschart, made on my request by Peter Betschart in 2011, Bernhard sings thirds around 350 cents, with the exception of the beginning where the intonation is not stabilized.

For the new film in 2013, I asked Bernhard to sing another yootz. He chose one that his father sang after cutting grass (*Yootzing and Yodelling*, 16:34). While his father sings neutral thirds between 330 and 350 cents, Bernhard sings thirds between 360 and 380 cents, slightly higher than his father's, but always smaller than a temperate major third. While I measured the whole performances, in the new film I alternated his father's parts (A_0B_0) with Bernhard's singing (A_CB_C).

After the Premiere of the new film, I asked Bernhard to sing the yootz that his father performed in *Head Voice, Chest Voice* (02:47). A copy of the graphic animation is reproduced in fig. 4. His father sang neutral thirds between 330 and 350 cents. Bernhard, after repetitious listening, recorded the yootz himself with neutral thirds between 350 and 370 cents. Bernhard sang also the Alphorn-Fa like his father (see infra).

At the beginning of the new film, Bernhard watches and listens to the yootz he sang in his childhood with his parents and sisters (00:13), which was difficult to measure because of the instability of intonation. When he sang this same yootz on his own in the new film, he obtained thirds between 360 and 380 cents (01:43).

Of the twenty yootzes on the CD Natur pur (there are also ten songs), only three by the two main soloists, Bernhard Betschart and Daniel Schmidig, with the bass by Heinz Gwerder, come close to neutral thirds, between 360 - 370 cents (No. 12, 14 and 18). All the others are closer to 380 and 400 cents.

In the restaurant at the cattle fair, the first yootz is the most uniform with measurements of the thirds between 370 and 380 cents (26:38). The second, with Christian Gwerder, the youngest member of the group singing the leading voice, shows major thirds of 400 cents. The third yootz has thirds between 370 and 400 cents. In Daniel Schmidig's home (34:30, 37:35), the two yootzes have thirds between 360 and 390 cents.

In the restaurant "Schützenhaus" the two yootzes sang by the two young women Karin and Yvonne Gwerder (with collective bass) have definitively major thirds (41:00, 46:23). Alois Imhof and Bernhard Betschart, plus collective bass, sang thirds between 380 and 400 cents (43:41).

As *The Swiss Yodelling Series* show through diagrams, comments, and conversations between performers, the neutral third is not allowed in "cultivated" singing promoted by the Swiss Yodelling Association. It is, therefore, not surprising that the Muotathal yodel choir sings major thirds at the end of the lines at the concert (*Yootzing and Yodelling*, 29:20) and in the church (*The Wedding of Susanna and Josef*, 04:53). However, even performers who did not have trained voices or didn't participate in workshops held by the Swiss Yodelling Association were losing the traditional feature of the neutral third, for example the women's choir Pragelchörli (*Yootzing and Yodelling*, 36:17), the sisters Vreni von Rickenbach and Theres Suter (*Yootzing and Yodelling* 39:10).

Peter Betschart, who had been looking for Sichardt's original sound recordings from 1936, found a copy deposited at the Swiss National Sound Archives in Lugano. He asked for, and received, a copy of the Muotatal recordings for his village archives. I made the interval measurements of these recordings after the final cut of the new film.

Sichardt's first brief remark about neutral thirds concerns three musical notations of a men's duo[4]. The performers were herdsmen passing the summers on alpine pastures, and Sichardt implied that they were particularly apt, through their profession, to be true representatives of "archaic" performances. My measurements of these three yootzes confirmed the neutral degree 3, between 340 and 360 cents. Of the 18 yootzes recorded by Sichardt, I measured the 13 in which he included musical notations and detailed analyses. The results figure in Table 1, together with measurements of other intervals. The thirds, measured of all performers (3 men, 4 girls), are between 330 and 370 cents. Only two women's duos performed major thirds as well as neutral thirds in the same yootzes.

CONCLUSION ABOUT "NEUTRAL THIRDS"

In the second decade of the 21st century, the use of real neutral thirds in Muotatal yootzing is disappearing. They were already rare during the eighties when I made sound recordings and films. A few performers were outstanding in systematically singing neutral thirds. In solo yootzing, we have seen supra the measures of neutral thirds by Franz-Dominik Betschart, Bernhard's father (mostly around 350 cents). Emmy Suter Gwerder, an outstanding singer of the old generation, sang thirds of 350 - 370 cents (Extra of the new film, 01-25). In polyphonic two-part yootzing, the brothers Alois and Erwin Imhof on the Glattalp pasture sang neutral thirds around 340 cents (54:06). In three-part polyphony, the "Fluehof" trio, with brothers Alois and Paul Schmidig, and Josef-Maria Schelbert (08:49, 56:00, and *Yootzing and Yodelling*, 05:21), sings very tight neutral thirds, around 330-340 cents.

Thirty years later, Bernhard Betschart sometimes comes very close to it when he sings a yootz that had been performed by his father. In todays polyphonic singing, the thirds are still mostly narrower than a major third of 400 cents, but systematic and regularly performed neutral thirds around 350 cents, like those by the singers whom I recorded and filmed 1979-84, cannot be found anymore.

3 To avoid longer references, only the beginning of yootzes are indicated with time code figures.

4 Musical notations no 36, 37 and 38 of pages 28-29, corresponding sound recordings 7i, 7e, 7f. To avoid long references, I will include further only the number of the recording, indicated in the inventory, pages 172-173, and identified on the beginning of each sound recording.

What was the situation like eighty years ago, when Wolfgang Sichardt made the sound recordings? The result of measurements indicated in Table 1 permits us to think that neutral thirds were commonly sung in the thirties of last century.

FLATTENED DEGREE 2

In descending movements of degrees 3 2 1, or rising movements 1 2 3, many performers flatten degree 2. Peter Betschart—who was for some years director of a yodel choir—told me that this is common in yodel choirs and has to be fought against by the conductor. It is all the more understandable when the degree 2 precedes or follows the neutral degree 3. In yootzes performed with major thirds, like those by the two young women in the restaurant "Schützenhaus" (41:00, 46:23), the degree 2 is also a major second distant from degree 1. It appears that "neutral seconds" are conditioned by the use of neutral thirds and are not, therefore, a primary characteristic of traditional Muotatal yootzing. While I measured all yootzes, I include here only Sichardt's degrees 2 in Table 1.

NEUTRAL DEGREE 7 (LEADING NOTE)

Many yootzes have no degree 7. But if they do have one, it is sometimes sung with neutral intonation, between a major and a minor seventh from degree 1 of the same octave, or the other way round, between a minor and a major second below degree 1 of the upper octave. In this case there is a neutralization of the leading note. The neutral degree 7 can also be considered as the seventh harmonic of the overtone series.

Sitting on the doorstep of his farmhouse, Bernhard's father sings neutral degrees 7, following or preceding degree 1 of the upper octave, between 130 and 150 cents (*Head Voice, Chest Voice*, 14:48). His son Bernhard, whom I asked to record the same yootz in 2011, sings unaltered degrees 7. In the cutting grass on a slope scene (*Yootzing and Yodelling*, 16:32), Bernhard's father sings flattened degrees 7 of 160 - 180 cents below degree 1 of the upper octave. His son Bernhard keeps closer to the halftone with 120 cents. After watching the video of his own yootzing with his parents and sisters in 1984, Bernhard sang the same yootz in 2013, with degree 7 below the upper octave degree 1, at a distance of 130 cents (01:43). In Daniel Schmidig's house (34:30, 37:35), the six men of *Natur pur* sang degrees 7 leading to degrees 1 at the upper octave, with an interval between 120 and 140 cents.

Sichardt does not mention the neutral degree 7. It is true that, as seen before, many yootzes have no degree 7. Let's consider here the two that we have. In a women's duo (7b), there are passages of a step-by-step descending motive, with degrees 3 2 1 7, and at the end of a line, the leading note to the final upper degree 1. The measures indicate 120 to 130 cents from degree 7 to 1 in the upper octave. In a girl's recording (6i), the final interval starts on degree 7 in head voice, jumping down to degree 1 in chest voice. It measures 1030 cents, a tight neutral seventh between a minor and a neutral seventh (see Table 1 for more measurements).

FLATTENED DEGREE 5

While the perfect temperate fifth measures 700 cents (just intonation, 702 cents), one would expect—as there is always a certain variability in the pitches—that some intervals would be a bit lower, and some a bit higher, let's say between 690 and 710 cents. In fact, most fifths between degree 1 and 5 are lower, around 650 - 680 cents.

The yootz that Bernhard's father sang when sitting with a goat on the doorstep of his house (*Head Voice, Chest Voice,* 14:48) is one of the rare yootzes that has no fifths. In the other yootzes, both Bernhard and his father sang flattened fifths of 660 - 680 cents.

The group Natur pur in the three yootzes at the cattle fair (26:38), and in Daniel Schmidig's house (34:30, 37:35), sings intervals close to perfect fifth (680 - 700 cents). In the restaurant "Schützenhaus", the two young women, Karin and Yvonne Gwerder (41:00, 46:23), with collective bass, sing perfect fifth around 700 cents (we have also noticed major thirds by the same two performers).

Eight of the nine Sichardt recordings which I measured have flattened fifths, in general between 650 and 680 cents. Marie Ablondi sang perfect fifths in one yootz only (7d), while in all the others she sang fifths between 650 and 680 cents (Table 1).

ALPHORN-FA

We must remember that the Alphorn-Fa is the slightly augmented degree 4 (between F and F# in C). It has its name because it corresponds to the eleventh harmonic of the natural harmonic scale used by the alphorn, like by all wind instruments without finger holes or piston valves.

Sichardt declared the Alphorn-Fa as typical of the yodelling in the Muotatal (and also the Appenzell of eastern Switzerland). Apparently he uses this term for an occasional use, when the Fa is sometimes augmented about a quartertone, sometimes not. In cases when the whole yodel has an augmented fourth, he writes "Fa-Mode", which designates a mode where three whole tones follow (F G A B). In fact, a real Alphorn-Fa is not exactly an augmented fourth (600 cents) distant from degree 1, but about a quarter tone less (550 cents).

As mentioned in footnote 6 of the study guide of The Swiss Yodelling Series, the downward arrows of the cipher notation in *Head Voice, Chest Voice* (14:48) indicate lowered degrees 7 and 3. While degree 4 is a perfect fourth (500 cents) from degree 1, it sounds, because of its environment, like an Alphorn-Fa. In fact, as degree 3 is a neutral third (350 cents) from degree 1, the interval between degree 4 and the flattened degree 3 is a three-quarter tone, like for an Alphorn-Fa that is a three-quarter tone from a major third. This kind of listening error can happen even more so if the degree 4 is between lowered degrees 5 and 3.

Sichardt noticed an important element where both Fa and Do modes are used in the same melody (p. 114). This is also the case in the yootz, which was sung in 1983 by Franz-Dominik Betschart, Bernhard's father (*Head Voice, Chest Voice*, 06:30)[5]. The Alphorn-Fa appears several times after, or before, degree 5. Bernhard recorded this yootz, which he knew well. He listened several times to his father's performance and sang the Alphorn-Fa of about 560 cents distant from degree 1. The feature of this yootz is that only the last two parts (BoBc) have the Alphorn-Fa, while the first two parts (AoAc) have perfect fourths. A second feature is that the melodic line ends from degree 5 to 4+ (Alphorn-Fa) with chest voice, then up to degree 1 with head

5 Cf. the print of the graphic, which has been used for the animation, fig. 4.

voice in the upper octave. This final interval is rarely used: it is called "tritone" (diabolus in musica).

In the analyses of his sound recordings, Sichardt mentions sometimes an Alphorn-Fa, which can be hardly qualified as such, as the interval in relation to degree 1 is only a slightly augmented fourth with 520 cents. However, in two men's duo yootzes (7e and 7f), I measured true Alphorn-Fa of 540-550 cents, which Sichardt had not noticed.

MUOTATAL BLUE NOTES

While many Muotatal yootzers probably have heard about the Alphorn-Fa which can be called "natural", as it belongs to the natural harmonic series, what should we call the flattened degrees 3, 5 and 7 of the major scale? The answer is: "Blue notes"![6] Few people from the valley, if any, are aware that their traditional performing style of yootzing has something in common with African-American music! When I presented my films in 1987 in different schools in the region, the teenagers in a secondary school in the town of Schwyz, the capital of the canton of the same name, rejected the films, because they did not like the music that was the subject of the films. They liked RnB and Rock n Roll, and only when I told them that traditional yootzers use a neutral intonation of the third degree, similar to what is called "blue note" in Blues and Jazz, were they a little bit more interested[7].

The second time I publicly spoke about blue notes was at the premiere of the new film, on 15 May 2015, when somebody in the audience asked me to give supplementary information about "neutral thirds".

Some people from the valley, as well as some from outside (as can be seen on concert programs and internet sites), believe that traditional Muotatal yootz intonation is based on the natural overtone scale, referring to the Alphorn-Fa. But as we have seen, the Alphorn-Fa in Muotatal singing is rare. It seems to be characteristic of a few specific pieces only. The originality of the traditional local performance style is the use of blue notes, which is by no means "natural"!

Finally, let's add a short, but very interesting note, which was published in a recent collection of musical notations of local fiddle dance tunes of Muotathal village and a neighboring village. Among some characteristics, the editor, herself a folk fiddler and classical violinist and as such was sensitive to intonation, writes in the introduction when referring to sound recording from the fifties: "leading notes, fifths and thirds were often played a bit low[8].

While blue notes in other yodelling regions of Switzerland have not been, as far as I know, ever mentioned in publications, and as I am ignorant if fiddlers from other Swiss regions use flattened thirds, fifth and seventh, the provisional conclusion is that blue notes could be the particular feature of the traditional local Muotatal performance style. The comparison between yootzing and traditional fiddle dance tune intonation opens new perspectives of research.

6 "Blue note: A microtonal lowering of the 3rt, 7th and (to a lesser extent) 5th scale degrees, common in blues and jazz. The precise pitch or intonation of blue notes is not fixed, but varies according to the performer's instinct and expression, ranging to more than a semitone below true pitch… Blue notes also appear in rock and roll, rock and various other types of music influenced by blues or jazz." *The New Grove Dictionary of Music and Musicians*, Stanley Sadie, ed., Macmillan Publisher, London, Washington, Hong Kong, 1980, vol. 2, p. 812.

7 The story of the reception of the films in Muotathal village and in the neighboring town Schwyz, is told on pages 422-424 of *Filming Music and Looking at Music Films, Ethnomusicology*, 1988.

8 Maria Gehrig, *Geigentänze und Jüüzli aus Muotathal und Illgau*, Mülirad-Verlag, 2014, Altdorf.

Brief Remarks about “new Swiss yodelling”

The group *Natur pur* is committed to the traditional performance style, which the members distinguish from the polished “cultivated” singing of yodel choirs federated in the hundred year old Swiss Yodelling Association. Some professional singers try to renew and experiment with yodelling in the frame of globalization (see below some links). Even though Bernhard Betschart, the central figure in our film, became a rock and country musician, he does not want to mix this with yootzing. But for how much longer?

Erika Stucki
https://www.youtube.com/watch?v=On6JGOagFGU

Christine Lauterburg
https://www.youtube.com/watch?v=CrvwjgqHOTM

Nadja Räss
https://www.youtube.com/watch?v=5-KH8WHmG8Q

See also the film “Heimatklänge” by Stefan Schwiertet, with experimental yodlers Christian Zehnder, Noldi Alder and Erika Stucki.
http://www.ventura-film.de/heimatklaenge/

TABLE 1 - Interval Measurements in *Cents* of Sichardt's Recordings (1936)

	THIRDS	SECONDS	SEVENTHS Leading Note to Upper Degree 1	FIFTHS	ALPHORN-FA
6b: Ablondi (Boy's Voice)	330-350	150	——	660-670	530-540
6c: Ablondi (Boy's Voice)	340-360	160	140-160	670-680	520-530
6d: Marie (?) Ablondi	330-340	160-180	——	660-670	——
7d: Marie Ablondi	350, 400	110-120	100	700-710	——
6g: Marie Ablondi	340-370	180-200	——	660-680	520-530
6r: Marie Ablondi	340-350	150	140	660-680	——
6s: Marie Ablondi	340-370	160-180	——	650-680	520-550
6i: Marie Ablondi	330-??	160	170 (Jump 1030)	640	——
7i: Alois Schmidig & Franz Suter	340-350	150-190	110	670	——
7e: Alois Schmidig & Franz Suter	340-350	140	150	670	540-550
7f: Alois Schmidig & Franz Suter	350	140	130	660-670	540
7b: Marie Ablondi & Elisa Gwerder	400	150-190	140-150	660-680	——
6f: Rosa Imhof & Ida Imhof	350-370	130-150	——	660-670	——

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Guide written by:
Hugo Zemp

Color images excerpted from the films

Designed and assembled by:
Frank Aveni and Tianna DiMare
at Documentary Educational Resources

Documentary
Educational Resources

101 Morse Street
Watertown, MA 02472

phone (617) 926-0491
fax (617) 926-9519
www.der.org